

# Appendix K

Code of Maryland Regulations (COMAR) Title 26 Subtitle 13 (Disposal of Controlled Hazardous Substances)

**US EPA ARCHIVE DOCUMENT** 

Note: This document is supplemented by the Notice of Proposed Action and the Notice of Final Action attached at the end. To determine current Maryland regulatory requirements, the reader should determine whether the particular section in which the reader is interested has been modified by the attached Notice of Proposed Action and the Notice of Final Action.





# Title 26

# DEPARTMENT OF THE ENVIRONMENT

(Part 3)

# CODE OF MARYLAND REGULATIONS

A Publication of the DIVISION OF STATE DOCUMENTS 1700 Margaret Avenue Annapolis, Maryland 21401

# OFFICE OF THE SECRETARY OF STATE

© Division of State Documents 1996

ii

### CERTIFICATE

#### Supplement No. 12

As provided in State Government Article, §7-205, Annotated Code of Maryland, I certify that COMAR Title 26, Subtitles 13—18, contain all regulations promulgated and effective as of August 1, 1999. New, amended, or repealed regulations effective after this date appear in the Maryland Register. Consult the "Cumulative Table of COMAR Regulations Adopted, Amended, or Repealed" in the most recent issue of the Maryland Register.

> ROBERT J. COLBORN Administrator Division of State Documents

#### PERSONS WITH DISABILITIES

Individuals with disabilities who desire assistance in using the publications and services of the Division of State Documents are encouraged to call V (410) 974-2486, TT (410) 333-3098, FAX (410) 974-2546.

iii

### PUBLICATION STATUS

iv

1.1

Statement of the second second

ſ

Survey of

Original publication date: January 6, 1989 Supplement 1 issued November 20, 1989 Supplement 2 issued November 10, 1990 Supplement 3 issued December 30, 1991 Supplement 4 issued December 1, 1992 Supplement 5 issued December 20, 1993 Supplement 6 issued November 28, 1994 Supplement 7 issued November 6, 1995 Supplement 8 issued July 8, 1996 Supplement 9 issued December 4, 1996 Supplement 10 issued October 27, 1997 Supplement 11 issued January 6, 1999 Supplement 12 issued September 28, 1999

# **Table of Contents**

# Title 26 DEPARTMENT OF THE ENVIRONMENT PART 3

For the following subtitles, see the Table of Contents for Title 26, Part 1:

Subtitle	01	General Provisions
Subtitle	02	Occupational, Industrial, and Residential Hazards
Subtitle	03	Water Supply, Sewerage, Solid Waste, and Pollution Control Planning and Funding
Subtitle	04	Regulation of Water Supply, Sewerage Disposal, and Solid Waste
Subtitle	05	Board of Well Drillers
Subtitle	06	Waterworks and Waste Systems Operators
Subtitle	07	Board of Environmental Sanitarian Registration
For the	foll	owing subtitles, see the Table of Contents for Title

26, Part 2:

Subtitle	08	Water	Pol	lution
----------	----	-------	-----	--------

Subtitle 09 Vacant Subtitle 10 Oil Pollution and Tank Management Subtitle 11 Air Quality Subtitle 12 Radiation Management

#### Page

### Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

26.13.01	Hazardous Waste Management System: General		
	.01	General	847
	.02	Availability of Information; Confidentiality of In- formation	848
	.03	Definitions	848
	.04 .05	Rule-Making Petitions	860-3 869

#### Environment

			Page
26.13.02	Ide	ntification and Listing of Hazardous Waste	
	.01	Purpose and Scope	871
	.02	Definitions of Solid Waste	873
	.03	Definition of Hazardous Waste	876
	.04	Materials Which Are Not Solid Wastes	879
	.04-	1 Solid Wastes Which Are Not Hazardous Wastes	880-1
	.04-	2 Hazardous Wastes Which Are Exempt from Cer-	
		tain Regulations	884-1
	.04-	3 Samples	884-1
	.04-	4 Treatability Study Samples	884-3
	.04-	5 Samples Undergoing Treatability Studies at	
		Laboratories and Testing Facilities	884-5
	.05	Special Requirements for Hazardous Waste Gen-	
		erated by Small Quantity Generators	884-8
	.06	Requirements for Recyclable Materials	886
	.07	Residues of Hazardous Waste in Empty Contain-	•
		ers	888-1
	.08	Criteria for Identifying the Characteristics of	
		Hazardous Waste	889
	.09	Criteria for Listing Hazardous Waste	889
	.10	General Characteristics of Hazardous Waste	891
	.11	Characteristic of Ignitability	891
	.12	Characteristic of Corrosivity	892
	.13	Characteristic of Reactivity	893
	.14	Toxicity Characteristic	893
	.15	Lists of Hazardous Wastes: General	895
	.16	Hazardous Waste from Nonspecific Sources	895-2
	.17	Hazardous Waste from Specific Sources	900-4
	.18	Hazardous Waste from Specific Sources (State)	911
	.19	Discarded Commercial Chemical Products, Off-	
	÷.,	Specification Species, Containers, and Spill	
		Residues of These	912
	.20	Representative Sampling Methods	931
	.21	EP Toxicity Test Procedure	932
	.22	Chemical Analysis Test Methods	937
1. T	.23	Basis for Listing Hazardous Wastes	948
	.24	Hazardous Constituents	959
	.25	Incorporation by Reference	968
	.26	Wastes Excluded Under COMAR 26.13.01.04A	
		and C	968-1

п	
2	
ΰ	
$\mathbf{O}$	
п	
_	
Ο	
$\sim$	
••	
-	
-	
1	
•••	
_	
S	
-4	

vi

Supp. 12

a straig

Sale Point

Í

A

Ĥ

Û

Second Second

Non-series

An and the second second

## TABLE OF CONTENTS

Page

26.13.03	Standards Applicable to Generators of Hazard- ous Waste	
	.01 Purpose, Scope, and Applicability	971
	.02 Hazardous Waste Determination	972
	.03 EPA Identification Numbers	972
	.04 The Manifest.	973
	.05 Pretransport Requirements.	976
	.06 Record Keeping and Reporting	978
	.07 Exports of Hazardous Waste-General	980
	.07-1 Export Notification	981-1
	.07-2 Exports of Hazardous Waste-Manifesting,	
	Reporting, and Record Keeping	981-3
	.07-3 Imports of Hazardous Waste	981-7
	.07-4 Farmers	981-7
26.13.04	Standards Applicable to Transporters of Hazard- ous Waste	
	.01 General	989
	.02 Compliance with the Manifest System and Record	
	Keeping	994
	.03 Hazardous Waste Discharged	997
	.04 Bonding	998
26.13.05	Standards for Owners and Operators of Hazard-	
	ous Waste Treatment, Storage, and Disposal	
	Facilities	
	.01 General	1001
	.02 General Facility Standards	1003
	.03 Preparedness and Prevention	1010
	.04 Contingency Plan and Emergency Procedures	1012
	.05 Manifest System, Record Keeping, and Report-	
	ing	1016
	.06 Ground Water Protection—General; Incorpora-	
	tion by Reference	1021-1
	.06-1 Ground Water Protection—Program Elements.	1025
	.06-2 General Ground Water Monitoring Require-	
	ments	1031
	.06-3 Statistical Methods for Evaluating Ground	
	Water Monitoring Data	1033
	.06-4 Detection Monitoring Program	1036
	.06-5 Compliance Monitoring	1040

vii

# Environment

.06-6 Corrective Action Program	1043-1
.06-7 Corrective Action for Solid Waste Management	
Units	1043-4
.07 Closure and Post-Closure	1043-4
.08 Financial Requirements	1053
.09 Use and Management of Containers	1053
.10 General Requirements for Hazardous Waste Man-	
agement in Tank Systems	1056
.10-1 Special Requirements for Hazardous Waste Man-	
agement in Tank Systems	1059
.10-2 Assessment of Existing Tank System's Integrity	1059
.10-3 Design and Installation of New Tank Systems	
and Components	1059-2
.10-4 Containment and Detection of Releases	1059-5
.10-5 Variances from Secondary Containment Require-	
ments for Tank Systems	1059-10
.10-6 Leaks, Spills, and Disposition of Leaking or	
Unfit-for-Use Tank Systems	1059-12
.10-7 Closure and Post-Closure Care of Tank Systems	1059-16
.11 Surface Impoundments	1060
.12 Waste Piles	1070
.13 Land Treatment	1078
.14 Landfills	1090
.15 Incinerators	1096
.16 Thermal Destruction of Hazardous Waste	1097
.16-1 Miscellaneous Units	1106
.17 Thermal Treatment and Open Burning	1106-2
.17-1 General Requirements for Drip Pads	1108
.17-2 Design and Operating Requirements	1108-4
.17-3 Inspections	1108-9
.17-4 Closure of Drip Pads	1108-10
.18 Chemical, Physical, and Biological Treatment	1108-11
.19 Underground Injection Control	1110
.20 Record-Keeping Instructions	1110
.21 Repealed	
.22 EPA Interim Primary Drinking Water Standards	1114
.23 Cochran's Approximation to the Behrens-Fisher	
Student's t-test	1114
.24 Examples of Potentially Incompatible Waste	1128

viii

Page

Constant and

Ľ

IJ

Û

Ű

Anna Landron

A CONTRACTOR

Active and the second

		Page
26.13.06	Site Selection for CHS Facilities	
	.01 General Regulations.	1133
26.13.07	Permits for CHS Facilities	
	.01 Permit Required	1135
	.02 Application for a Permit.	1136
	.02-1 Additional Information Requirements—Ground	
	Water Protection.	1142
	.02-2 Specific Information Requirements for Contain-	
	ers	1146
	.02-3 Specific Information Requirements for Tank	
	Systems	1147
	.02-4 Specific Information Requirements for Surface	
	Impoundments	1148
	.02-5 Specific Information Requirements for Waste	
	Piles	1151
	.02-6 Specific Information Requirements for Inciner-	
	ators	1153
	.02-7 Specific Information Requirements for Land	
	Treatment	1156
	.02-8 Specific Information Requirements for Land-	
		1158-1
	.02-9 Specific Information Requirements for Miscel-	1150 0
		1158-3
	.02-10 Specific Information Requirements for Solid	1150 5
	Waste Management Units	1158-5
	.02-11 Specific Information Requirements for Drip	1150 E
		1128-2
	.03 Signatories to Permit Applications and Reports .	1100-7
	.04 Conditions Applicable to All Permits	1109
	06 Duration of Domito	1102
	07 Schodules of Compliance	1162
	.07 Schedules of Compliance	1102
	.00 Requirements for Recording and Reporting of	1164
	Monitoring results	1104
	10 Transfor of Pormite	1165
	11 Modification Withdraws) on Devention and De	1100
	.11 Modification, withdrawal, or revocation and Re-	1165
	ISSUANCE OF PERMITS	1167
	12 Termination of Permits	110/
	.13 Processing Minor Modifications of Permits	1109

TABLE OF CONTENTS

Supp. 11

1

Street.

## Environment

			Page
	.13-	1 Minor Modifications of Permits to Address New-	
		ly Regulated Hazardous Wastes	1168
	.13-	2 Specific Changes Eligible for Processing as a	
		Minor Permit Modification	1169
	.13-	3 General Criteria Defining Eligibility for Proces-	•
		sing as a Minor Modification	1169-3
	.14	Emergency Permits, Short Term Permits, and	
		Phased Permits	1170
	.15	Additional Conditions; Applicable Permits	1172
	.16	Establishing Permit Conditions.	1174
	.17	Hazardous Waste Incinerator Permits	1174
	.18	Permits for Land Treatment Demonstrations Us-	
•	_	ing Field Test or Laboratory Analyses.	1179
	.19	Research, Development, and Demonstration Per-	
		mits	1181
	.20	Administrative Procedures	1182
	.21	Permit Fees.	1191
	.22	Limited Facility Permits for Thermal Destruction	
		Facilities other than Hazardous Waste Incinera-	
		tors	1192
	· .		
00 10 00	- <b>D</b> •		
26.13.08	Rig	hts of Condemnation	1107
26.13 <b>.08</b>	<b>Rig</b> .01	hts of Condemnation Determination by the Department	1197
26.13.08	Rig .01 Enf	hts of Condemnation Determination by the Department	1197
26.13.08 26.13.09	<b>Rig</b> .01 <b>Enf</b>	hts of Condemnation Determination by the Department orcement Enforcement Provisions	1197
26.13.08 26.13.09	<b>Rig</b> .01 <b>Enf</b> .01	hts of Condemnation         Determination by the Department         Corcement         Enforcement Provisions	1197 1199
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta	hts of Condemnation Determination by the Department orcement Enforcement Provisions ndards for the Management of Specific Haz-	1197 1199
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta	hts of Condemnation Determination by the Department orcement Enforcement Provisions ndards for the Management of Specific Haz- rdous Wastes and Specific Types of Hazardous	1197 1199
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01. Sta au W	hts of Condemnation Determination by the Department Forcement Enforcement Provisions ndards for the Management of Specific Haz- rdous Wastes and Specific Types of Hazardous Vaste Management Facilities	1197 1199
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta W .01	hts of Condemnation Determination by the Department Forcement Enforcement Provisions ndards for the Management of Specific Haz- rdous Wastes and Specific Types of Hazardous Vaste Management Facilities Recyclable Materials Used in a Manner Constitut-	1197 1199
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta au W .01	hts of Condemnation Determination by the Department Forcement Enforcement Provisions ndards for the Management of Specific Haz- rdous Wastes and Specific Types of Hazardous Vaste Management Facilities Recyclable Materials Used in a Manner Constitut- ing Disposal	1197 1199 1201
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta .01 W. .01	hts of Condemnation Determination by the Department forcement Enforcement Provisions ndards for the Management of Specific Haz- rdous Wastes and Specific Types of Hazardous aste Management Facilities Recyclable Materials Used in a Manner Constitut- ing Disposal	1197 1199 1201 1202
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta au W .01 .02 .03	hts of Condemnation Determination by the Department Forcement Enforcement Provisions ndards for the Management of Specific Haz- rdous Wastes and Specific Types of Hazardous Vaste Management Facilities Recyclable Materials Used in a Manner Constitut- ing Disposal	1197 1199 1201 1202
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta au W. .01 .02 .03	hts of Condemnation Determination by the Department	1197 1199 1201 1202 1205
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta au .01 .02 .03 .04	hts of Condemnation         Determination by the Department         Corcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vaste Management Facilities         Recyclable Materials Used in a Manner Constituting Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed	1197 1199 1201 1202 1205 1206
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta au .01 .02 .03 .04 .05	hts of Condemnation         Determination by the Department         Dorcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vastes Management Facilities         Recyclable Materials Used in a Manner Constitut-         ing Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed         Management Standards for Used Oil	1197 1199 1201 1202 1205 1206 1206
26.13.08 26.13.09 26.13.10	Rig .01 Enf .01 Sta al W .01 .02 .03 .04 .05	hts of Condemnation         Determination by the Department         Dorcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vaste Management Facilities         Recyclable Materials Used in a Manner Constitut-         ing Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed         Management Standards for Used Oil	1197 1199 1201 1202 1205 1206 1206
26.13.08 26.13.09 26.13.10 26.13.11	Rig .01 Enf .01 Sta au .01 .02 .03 .03 .04 .05 Spe	hts of Condemnation         Determination by the Department         Determination by the Department         Forcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vaste Management Facilities         Recyclable Materials Used in a Manner Constitut-         ing Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed         Management Standards for Used Oil	1197 1199 1201 1202 1205 1206 1206
26.13.08 26.13.09 26.13.10 26.13.11	Rig .01 Enf .01 Sta au W .01 .02 .03 .04 .05 Spe .01	hts of Condemnation         Determination by the Department         Determination by the Department         Sorcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vaste Management Facilities         Recyclable Materials Used in a Manner Constitut-         ing Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed         Management Standards for Used Oil         ecial Medical Wastes         Purpose and Scope	1197 1199 1201 1202 1205 1206 1206 1206
26.13.08 26.13.09 26.13.10 26.13.11	Rig .01 Enf .01 Sta .01 .02 .03 .04 .05 Spe .01 .02	hts of Condemnation         Determination by the Department         Determination by the Department         Corcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vaste Management Facilities         Recyclable Materials Used in a Manner Constituting Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed         Management Standards for Used Oil         ecial Medical Wastes         Purpose and Scope         Definitions	1197 1199 1201 1202 1205 1206 1206 1206
26.13.08 26.13.09 26.13.10 26.13.11	Rig .01 Enf .01 Sta au W .01 .02 .03 .04 .05 Spe .01 .02 .03	hts of Condemnation         Determination by the Department         Determination by the Department         Forcement         Enforcement Provisions         ndards for the Management of Specific Haz-         rdous Wastes and Specific Types of Hazardous         Vaste Management Facilities         Recyclable Materials Used in a Manner Constituting Disposal         Hazardous Waste Burned for Energy Recovery         Recyclable Materials Utilized for Precious Metal         Recovery         Spent Lead-Acid Batteries Being Reclaimed         Management Standards for Used Oil         management Scope         Definitions         Exclusions	1197 1199 1201 1202 1205 1206 1206 1206 1207 1207 1209

**US EPA ARCHIVE DOCUMENT** 

X

Supp. 12

Street with

Section many

and the second

Ì

Û

ĺ

Û

## TABLE OF CONTENTS

Page

26.13.12	Standards Applicable to Generators of Special				
	M	ledical Waste			
	.01	Purpose, Scope, and Applicability	1211		
	.02	Special Medical Waste Determination	1211		
	.03	Maryland Identification Numbers.	1212		
	.04	Shipping Papers	1212		
	.05	Pretreatment Requirements	1212		
	.06	Record Keeping and Reporting	1213		
	.07	International Shipments	1213		
26.13.13	Sta	ndards Applicable to Transporters of Spe-			
	.01	General	1215		
	.01	Shinning Denerg	1218		
	.02	Special Medical Waste Discharge	1210		
	.00	Bonding.	1210		
	.04		1220		
Subtitle	e 14	HAZARDOUS SUBSTANCES RESPONSE F	PLAN		
26.14.01	Pro	ocedures for Hazardous Substance Response			
	.01	Applicability	1229		
	.02	Definitions	1229		
	.03	Community Relations and Public Information	1231		

(See page xi)

A. Coursesta

-

**x-1** 

## TABLE OF CONTENTS

Page

Sector State

ſ.

ſ

Û

And the second

Û

26.14.02	Inve H	estigating, Evaluating, and Responding to azardous Substance Releases	
	.01	General	1233
	.02	Discovery	1233
	.03	State Master List and State Site Assessment	1234
	.04	Site Ranking and Listing in the Disposal Site	1235
	05	Removal Actions	1235
	.06	Remedial Response Activities	1236
Sub	title	15 DISPOSAL OF CONTROLLED HAZARDOUS	s
	_		
26.15.01	Rad m	lioactive Hazardous Substances Manage- ent	
	.01	General	1241
	.02	Definitions	1241
	.03	Availability and Confidentiality of Information	1244
	.04	Rule Making Petitions	1244
26.15.02	Ider P	ntification, Classification, and Minimum redisposal Requirements to RHS	
	.01	Purpose and Scope	1247
	.02	Definition of Radioactive Hazardous Substance.	1247
	.03	Classification of Radioactive Hazardous Sub-	
		stances for Near-Surface Disposal	1248
	.04	Minimum Predisposal Requirements for Classes	•
	•	of RHS	1250
26.15.03	Sta	ndards Applicable to Generators of RHS	
	.01	General	1253
	.02	Characterization and Management of RHS	1253
	.03	Maryland Identification Number	1253
	.04	Transportation of RHS	1253
	.05	RHS Manifest	1254
	.06	Disposal of Specific Wastes	1254
	.07	Annual Report	1254
	.08	Audits	1255

# Environment

# Subtitle 16 LEAD

26.16.01	Accreditation and	Training	for Lead	Paint Abate-
	mont Services			

	.01	Scope	1257
	.02	Definitions	1257
	.03	Applicability of this Chapter	1260
	.04	Accreditation	1261
	.05	General Training Requirements	1263
	.06	Examination Requirements	1264
	.07	Lead Paint Abatement Worker Training Require-	
		ments for Residential, Commercial, and Public	
•		Buildings	1264-1
· ·	.08	Project Designer Training Requirements	1265
	.09	Lead Paint Abatement Services Contractor Accred-	
		itation Requirements	1266
	.10	Supervisor Accreditation Requirements for Resi-	
		dential, Commercial, and Public Buildings	1268
	.11	Contractor/Supervisor Performance Standards for	
		Residential Buildings and Child Care Centers.	1270
	.12	Contractor/Supervisor Performance Standards for	
		Commercial and Public Buildings	1274
•	.13	Structural Steel Lead Paint Abatement Training	
		and Accreditation Requirements	1276
	.14	Lead Paint Inspector Technician Accreditation	
•		Requirements	1279
	.15	Lead Paint Visual Inspector Accreditation	
		Requirements	1280
	.16	Lead Paint Risk Assessor Accreditation Require-	
		ments	1282
	.17	Training Provider Accreditation Requirements	1283
	.18	Lead Abatement Instructor Requirements	1285
	.19	Suspension or Revocation of Accreditation	1287
	.20	Fees	1287
26.16.02	Rec	luction of Lead Risk in Housing	
	.01	Scope	1289
	.02	Definitions	1289
	.03	Certificate to Verify Satisfaction of the Risk Re-	
		duction Standard.	1290

.04	Certification of Lead-Safe Housing	1293

Supp. 11

Page

#### TABLE OF CONTENTS

	rage
0	190/

Î

.05	Certification of Housing as Lead-Free	1294
.06	Failure to Receive a Certificate	1296
.07	Encapsulant Coating of Lead-Based Paint	1297

26.16.03	Procedures for Making and Implementing a Qualified Offer				
	.01	Scope	1299		
	.02	Definitions	1299		
	.03	Transmittal of a Qualified Offer	1299		
	.04	Qualified Offer Form	1300		
	.05	Temporary and Permanent Relocation	1300-8		
	.06	Medically Necessary Treatments	1300-10		
	.07	Benefits Payable per Child	1300-10		
	.08	Annual Report	1300-11		
	.09	Statement of Benefits Remaining	1300-12		

## 26.16.04 Verifiable Methods Approved by the Department

.01	Scope				1300-13
.02	Manner of Se	nding Notice	B	<i>:</i> • • • • • • • • • • • • •	1300-13

#### WATER MANAGEMENT Subtitle 17

			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
26.17.01	Erosion and	Sediment	Con	trol

.01 Def	initions	1301
.02 Ger	neral Provisions	1304
.03 Del	egation of Enforcement Authority	1306
.04 Erc	sion and Sediment Control Ordinances	1306
.05 Act	ivities for Which Approved Erosion and Sedi-	
'n	nent Control Plans are Required	1308
.06 Tra	ining and Certification Program	1309
.07 App	plication for Approval of Erosion and Sediment	
Ċ	Control Plans	1311
.08 Apj	proval or Denial of Erosion and Sediment Con-	
t	rol Plans	1315
.09 Ins	pection and Enforcement	1316
.10 Res	sponsibility of Applicant	1319
.11 Sec	liment Control Design Standards and Specifi-	
С	ations	1319
Storma	votor Management	
01 D.,	mare and Some	1991
	.01 Def .02 Gen .03 Del .04 Erc .05 Act .05 Act .05 Act .05 Act .05 Act .05 Act .05 Act .05 Act .05 Act .05 Act .07 App .07 App .08 App .09 Ins .10 Res .11 Sec .02 Gen .08 Del .03 Del .04 Erc .05 Act .05 Act .05 Act .07 App .07 Ap	<ul> <li>.01 Definitions</li></ul>

Supp. 9

xiii

## ENVIRONMENT

	.02	Definitions
•	.03	General Provisions 1323
	.04	Stormwater Management Ordinances 1325
	.05	When Stormwater Management is Required 1326
	.06	Minimum Control Requirements
	.07	Interjurisdictional Flood Hazard Watersheds 1328
	.08	Stormwater Management Design Criteria 1328
	.09	Inspection Requirements During Construction 1332
	.10	Maintenance 1333
26.17.03	Agr	icultural Sediment Pollution Control
	.01	Purpose
	.02	Definitions 1335
	.03	Exception
	.04	Incorporation by Reference 1337
	.05	General Provisions 1338
	.06	Minimum Requirements for an SCWQP 1339
	.07	Minimum Requirements for a CAWQP 1340
	.08	Enforcement 1341
26.17.04	Сот	nstruction on Nontidal Waters and Flood-
	p	lains
	.01	Scope
	.02	Definitions
	.03	Requirements for a Permit
	.04	Permit Applications—General Requirements 1351
•	.05	Dams and Reservoirs 1353
	.06	Bridges and Culverts 1364
	.07	Changes in Stream Channels or Floodplains 1367
	.08	Temporary Construction in a Stream Channel or
		Floodplain 1370
	.09	Conduits, Pipes, or Other Devices Pertaining to
		the Potomac River 1374
	.10	General Waterway Construction Permit 1374
	.11	Criteria for Evaluating Applications
	.12	Violations of Statutory, Regulatory, or Permit
		Requirements 1379
	.13	Public Hearings 1382
26.17.05	Flo	od Management Grant Program
	01	Definitions 1385

xiv

Supp. 11

Page

# Title 26 DEPARTMENT OF THE ENVIRONMENT

### Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 01 Hazardous Waste Management System: General

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

#### .01 General.

A. This chapter provides definitions of terms, general standards, and overview information applicable to this subtitle.

B. In this chapter:

(1) Regulation .02 sets forth the rules that the Department will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or operators of treatment, storage, or disposal facilities shall follow to assert claims of business confidentiality with respect to information that is submitted to the Department under this subtitle.

(2) Regulation .03 defines terms which are used in this subtitle.

(3) Regulation .04A establishes procedures for petitioning the Department to amend, modify, or revoke any provision of this subtitle and establishes procedures governing the Department's action on these petitions.

(4) Regulation .04B establishes procedures for petitioning the Department to approve testing methods as equivalent to those prescribed in COMAR 26.13.02 or 26.13.05.

(5) Regulation .04C establishes procedures for petitioning the Department to amend COMAR 26.13.02.03 or 26.13.02.15—.19 to exclude a waste from a particular facility.

C. The provisions of this subtitle shall be supplemental and additional to the air control regulations under COMAR 26.11.01-26.11.20and may not be interpreted as in derogation of any authority of the Secretary to implement and enforce those regulations.

#### ENVIRONMENT

#### .02 Availability of Information; Confidentiality of Information.

A. Except in accordance with §E, the department shall protect any information contained in the application, or other records, reports, or plans as confidential upon a showing by any person that the information, if made public, would divulge methods or processes entitled to protection as trade secrets, or proprietary business information relating to processes of production, methods of manufacturing, or production volume which are of financial or commercial value.

B. Claims of confidentiality for the name and address of any permit applicant or permittee will be denied. Claims for other information shall be made and substantiated at the time the application is submitted. If substantiation is not provided, the Secretary will notify the applicant by certified mail of the requirement. If the substantiation is not provided after 10 days of receipt of the certified mail, the information in question shall be placed in the public file.

C. The Department shall insure that any permit forms or any public comment upon those forms shall be available to the public for inspection and copying. The Department shall make available to the public any other records, reports, plans, or any information obtained by the State other than that information designated as confidential.

æ

D. The Department shall provide facilities for the inspection of information relating to permit forms and insure that State employees honor requests for inspection promptly without undue requirements or restrictions. The Department shall insure that a machine or device for the copying of papers and documents is available for a reasonable fee, or otherwise provide for coordination with copying facilities or services so that requests for copies of nonconfidential documents may be honored promptly.

E. Information that is required to be supplied to the Department contained in any application or other record that would be considered as confidential shall still be made available by the Department to the U.S. Environmental Protection Agency at their request or shall be included in any regular report, if the information has been submitted by the Department with this claim to the EPA. If EPA obtains from the State information that is not claimed to be confidential, that information is available for public distribution.

#### .03 Definitions.

A. When used in this subtitle the following terms have the meanings given.

B. Terms Defined.

Supp. 5

(1) "Above-ground tank" means a tank that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank, including the tank bottom, is able to be visually inspected.

(1-1) "Active life" of a facility means the period from the initial receipt of hazardous waste at the facility until the Secretary receives certification of final closure.

(2) "Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of this subtitle and which is not a closed portion.

(2-1) "Ancillary equipment" means a device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank or tanks, between hazardous waste storage and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

(3) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

(4) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (that is, part of a facility); for example, the plant manager, superintendent, or person of equivalent responsibility.

(5) "Boiler" means an enclosed device using controlled flame combustion and having one of the following characteristics:

(a) The unit satisfies all of the following criteria:

(i) The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases.

(ii) The unit's combustion chamber and primary energy recovery section or sections shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section or sections, such as waterwalls and superheaters, shall be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section or sections are joined only by ducts or connections carrying flue

#### ENVIRONMENT

gas is not integrally designed. However, secondary energy recovery equipment such as economizers or air preheaters need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. Process heaters which are units that transfer energy directly to a process stream and fluidized bed combustion units are not precluded from being boilers solely because they are not of integral design.

(iii) While in operation, the unit shall maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel.

(iv) The unit shall export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, credit may not be given for recovered heat used internally in the same unit. Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps.

(b) The unit is one which the Secretary has determined, on a case-by-case basis, to be a boiler, after considering the standards in Regulation .04F of this chapter.

(6) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

(6-1) "Component" means either the tank or ancillary equipment of a tank system.

(7) "Confined aquifer" means an aquifer:

(a) Bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself;

(b) Containing confined ground water.

(7-1) "Consignee" means the ultimate treatment, storage, or disposal facility in a receiving country to which a hazardous waste will be sent.

(8) "Constituent" or "hazardous waste constituent" means a constituent which caused the Secretary to list the hazardous waste in COMAR 26.13.02.15—.19 or a constituent listed in Table 1 of COMAR 26.13.02.14.

(9) "Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

850

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.01.03

(10) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

(10-1) "Corrosion expert" means an individual who is:

(a) Qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks by reason of that individual's knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience; and

(b) Certified as being qualified by the National Association of Corrosion Engineers (NACE), or who is a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

(11) "Department" means the Department of the Environment.

(12) "Designated facility" means a hazardous waste treatment, storage, or disposal facility which is authorized under federal and applicable State law for treatment, storage, or disposal of the hazardous waste it is accepting, and has been designated on the manifest by the generator under COMAR 26.13.03.04.

(13) "Dike" means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

(14) "Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

(15) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that the solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

(16) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

(16-1) "Drip pad" means an engineered structure consisting of a curbed, free-draining base which is constructed of non-earthen mate-

#### ENVIRONMENT

rials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood-preserving plants.

(17) "Elementary neutralization unit" means a device which:

(a) Is used for neutralizing wastes which are hazardous waste only because they exhibit the corrosivity characteristic defined in COMAR 26.13.02.12, or are listed in COMAR 26.13.02.16—.19 only for this reason; and

(b) Is a tank, tank system, container, transport vehicle, or vessel.

(17-1) "EPA Acknowledgement of Consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept a hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(18) "EPA hazardous waste number" means the number assigned by EPA to each hazardous waste listed in COMAR 26.13.02.15—.19, and to each characteristic identified in COMAR 26.13.02.10—.14.

(19) "EPA identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

(20) "Equivalent method" means any testing or analytical method approved by the Secretary under Regulation .04A and B of this chapter.

(21) "Existing hazardous waste management facility" or "existing facility" means a facility which was in operation, or for which construction had commenced, on or before November 18, 1980. Construction had commenced if:

(a) The owner or operator has obtained all necessary federal, State, and local preconstruction approvals or permits;

(b) A continuous physical, on-site construction program has begun, or the owner or operator has entered into contractual obligations, which cannot be cancelled or modified without substantial loss, for construction of the facility to be completed within a reasonable time.

(22) "Existing portion" means that land surface area of an existing hazardous waste management facility on which wastes have been placed before July 26, 1982.

#### Controlled Hazardous Substances

(22-1) "Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of hazardous waste and that satisfies the following criteria:

(a) It is in operation; or

(b) It is an underground tank which cannot be entered for inspection for which installation has begun on or before July 14, 1986, or it is any other tank for which installation has begun by July 1, 1993, with the beginning of installation being determined by the criteria of COMAR 26.13.05.10A(4).

(23) "Facility" means all continuous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several

#### (See page 853)

#### CONTROLLED HAZARDOUS SUBSTANCES

treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combinations of them).

(24) "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government, including any government corporation, and the Government Printing Office.

(25) "Final closure" means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under COMAR 26.13.05 are no no longer conducted at the facility unless subject to the provisions in COMAR 26.13.03.05E.

(26) "Food-chain crops" means tobacco, crops grown for human consumption and crops grown for feed for animals whose products are consumed by humans.

(27) "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained in it.

(28) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(29) "Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in COMAR 26.13.02.

(30) "Ground water" means water below the land surface in a zone of saturation.

(31) "Hazardous waste" means a hazardous waste as defined in COMAR 26.13.02. Hazardous waste shall be synonymous with Controlled Hazardous Substance or CHS, except as provided in COMAR 26.13.02.06.

(32) "Hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste or a material listed in COMAR 26.13.02.19 which, because it is discharged, becomes a hazardous waste, onto or into the land or water.

(33) "Hazardous waste incinerator" means an enclosed device using controlled flame combustion, which is used to thermally break down hazardous waste and which is subject to the performance requirements of COMAR 26.13.05.15 or .16 and neither meets the criteria for classification as a boiler nor is listed as an industrial furnace. Examples are rotary kiln hazardous waste incinerators, fluidized bed

#### ENVIRONMENT

hazardous waste incinerators, and liquid injection hazardous waste incinerators.

(34) "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system, and a container storage area. A container alone does not constitute a unit. The unit includes containers and the land or pad upon which they are placed.

(35) "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

(36) "Inactive disposal facility" means a disposal facility that is no longer operated but is maintained to permanently contain CHS.

(37) "Inactive portion" means that portion of a facility which is not operated after the effective date of this subtitle. (See also "active portion" and "closed portion").

(38) "Incompatible waste" means a hazardous waste which is unsuitable for:

(a) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (for example, container inner liners or tank walls); or

(b) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases (see COMAR 26.13.05.24 for examples).

(39) "Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(40) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy:

(a) Cement kilns;

#### **CONTROLLED HAZARDOUS SUBSTANCES**

26.13.01.03

(b) Lime kilns;

(c) Aggregate kilns;

(d) Phosphate kilns;

(e) Coke ovens;

(f) Blast furnaces;

(g) Smelting, melting and refining furnaces including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces;

(h) Titanium dioxide chloride process oxidation reactor;

(i) Methane reforming furnaces;

(j) Pulping liquor recovery furnace;

(k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid; and

(1) Such other devices as the Secretary may, by regulation, add to this list on the basis of one or more of the following factors:

(i) The design and use of the devices primarily to accomplish recovery of material products,

(ii) The use of the device to burn or reduce raw materials to make a material product,

(iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks,

(iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product.

(v) The use of the device in common industrial practice to provide a material product, and

(vi) Other factors, as appropriate.

Supp. 5

(40-1) "In-ground tank" means a tank which has a portion of the tank wall situated to any degree within the ground, thereby preventing visual inspection of the external surface area of the tank that is in the ground.

(41) "Injection well" means a well into which fluids are injected. (See also "underground injection".)

855

#### ENVIRONMENT

(42) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

(42-1) "Installation inspector" means an individual who is qualified to supervise the installation of tank systems by reason of that individual's knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience.

(43) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(43-1) "Kick-back" means the excessive preservative that exudes slowly from pressure-treated wood as the wood is removed from a treatment vessel and gradually returns to atmospheric pressure.

(44) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, or a cave.

(45) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(46) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. These facilities are disposal facilities if the waste will remain after closure.

(47) "Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

(47-1) "Leak-detection system" means a system, capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure, which:

(a) Employs operational controls, such as daily visual inspections for releases into the secondary containment system of aboveground tanks; or

(b) Consists of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or

856

### CONTROLLED HAZARDOUS SUBSTANCES 26

26.13.01.03

S.S.S.S.

Salar seasons

Ű

D

And the second second

secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

(See page 857)

**US EPA ARCHIVE DOCUMENT** 

(48) "Liner" means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste constituents, or leachate.

(49) "Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(50) "Manifest" means the shipping document originated and signed by the generator which contains the information required by COMAR 26.13.03.04. The document shall be provided by or approved by the Department.

(51) "Manifest document number" means the serially increasing number assigned to the manifest by the generator for recording and reporting purposes.

(52) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(53) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well, or unit eligible for a research, development, and demonstration permit under COMAR 26.13.07.19.

(54) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

(55) "New hazardous waste management facility" or "new facility" means a facility which began operation, or for which construction commenced after November 18, 1980. (See also "existing hazardous waste management facility".)

(55-1) "New tank system" or "new tank system component" means a tank system or component that is used for the storage or treatment of hazardous waste and that is:

(a) An underground tank which cannot be entered for inspection for which installation has begun after July 14, 1986, with the beginning of installation being determined by the criteria of COMAR 26.13.05.10A(4); or

Supp. 5

**US EPA ARCHIVE DOCUMENT** 

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(b) A tank for which installation has begun after July 1, 1993, and is either an underground tank which can be entered for inspection, an above-ground tank, an in-ground tank, or an on-ground tank.

(55-2) "On-ground tank" means a tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(56) "On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing, as opposed to going along, the rightof-way. Noncontiguous properties, owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

(57) "Open burning" means the combustion of any material without the following characteristics:

(a) Control of combustion air to maintain adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

(c) Control of emission of the gaseous combustion products. (See also "thermal destruction" and "thermal treatment".)

(58) "Operator" means the person responsible for the overall operation of a facility.

(59) "Owner" means the person who owns a facility or part of a facility.

(60) "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of COMAR 26.13.05 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

(61) "Person" means an individual, trust, firm, joint stock company, federal agency, corporation (including a government corpora-

#### CONTROLLED HAZARDOUS SUBSTANCES 26.1

tion), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

(62) "Personnel" or "facility personnel" means all persons who work at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of COMAR 26.13.05.

(63) "Pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

(64) "Point source" means any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(64-1) "Primary exporter" means a person who is:

(a) Required to originate the manifest for a shipment of hazardous waste in accordance with COMAR 26.13.03.04, 40 CFR \$262.20, or equivalent provision of another state's regulations, who specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent; or

(b) An intermediary arranging for the export of a hazardous waste to a receiving country.

(65) "Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial waste of a liquid nature which is owned by a State or municipality (as defined by Section 502(4) of the CWA).

(66) "RCRA" means the Solid Waste Disposal Act, as amended (42 U.S.C. §§6901-6991i).

(66-1) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage, or disposal, except short-term storage incidental to transportation.

(67) "Representative sample" means a sample of a universe or whole (for example, waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

(68) "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

#### ENVIRONMENT

(69) "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

(70) "Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

(71) "Secretary" means the Secretary of the Environment or the designee of the Secretary of the Environment.

(72) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

(73) "Solid waste" means a solid waste as defined in COMAR 26.13.02.

(74) "Spill" means the accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or onto any land or water.

(75) "State" means any of several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

(76) "Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

(76-1) "Sump" means any pit or reservoir that is a tank, and the troughs or trenches connected to it, that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities.

(77) "Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

(78) "Tank" means a stationary device, designed to contain an accumulation of hazardous wastes which is constructed primarily of

860

nonearthen materials (for example, wood, concrete, steel, plastic) which provide structural support.

(78-1) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(79) "Thermal destruction" means thermal treatment using controlled flame combustion. "Thermally destroy" or "incinerate" means the act of thermal destruction.

(80) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "hazardous waste incinerator" and "open burning".)

(81) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent of hazardous waste into the environment during treatment.

(81-1) "Transit country" means a foreign country, other than a receiving country, through which a hazardous waste is transported.

(82) "Transportation" means the movement of hazardous waste by air, rail, highway, or water.

(83) "Transport vehicle" means a motor vehicle, vessel, or rail car used for the transportation of hazardous waste by any mode. Each cargo-carrying body (trailer, railroad car, etc.) is a separate transport vehicle.

(84) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

(85) Treatability Study.

(a) "Treatability study" means a study in which a hazardous waste is subjected to a treatment process to determine whether the waste is amenable to the treatment process, what pretreatment if any is required, the optimal process conditions needed to achieve the desired treatment, the efficiency of a treatment process for a specific

Supp. 9

860-1

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

waste or wastes, or the characteristic and volumes of residuals from a particular treatment process.

(b) "Treatability study" also includes, for the purpose of the exemptions of COMAR 26.13.02.04-4 and .04-5, liner compatibility, corrosion, and other material compatibility studies, and toxicological and health effects studies.

(86) "Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so far as to:

(a) Neutralize the waste;

(b) Recover energy or material resources from the waste;

(c) Render the waste:

(i) Nonhazardous or less hazardous,

(ii) Safer to transport, store, or dispose of, or

(iii) Amenable for recovery, amenable for storage, or reduced in volume.

(87) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well, or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

(87-1) "Underground tank" means a tank that has its entire surface area totally below the surface of and covered by the ground.

(87-2) "Unfit-for-use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be capable no longer of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(88) "Unsaturated zone" or "zone of aeration" means the zone between the land surface and the water table.

(89) "United States" means the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

(90) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facilities' property boundary.

860-2
## CONTROLLED HAZARDOUS SUBSTANCES 26.13.01.04

(90-1) "Used oil" means oil that has been refined from crude oil, or any synthetic oil, that has been used and, as a result of the use, is contaminated by physical or chemical impurities.

(90-2) "Used oil re-refining distillation bottoms" means the heavy fraction produced by vacuum distillation of filtered and dehydrated used oil.

(91) "Vessel" means every description of watercraft used, or capable of being used, as a means of transportation on the water.

(92) "Wastewater treatment unit" means a device which:

(a) Is part of a wastewater treatment facility which is subject to regulation under either §402 or 307(b) of the Clean Water Act;

(b) Receives and treats or stores an influent wastewater which is a hazardous waste as defined in COMAR 26.13.02 or generates and accumulates a wastewater treatment sludge which is hazardous waste as defined in COMAR 26.13.02 or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in COMAR 26.13.02; and

(c) Is a tank or tank system.

(93) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(94) "Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(95) "Well injection" (see "underground injection").

(96) "Zone of engineering control" means an area under the control of an owner or operator that, upon detection of a hazardous waste release, can be readily cleaned up before any hazardous waste or hazardous constituents are released to ground water or surface water.

#### .04 Rule-Making Petitions.

A. General.

(1) Any person may petition the Secretary to modify or revoke any provision in this subtitle. This section sets forth general requirements which apply to these petitions. Section B sets forth additional requirements for petitions to add a testing or analytical method to COMAR 26.13.02 or 26.13.05. Section C sets forth additional requirements for petitions to exclude a waste at a particular facility from

Supp. 12

860-3

## 26.13.01.04

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

COMAR 26.13.02.03 or the lists of hazardous wastes in COMAR 26.13.02.15—.19.

(2) Each petition shall be submitted to the Secretary by certified mail and shall include:

(a) The petitioner's name and address;

(b) A statement of the petitioner's interest in the proposed action;

(c) A description of the proposed action, including (when appropriate) suggested regulatory language; and

(d) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(3) The Secretary will make a tentative decision to grant or deny a petition and will publish notice of the tentative decision, either in the form of an advanced notice of proposed rule making, a proposed rule, or

(See page 861)

## CONTROLLED HAZARDOUS SUBSTANCES

a tentative determination to deny the petition, in the Maryland Register for written public comment.

(4) Upon the written request of any interested person, the Secretary may, at his discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing shall state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Secretary may in any case decide on his own motion to hold an informal public hearing.

(5) After evaluating all public comments, the Secretary will make a final decision by publishing in the Maryland Register a regulatory amendment or a denial of the petition.

B. Petitions for Equivalent Testing or Analytical Methods.

(1) Any person seeking to add a testing or analytical method to COMAR 26.13.02 or 26.13.05 may petition for a regulatory amendment under this section and §A, above. To be successful, the person must demonstrate to the satisfaction of the Secretary that the proposed method is equal to or superior to the corresponding method prescribed in COMAR 26.13.02 or 26.13.05 in terms of its sensitivity, accuracy, and precision (that is, reproducibility).

(2) Each petition shall include, in addition to the information required by A(2):

(a) A full description of the proposed method, including all procedural steps and equipment used in the method;

(b) A description of the types of wastes or waste matrices for which the proposed method may be used;

(c) Comparative results obtained from using the relevant or corresponding methods prescribed in COMAR 26.13.02 or 26.13.05;

(d) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(e) A description of the quality control procedures necessary to ensure the sensitivity, accuracy, and precision of the proposed method.

(3) After receiving a petition for an equivalent method, the Secretary may request any additional information on the proposed method which he may reasonably require to evaluate the method.

C. Petitions to Amend COMAR 26.13.02 to Exclude a Waste Produced at a Particular Facility.

## 26.13.01.04

#### ENVIRONMENT

(1) A person seeking to exclude a waste at a particular generating facility from the lists in COMAR 26.13.02.15—.19 may petition for a regulatory amendment under this section and §A of this regulation. To be successful:

(a) The petitioner shall demonstrate to the satisfaction of the Secretary that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste; and

(b) Based on a complete application, the Secretary shall determine where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that these factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of COMAR 26.13.02.10-.14.

(2) The procedures in this section and A may also be used to petition the Secretary for a regulatory amendment to exclude from COMAR 26.13.02.03A(2)(b) or B which is described in those sections and is either a waste listed in COMAR 26.13.02.15—.19, contains a waste listed in COMAR 26.13.02.15—.19, or is derived from a waste listed in COMAR 26.13.02.15—.19. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by C(1), except that where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, his demonstration may be made with respect to each constituent listed waste or the waste mixture as a whole. A waste which is so excluded may still be a hazardous waste by operation of COMAR 26.13.02.10—14.

(3) If the waste is listed with codes "I", "C", "R", or "E" in COMAR 26.13.02.15-.19:

(a) The petitioner shall show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in COMAR 26.13.02.11—.14 using any applicable methods prescribed there. The petitioner shall also show that the waste does not exhibit any of the other characteristics defined in COMAR 26.13.02.11—.14 using any applicable methods prescribed there.

(b) Based on a complete application, the Secretary shall determine when he has a reasonable basis to believe that factors, including

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.01.04

additional constituents, other than those for which the waste was listed could cause the waste to be a hazardous waste, that these factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of COMAR 26.13.02.10—.14.

(4) For waste listed with code "T" in COMAR 26.13.02.15-.19:

(a) The petitioner shall demonstrate that the waste:

(i) Does not contain the constituent or constituents, as defined in COMAR 26.13.02.24, that caused the Secretary to list the waste, using the appropriate test methods prescribed in COMAR 26.13.02.22, or

(ii) Although containing one or more of the hazardous constituents as defined in COMAR 26.13.02.24 that caused the Secretary to list the waste, does not meet the criterion of COMAR 26.13.02.09A(3) when considering the factors used by the Secretary in COMAR 26.13.02.09A(3)(a)—(k) under which the waste was listed as a hazardous waste;

(b) Based on a complete application, the Secretary shall determine, when he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that these factors do not warrant retaining the waste as a hazardous waste;

(c) The petitioner shall demonstrate that the waste does not exhibit any of the characteristics defined in COMAR 26.13.02.10—.14 using any applicable methods prescribed there; and

(d) A waste which is so excluded, however, still may be a hazardous waste under COMAR 26.13.02.10—.14.

(5) If the waste is listed with the code "H" in COMAR 26.13.02.15—.19:

(a) The petitioner shall demonstrate that the waste does not meet the criterion of COMAR 26.13.02.09A(2);

(b) Based on a complete application, the Secretary shall determine, when he has a reasonable basis to believe that additional factors, including additional constituents, other than those for which the waste was listed could cause the waste to be a hazardous waste, that these factors do not warrant retaining the waste as a hazardous waste;

863

## 26.13.01.04

#### ENVIRONMENT

(c) The petitioner shall demonstrate that the waste does not exhibit any of the characteristics defined in COMAR 26.13.02.11—.14 using any applicable methods prescribed there; and

(d) A waste which is so excluded, however, still may be a hazardous waste by operation of COMAR 26.13.02.10—.14.

(6) Demonstration samples shall consist of enough representative samples, but not less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste.

(7) Each petition shall include, in addition to the information required by Regulation .04A(2):

(a) The name and address of the laboratory facility performing the sampling or tests of the waste;

(b) The names and qualifications of the persons sampling and testing the waste;

(c) The dates of sampling and testing;

(d) The location of the generating facility;

(e) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether these processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(f) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(g) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in COMAR 26.13.02.09A(3);

(h) A description of the methodologies and equipment used to obtain the representative samples;

(i) A description of the sample handling and preparation techniques used for extraction, containerization, and preservation of the samples;

(j) A description of the tests performed (including results);

(k) The names and model numbers of the instruments used in performing the tests; and

(1) The following statement signed by the generator of the waste or his authorized representative: I certify under penalty of law that I

## CONTROLLED HAZARDOUS SUBSTANCES

have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(8) After receiving a petition for an exclusion, the Secretary may request any additional information which he may reasonably require to evaluate the petition.

(9) An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility.

(10) The Secretary may exclude only part of the waste from which the demonstration is submitted when he has reason to believe that variability of the waste justifies a partial exclusion.

(11) The Secretary may (but is not required to) grant a temporary exclusion before making a final decision under Regulation .04A(4) whenever he finds that there is a substantial likelihood that an exclusion will be finally granted. The Secretary will publish notice of a temporary exclusion in the Maryland Register.

D. Variances from Classification as a Solid Waste. In accordance with the standards and criteria in §E and the procedures in §G of this regulation, the Secretary may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(1) Materials that are accumulated speculatively without sufficient amounts being recycled as defined in COMAR 26.13.02.01C(3)(h);

(2) Materials that are reclaimed and then reused within the original primary production process in which they were generated; or

(3) Materials that have been reclaimed but must be reclaimed further before the materials are completely recovered.

E. Standards and Criteria for Variances from Classification as a Solid Waste.

(1) The Secretary may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

only for the following year, but can be renewed, on an annual basis, by filing a new application. The Secretary's decision will be based on all of the following standards and criteria:

(a) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur. For example, because of past practices, market factors, the nature of the material, or contractual arrangements for recycling.

(b) The reason that the applicant has accumulated the material for one or more years without recycling 75 percent of the volume accumulated at the beginning of the year.

(c) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled.

(d) The extent to which the material is handled to minimize loss.

(e) Other relevant factors.

(2) The Secretary may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original primary production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria:

(a) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;

(b) The prevalence of the practice on an industry-wide basis;

(c) The extent to which the material is handled before reclamation to minimize loss;

(d) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;

(e) The location of the reclamation operation in relation to the production process;

(f) Whether the reclaimed material is used for the purposes for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

## CONTROLLED HAZARDOUS SUBSTANCES

(g) Whether the person who generates the material also reclaims it; and

(h) Other relevant factors.

(3) The Secretary may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like, even though it is not yet a commercial product, and has to be reclaimed further. This determination will be based on the following factors:

(a) The degree of processing the material has undergone and the degree of further processing that is required;

(b) The value of the material after it has been reclaimed;

(c) The degree to which the reclaimed material is similar to an analogous raw material;

(d) The extent to which an end market for the reclaimed material is guaranteed;

(e) The extent to which the reclaimed material is handled to minimize loss; and

(f) Other relevant factors.

F. Variance to be Classified as a Boiler. In accordance with the standards and criteria in Regulation .03B(5) of this chapter defining "boiler", and the procedure in §G of this regulation, the Secretary may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in Regulation .03B(5) of this chapter, after considering the following criteria:

(1) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases;

(2) The extent to which the combustion chamber and energy recovery equipment are of integral design;

(3) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel;

(4) The extent to which exported energy is used;

(5) The extent to which the device is in common and customary use as a "boiler" functioning primarily to produce steam, heated fluids, or heated gases; and **JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(6) Other factors, as appropriate.

G. Procedures for Variances from Classification as a Solid Waste or to be Classified as a Boiler. The Secretary shall use the following procedures in evaluating applications for variances from classification as a solid waste or applications to classify particular enclosed flame combustion devices as boilers:

(1) The applicant shall apply to the Secretary. The application shall address the relevant criteria contained in  $\S E$  or F.

(2) The Secretary shall evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision shall be provided by newspaper advertisement and radio broadcast in the locality where the recycler is located. The Secretary will accept comment on the tentative decision for 45 days, and may also hold a public hearing upon request or at his discretion. The Secretary will issue a final decision after receipt of comments and after any scheduled hearing.

H. Additional Regulation of Certain Hazardous Waste Recycling Activities on a Case-By-Case Basis.

(1) The Secretary may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in COMAR 26.13.02.06A(2)(b)(iii) shall be regulated under COMAR 26.13.02.06B and C. The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the Secretary shall consider the following factors:

(a) The types of materials accumulated or stored and the amounts accumulated or stored;

(b) The method of accumulation or storage;

(c) The length of time the materials have been accumulated or stored before being reclaimed;

(d) Whether any contaminants are being released into the environment, or are likely to be so released; and

(e) Other relevant factors.

(2) The procedures for this decision are set forth in §I of this regulation.

868

## CONTROLLED HAZARDOUS SUBSTANCES

26.13.01.05

I. Procedures for Case-By-Case Regulation of Hazardous Waste Recycling Activities. The Secretary shall use the following procedures when determining whether to regulate hazardous waste recycling activities described in COMAR 26.13.02.06A(2)(b)(iii), under the provisions of COMAR 26.13.02.06B and C, rather than under the provisions of COMAR 26.13.10:

(1) If a generator is accumulating the waste, the Secretary will issue a notice setting forth the factual basis for the decision to regulate and stating that the person shall comply with the applicable requirements of COMAR 26.13.03.01—.03 and .05—.07. The notice shall become final within 30 days, unless the person served challenges the decision. Upon challenge, the Secretary shall hold a public hearing. The Secretary will provide notice of the hearing to the public and allow public participation at the hearing. The Secretary shall issue a final order after the hearing stating whether or not compliance with COMAR 26.13.03 is required. The order becomes effective 30 days after receipt of the decision unless the Secretary specifies a later date.

(2) If the person is accumulating the recyclable material as a storage facility, the notice shall state that the person shall obtain a permit in accordance with all applicable provisions of COMAR 26.13.07. The owner or operator of the facility shall apply for a permit within not less than 60 days and not more than 6 months of notice, as specified in the notice.

#### .05 Incorporation by Reference.

Supp. 11

A. When used in COMAR 26.13.01—26.13.10, the following publications are incorporated by reference:

(1) "ASTM Standard Test Methods of Flash Point of Liquids by Setaflash Closed Tester." ASTM Standard D-3278-78 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

(2) "ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

(3) "NFPA 30 Flammable and Combustible Liquids Code" (1990), available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

(4) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, Third Edition (1986), as amended by Update



#### 26.13.01.05

#### ENVIRONMENT

I (July, 1992), Update II (September, 1994), Update IIA (August, 1993), and Update IIB (January, 1995). Refer to 40 CFR §260.11 for information on availability of these documents.

B. (Reserved)

#### Administrative History

#### Effective date:

Regulations .01—.04 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642) Regulations .02A and .03B amended effective January 18, 1982 (9:1 Md. R. 20) Regulation .02A-1 adopted effective February 13, 1984 (11:3 Md. R. 202) Regulation .02D adopted effective January 18, 1982 (9:1 Md. R. 20) Regulation .03B amended effective January 31, 1983 (10:2 Md. R. 110); February 13,

1984 (11:3 Md. R. 202); July 30, 1984 (11:15 Md. R. 1330); April 18, 1988 (15:8 Md. R. 1009)

Regulation .04C amended, D—I adopted effective April 18, 1988 (15:8 Md. R. 1009) Regulation .05 adopted effective January 31, 1983 (10:2 Md. R. 110) Regulation .05A amended effective April 18, 1988 (15:8 Md. R. 1009)

Chapter recodified from COMAR 10.51.01 to COMAR 26.13.01

Regulation .03B amended effective April 1, 1991 (18:6 Md. R. 690); December 23, 1991 (18:25 Md. R. 2759); May 24, 1993 (20:10 Md. R. 853); April 11, 1994 (21:7 Md. R. 533); August 28, 1995 (22:17 Md. R. 1321); September 10, 1997 (24:5 Md. R. 413); September 7, 1998 (25:18 Md. R. 1438)

Regulation .04F amended effective May 24, 1993 (20:10 Md. R. 853)

Regulation .04I amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .05A amended effective December 23, 1991 (18:25 Md. R. 2759); May 24, 1993 (20:10 Md. R. 853); September 10, 1997 (24:5 Md. R. 413)

870

# Title 26 DEPARTMENT OF THE ENVIRONMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

## Chapter 02 Identification and Listing of Hazardous Waste

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

#### .01 Purpose and Scope.

A. This chapter identifies those solid wastes which are subject to regulation as hazardous wastes under COMAR 26.13.03—26.13.05.

B. In this chapter:

(1) Regulations .01—.06 define the terms "solid waste" and "hazardous waste", identifies those wastes which are excluded from regulation under COMAR 26.13.03—26.13.05 and establishes special management requirements for hazardous waste produced by small quantity generators and hazardous waste which is used, re-used, recycled, or reclaimed.

(2) Regulations .08 and .09 set forth the criteria used by the Department to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Regulations .10—.14 identify characteristics of hazardous waste.

(4) Regulations .15—.19 list particular hazardous wastes.

C. General.

(1) The definition of solid waste contained in this chapter applies only to wastes that also are hazardous for purposes of this subtitle. For example, it does not apply to materials such as non-hazardous scrap, paper, textiles, or rubber that are not otherwise hazardous wastes and that are recycled.

(2) This chapter identifies only some of the materials which are solid wastes and hazardous wastes under Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland.

## 26.13.02.01

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(3) Definitions. For the purposes of Regulations .02 and .06 of this chapter:

(a) "By-product" is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form produced by the process.

(b) "Reclaimed material" is material that is processed to recover a usable product or is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(c) "Recycled material" is material that is used, reused, or reclaimed.

(d) "Reused or used material" is a material that is employed in either one of the following:

(i) As an ingredient including use as an intermediate, in an industrial process to make a product, such as distillation bottoms from one process used as feedstock in another process. However, a material does not satisfy this condition if distinct components of the material are recovered as separate end products, as when metals are recovered from metal-containing secondary materials.

(ii) In a particular function or application as an effective substitute for a commercial product such as spent pickle liquor used as phosphorus precipitant and sludge conditioner in wastewater treatment.

(e) "Scrap metal" is bits and pieces of metal parts such as bars, turnings, rods, sheets, or wire or metal pieces that may be combined together with bolts or soldering such as radiators, scrap automobiles, or railroad box cars, which when worn or superfluous can be recycled.

(f) "Sludge" has the same meaning as specified in COMAR 26.13.01.03B(72).

(g) "Spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(h) A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being

## CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.02

recycled, and that during the calendar year which commences on January 1, the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type, such as slags from a single smelting process, that is recycled in the same way, for example, from which the same material is recovered or that is used in the same way. Materials accumulating in units that would be exempt from regulation under Regulation .04-2 of this chapter are not to be included in making the calculation. Materials that are already defined as solid wastes also are not to be included in making the calculation. Materials are no longer in this category once they are removed from accumulation for recycling.

#### .02 Definitions of Solid Waste.

A. Solid Waste and Discarded Material.

(1) A solid waste is any discarded material that is not excluded by Regulation .04 of this chapter or that is not excluded by a variance granted under COMAR 26.13.01.04D and E.

(2) A discarded material is any material which is:

(a) Abandoned, as explained in §B of this regulation;

(b) Recycled, as explained in §C of this regulation; or

(c) Considered inherently waste-like, as explained in §D of this regulation.

B. Materials are solid waste if they are abandoned. For purposes of this subtitle, "abandoned" means:

(1) Disposed of;

(2) Burned or incinerated; or

(3) Accumulated, stored, or treated (but not recycled) before or instead of being abandoned by being disposed of, burned, or incinerated.

C. Materials are solid wastes if they are recycled, or accumulated, stored, or treated before recycling, as follows:

(1) Used in a Manner Constituting Disposal.

(a) Materials noted with an asterisk in §G of this regulation, column 1 of Table 1, are solid wastes when they are:

873

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(i) Applied to or placed on the land in a manner that constitutes disposal; or

(ii) Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to the land (in which case the product itself remains a solid waste).

(b) Commercial chemical products listed in Regulation .19 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) Materials Burned for Energy Recovery.

(a) Except as provided in C(2)(b), materials noted with an asterisk in G, column 2 are solid wastes when they are:

(i) Burned to recover energy;

(ii) Used to produce a fuel;

(iii) Contained in fuels, in which case the fuel itself remains a solid waste.

(b) Commercial chemical products listed in Regulation .19 are not solid wastes if they are themselves fuels.

(3) Materials Reclaimed. Materials noted with an asterisk in §G, column 3 of Table 1 are solid wastes when reclaimed.

(4) Materials Accumulated Speculatively. Materials noted with an asterisk in §G, column 4 of Table 1 are solid wastes when accumulated speculatively.

D. Inherently Waste-Like Materials.

(1) The following materials are solid wastes when they are recycled in any manner: Hazardous Waste Nos. F020, F021, unless otherwise used as an ingredient to make a product at the site of generation, and F022, F023, F026, and F028.

(2) The Secretary shall use the following criteria to add wastes to the list in D(1):

(a) The materials are ordinarily disposed of, burned, or incinerated;

(b) The materials contain toxic constituents listed in Regulation .24 of this chapter and these constituents are not ordinarily found in raw materials or products for which the materials substitute, or are found in raw materials or products in smaller concentrations, and are not used or reused during the recycling process; or

(c) The materials may pose a substantial hazard to human health and the environment when recycled.

874

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.02

E. Materials That Are Not Solid Waste When Recycled.

(1) Materials are not solid wastes when they can be shown to be recycled by being:

(a) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed;

(b) Used or reused as effective substitutes for commercial products; or

(c) Returned to the original process from which they are generated, without first being reclaimed. The material shall be returned as a substitute for raw material feedstock, and the process shall use raw materials as principal feedstocks, in order for this paragraph to apply.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process, described in  $\S{E}(1)$ , above:

(a) Materials used in a manner constituting disposal, or used to produce products that are applied to the land;

(b) Materials burned for energy recovery, used to produce a fuel, or contained in fuels;

(c) Materials accumulated speculatively; or

(d) Materials listed in D(1).

F. Documentation of Claims That Materials Are Not Solid Wastes or Are Exempt from Regulation. Respondents in actions to enforce regulations implementing Environment Article, Title 7, Annotated Code of Maryland, who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, shall demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they shall provide appropriate documentation such as contracts showing that a second person uses the material as an ingredient in a production process to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials shall show that they have the necessary equipment to do so.

## 26.13.02.03

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

G. Table 1.

	Use Constituting Disposal . (1)	Energy Recovery/ Fuel (2)	Reclamation (3)	Speculative Accumulation (4)
Spent materials	(*)	(*)	(*)	(*)
Sludges (listed in Regula- tion .16, .17, or .18 of this chapter)	(*)	(*)	·(*)	(*)
Sludges exhibiting a char- acteristic of hazardous waste	,	(*)		(*)
By-products (listed in Reg- ulation .16, .17, or .18 of this chapter)	(*)	(*)	<b>(*)</b>	<b>(*)</b>
By-products exhibiting a characteristic of hazard- ous waste	(*)	(*)		(*)
Commercial chemical prod- ucts (listed in Regulation .19 of this chapter)		<b>(*)</b>	, <del>1997</del> 	
Scrap metal	(*)	(*)	( <b>*</b> )	(*)

NOTE — The terms "spent materials", "sludges", "by-products", and "scrap metal" are defined in Regulation .01 of this chapter.

## .03 Definition of Hazardous Waste.

A. A solid waste, as defined in Regulation .02 is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under Regulation .04-1 of this chapter; and

(2) It meets any of the following criteria:

(a) It exhibits any of the characteristics of hazardous waste identified in this chapter.

(b) It is listed in Regulations .15-.19 and has not been excluded from the lists by COMAR 26.13.01.04A and C.

(c) It is a mixture of solid waste and a hazardous waste that is listed in this chapter solely because it exhibits one or more of the characteristics of hazardous waste identified in this chapter unless the:

(i) Resultant mixture no longer exhibits any characteristic of hazardous waste as identified in this chapter; or

## CONTROLLED HAZARDOUS SUBSTANCES

(ii) Solid waste is excluded from regulation under Regulation .04-1A(7) of this chapter and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in this chapter for which the hazardous waste in the mixture was listed in this chapter.

(d) It is a mixture of solid waste and one or more hazardous wastes listed in this chapter and has not been excluded from this paragraph under COMAR 26.13.01.04; however, the following mixtures of solid wastes and hazardous wastes listed in this chapter are not hazardous wastes (except by application of A(2)(a) and (b) of this regulation) if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is subject to regulation under either 402 or 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(i) One or more of the following spent solvents listed in Regulation .16—carbon tetrachloride, tetrachloroethylene, trichloroethylene provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million;

(ii) One or more of the following spent solvents listed in Regulation .16—methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, cresols, cresylic acid and nitrobenzene, provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million;

(iii) One of the following wastes listed in Regulation .17—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050);

(iv) A discarded commercial chemical product or chemical intermediate listed in Regulation .19 arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "de minimis" losses include those from normal material handling operations (for example, spills from the unloading or transfer of materials from bins or other

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(v) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in this chapter provided that the annualized average flow of laboratory wastewater does not exceed 1 percent of the total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system or provided the wastes' combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

(e) Except as provided in COMAR 26.13.02.04-1A(11), it is used oil which contains more than 1,000 parts per million total halogens and is therefore presumed to have been mixed with halogenated hazardous waste listed in Regulations .16—.19 of this chapter.

A-1. Any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under Regulation .04-1A(7) of this chapter and any other solid waste which exhibits a characteristic of hazardous waste under this chapter, is a hazardous waste only under the following circumstances:

(1) The mixture exhibits a characteristic that would not have been exhibited by the excluded waste alone if this mixture had not occurred; or

(2) The mixture continues to exhibit any of the characteristics exhibited by the non-excluded wastes before mixture.

B. A solid waste which is not excluded from regulation under A(1) becomes a hazardous waste when any of the following events occurs:

(1) In the case of a waste listed in Regulations .15—.19 of this chapter, when the waste first meets the listing description set forth in Regulations .15—.19 of this chapter;

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in Regulations .15—.19 of this chapter is first added to the solid waste;

## Controlled Hazardous Substances 26.13.02.03

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in Regulations .10-.14 of this chapter.

(See page 879)



878-1

26.13.02.04

C. Unless and until it meets the criteria of §D:

(1) A hazardous waste will remain a hazardous waste.

(2) Except as otherwise provided in C(3), any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate but not including precipitation runoff, is a hazardous waste. However, materials that are reclaimed from solid waste and that are used beneficially are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.

(3) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332) is not a hazardous waste even though it is generated from the treatment, storage, or disposal of a hazardous waste, unless it exhibits one or more of the characteristics of hazardous waste.

D. Any solid waste described in C is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in Regulations .10-.14;

(2) In the case of a waste which is a listed waste under Regulations .15—.19, contains a waste(s) listed under Regulations .15—.19 or is derived from a waste listed in Regulations .15—.19, it also has been excluded from §C under COMAR 26.13.01.04A(3) and C.

#### .04 Materials Which Are Not Solid Wastes.

A. The following materials are not solid wastes for the purpose of this chapter:

(1) Domestic sewage, as defined in §B of this regulation, that passes through a sewer system to a publicly owned treatment work for treatment;

(2) Industrial wastewater discharges that are point source discharges permitted pursuant to §402 of the Clean Water Act, as amended, or permitted pursuant to Environment Article, §§9-324-9-332, Annotated Code of Maryland;

(3) Irrigation return flows;

(4) Materials subjected to in situ mining techniques which are not removed from the ground as part of the extraction process;

#### 26.13.02.04

#### ENVIRONMENT

(5) Pulping liquors (for example, black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in Regulation .01C(3)(h) of this chapter;

(6) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in Regulation .01C(3)(h) of this chapter;

(7) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process if:

(a) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance,

(b) Reclamation does not involve controlled flame combustion, such as occurs in boilers, industrial furnaces, or incinerators,

(c) The secondary materials are never accumulated in the tanks for over 12 months without being reclaimed, and

(d) The reclaimed material is neither used to produce a fuel, nor used to produce products that are used in a manner constituting disposal;

(8) EPA hazardous waste numbers K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke byproducts processes that are hazardous only because they exhibit the toxicity characteristic (TC) specified in Regulation .14 of this chapter if:

(a) Subsequent to generation, these materials are recycled to coke ovens or to the tar recovery process as a feedstock to produce coal tar, or are mixed with coal tar before the tar's sale or refining, and

(b) There is no land disposal of the wastes from the point at which they are generated to the point at which they are mixed with coal tar, or the point at which they are recycled to coke ovens, tar recovery processes, or tar refining processes;

(9) The following wastes from wood preserving:

(a) Spent wood-preserving solutions that have been reclaimed and are reused for their original intended purpose, and

(b) Wastewaters from the wood-preserving process that have been reclaimed and are reused to treat wood.

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.04-1

B. Definition. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

#### .04-1 Solid Wastes Which Are Not Hazardous Wastes.

A. The following solid wastes are not hazardous wastes:

(1) Household waste, as defined in §B of this regulation, including household waste that has been collected, transported, stored, treated, disposed of, recovered (for example, refuse-derived fuel), or reused;

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(a) The growing and harvesting of agricultural crops,

(b) The raising of animals, including animal manures;

(3) Mining overburden returned to the mine site;

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels;

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy;

(6) Contaminated soils and other solids recovered from spills or removed from old disposal sites containing PCB at concentrations of less than 50 ppm which shall be disposed of at approved sites only if they do not qualify as a hazardous waste under any other section of this regulation;

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore, except that the Secretary, on a case-by-case basis, may impose by Order, those requirements of COMAR 26.13, determined by the Secretary, to be necessary to protect human health and the environment;

(8) Cement kiln dust waste;

#### (See page 881)

## Supp. 11

880-1

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.04-1

(9) Solid waste which consists of discarded arsenical-treated wood or wood products that, as a result of the wood treating process, fail the test for the toxicity characteristic for Hazardous Waste Codes D004—D017, and which is not a hazardous waste for any other reason if the waste is generated by persons who use the arsenical-treated wood and wood products for the material's intended end use;

(10) Chromium waste which meets one of the following criteria:

(a) Wastes which fail the test for the toxicity characteristic because chromium is present, or are listed in Regulations .15—.19 of this chapter due to the presence of chromium, which do not fail the test for the toxicity characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(i) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium,

(ii) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium, and

(iii) The waste is typically and frequently managed in nonoxidizing environments;

(b) Specific wastes which meet the standard in A(10)(a) of this regulation, so long as they do not fail the test for the toxicity characteristic and do not fail the test for any other characteristic, are:

(i) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/ chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue, and shearling,

(ii) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/ chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue, and shearling,

(iii) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/ retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue,

(iv) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome

#### ENVIRONMENT

tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue, and shearling,

(v) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/ chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue, and shearling,

(vi) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, and through-the-blue,

(vii) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries,

(viii) Wastewater treatment sludges from the production of  $TiO_2$  pigment using chromium-bearing ores by the chloride process;

(11) Used oil which contains more than 1,000 parts per million total halogens if:

(a) The used oil:

**US EPA ARCHIVE DOCUMENT** 

(i) Has been demonstrated not to contain hazardous waste through the use of an analytical method, or some other means acceptable to the Secretary, to show, to the Secretary's satisfaction, that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Regulation .24 of this chapter,

(ii) Is a metalworking oil or metalworking fluid which contains chlorinated paraffins and is processed, through a tolling agreement, to reclaim metalworking oil or fluid, or

(iii) Is contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units and the CFCs are destined for reclamation; and

(b) The used oil is not regulated as hazardous for any other reason.

(12) Petroleum-contaminated media and debris that fail the test for the toxicity characteristic of Regulation .14 of this chapter (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR 280;

(13) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.04-1

and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use;

(14) Non-terne-plated used oil filters from internal combustion engines, if:

(a) The filter has not been mixed with any waste that is listed in Regulations .15—.19 of this chapter;

(b) The filter has been drained by initiating the draining with the oil near operating temperature and conducting the draining in an environment warmer than  $60^{\circ}F$ ;

(c) One of the following alternatives has been used in conjunction with draining as described in A(14)(b) of this regulation to remove oil from the filter:

(i) Puncturing the filter anti-drain back valve or the filter dome end, and draining,

(ii) Draining, followed by crushing the filter,

(iii) Dismantling the filter and draining, or

(iv) Using an alternative technique in conjunction with draining which will remove oil from the filter at least as well as the techniques described in A(14)(c)(i)—(iii) of this regulation; and

(d) In complying with A(14)(c) of this regulation, the filter has been allowed to drain under the influence of gravity for at least 12 hours.

(15) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

B. For the purpose of §A(1) of this regulation, "household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

C. A resource recovery facility managing municipal solid waste may not be considered to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if the facility:

(1) Receives and burns only:

#### ENVIRONMENT

(a) Household waste from single and multiple dwellings, hotels, motels, and other residential sources, and

(b) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(2) Does not accept hazardous wastes and the owner or operator of the facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received or burned in the facility.

D. For the purpose of disposal of waste mixtures containing insignificant amounts of CHS which are not hazardous wastes as defined by COMAR 26.13.02.03A(2), it is the obligation of the waste generator to show that the concentration of the CHS is such that the waste mixture can be disposed of in places other than a facility.

E. For the purposes of this regulation, beneficiation of ores and minerals is restricted to the following activities:

- (1) Amalgamation;
- (2) Briquetting;
- (3) Calcining to remove water or carbon dioxide, or both;
- (4) Crushing;
- (5) Crystallization;

(See page 884)

This page intentionally left blank.

----

ĩ

Super-States

#### 26.13.02.04-1

## ENVIRONMENT

- (6) Dissolution;
- (7) Drying;
- (8) Electrostatic separation;
- (9) Electrowinning;
- (10) Filtration;
- (11) Flotation;
- (12) Gravity concentration;
- (13) Grinding;
- (14) Heap, dump, vat, tank, and in situ leaching;
- (15) Ion exchange;
- (16) Magnetic separation;
- (17) Pelletizing;
- (18) Precipitation;

(19) Roasting, autoclaving, or chlorination, or all of these, in preparation for leaching, except when the sequences of roasting, autoclaving, or chlorination, or all of these, and leaching produces a final or intermediate product that does not undergo further beneficiation or processing;

- (20) Sintering;
- (21) Sizing;

**US EPA ARCHIVE DOCUMENT** 

- (22) Solvent extraction;
- (23) Sorting; and
- (24) Washing.

F. For the purposes of A(7) of this regulation, solid waste from the processing of ores and minerals includes only the following wastes:

(1) Slag from primary copper processing;

(2) Slag from primary lead processing;

(3) Red and brown muds from bauxite refining;

(4) Phosphogypsum from phosphoric acid production;

(5) Slag from elemental phosphorus production;

(6) Gasifier ash from coal gasification;

(7) Process wastewater from coal gasification;

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.04-3

(8) Calcium sulfate wastewater treatment plant sludge from primary copper processing;

(9) Slag tailings from primary copper processing;

(10) Fluorogypsum from hydrofluoric acid production;

(11) Process wastewater from hydrofluoric acid production;

(12) Air pollution control dust or sludge, or both, from iron blast furnaces:

(13) Iron blast furnace slag;

(14) Treated residue from roasting/leaching of chrome ore;

(15) Process wastewater from primary magnesium processing by the anhydrous process;

(16) Process wastewater from phosphoric acid production;

(17) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;

(18) Basic oxygen furnace and open hearth furnace slag from carbon steel production;

(19) Chloride process waste solids from titanium tetrachloride production; and

(20) Slag from primary zinc processing.

## .04-2 Hazardous Wastes Which Are Exempt from Certain Regulations.

A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, or in an associated nonwaste-treatment manufacturing unit, is not subject to regulations until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of products or raw material.

#### .04-3 Samples.

A. Except as provided in §B of this regulation, a sample of solid waste or a sample of water, soil, or air, the quantity of which is to be determined by the Department, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirement of this part of COMAR 26.13.03-.07 or to

884-1

#### 26.13.02.04-3

#### ENVIRONMENT

the notification requirements of §3010 of the Resource Conservation and Recovery Act, when the sample is being:

(1) Transported to a laboratory for the purpose of testing;

(2) Transported back to the sample collector after testing;

(3) Stored by the sample collector before transport to a laboratory for testing;

(4) Stored in a laboratory before testing;

(5) Stored in a laboratory after testing but before it is returned to the sample collector; or

(6) Stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action if further testing of the sample may be necessary).

B. In order to qualify for the exemption in A(1) and (2) of this regulation, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector shall:

(1) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(2) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(a) Package the sample so that it does not leak, spill, or vaporize from its packaging; and

(b) Assure that the following information accompanies the samples:

(i) The sample collector's name, mailing address, and telephone number,

(ii) The laboratory's name, mailing address, and telephone number,

(iii) The quantity of the sample,

(iv) The date of shipment, and

(v) A description of the sample.

C. This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in §A of this regulation.

884-2

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.04-4

#### .04-4 Treatability Study Samples.

A. Except as provided in §B of this regulation, persons who generate or collect samples for the purpose of conducting treatability studies as defined in COMAR 26.13.01.03B are not subject to any requirement of COMAR 26.13.02 - .04 or to the notification requirements of Section 3010 of RCRA, nor are those samples included in the quantity determinations of Regulation .05 of this chapter and COMAR 26.13.03.05E(2) when one of the following conditions is met:

(1) The sample is being collected and prepared for transportation by the generator or sample collector;

(2) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(3) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

B. The exemption in §A of this regulation is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies, provided that all of the following conditions are met:

(1) The generator or sample collector does not use, in treatability studies, more than 1,000 kilograms of any nonacute hazardous waste, 1 kilogram of acute hazardous waste, or 250 kilograms of soils, water, or debris contaminated with acute hazardous waste for each process being evaluated for each generated waste stream;

(2) The mass of each sample shipment does not exceed 1,000 kilograms of nonacute hazardous waste, 1 kilogram of acute hazardous waste, or 250 kilograms of soils, water, or debris contaminated with acute hazardous waste;

(3) The sample is packaged so that it does not leak, spill, or vaporize from its packaging during shipment;

(4) The transportation of each sample shipment complies with U. S. Department of Transportation (DOT), U. S. Postal Service (USPS), or any other applicable shipping requirements, or if the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, with the requirements of §B(5) of this regulation;

(5) If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, all of the following information accompanies the sample:

Supp. 4

884-3

26.13.02.04-4

## ENVIRONMENT

(a) The name, mailing address, and telephone number of the originator of the sample,

(b) The name, address, and telephone number of the facility that will perform the treatability study,

(c) The quantity of the sample,

(d) The date of shipment, and

(e) A description of the sample, including its EPA or State hazardous waste number;

(6) The sample is shipped to a laboratory or testing facility which is exempt under Regulation .04-5 of this chapter or which has an appropriate CHS facility permit, RCRA permit, or interim status;

(7) The generator or sample collector maintains all of the following records for a period ending 3 years after completion of the treatability study:

(a) Copies of the shipping documents,

(b) A copy of the contract with the facility conducting the treatability study,

(c) Documentation showing the amount of waste shipped under this exemption,

(d) Documentation showing the name, address, and EPA identification number of the laboratory or testing facility that received the waste,

(e) Documentation showing the date the shipment was made, and

(f) Documentation showing whether or not unused samples and residues were returned to the generator; and

(8) The generator includes the information required under B(7)(c)—(f) of this regulation with its annual or biennial report submitted under COMAR 26.13.03.06B.

C. Allowance for Additional Quantities.

(1) The Secretary may grant requests on a case-by-case basis for quantity limits in excess of those specified in \$B(1) of this regulation for up to an additional 500 kilograms of nonacute hazardous waste, 1 kilogram of acute hazardous waste, and 250 kilograms of soils, water, or debris contaminated with acute hazardous waste, to conduct further treatability study evaluation under one of the following circumstances:

884-4

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.04-5

(a) There has been an equipment or mechanical failure during the conduct of a treatability study;

(b) There is a need to verify the results of a previously conducted treatability study;

(c) There is a need to study and analyze alternative techniques within a previously evaluated treatment process; or

(d) There is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(2) The additional quantities allowed are subject to all the provisions of §§A and B of this regulation.

(3) In order to be granted an allowance for additional quantities, the generator or sample collector shall apply to the Secretary and provide in writing all of the following information:

(a) The reason why the generator or sample collector requires an additional quantity of sample for the treatability study evaluation and the additional quantity needed;

(b) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies, including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results of each treatability study;

(c) A description of the technical modifications or changes in specifications which will be evaluated and the expected results;

(d) If the request for permission to exceed the quantity limits of  $\SB(1)$  of this regulation is being made due to equipment or mechanical failure, information regarding the reason for the failure or breakdown, and also a description of the modifications to procedures or improvements to equipment that have been made to protect against further breakdowns; and

(e) Other information the Secretary considers necessary.

## .04-5 Samples Undergoing Treatability Studies at Laboratories and Testing Facilities.

A. Samples undergoing treatability studies and the laboratories or testing facility conducting the treatability studies, to the extent those facilities are not otherwise subject to requirements under COMAR 26.13, are not subject to any requirements of COMAR 26.13.02-.07,

884-5

#### ENVIRONMENT

or to the notification requirements of Section 3010 of RCRA provided that all of the following conditions are met:

(1) Not less than 45 days before conducting treatability studies, the facility notifies the Secretary in writing that it intends to conduct treatability studies under this section;

(2) The laboratory or testing facility conducting the treatability study has an EPA identification number;

(3) No more than a total of 250 kilograms of "as received" hazardous waste is subjected to initiation of treatment in all treatability studies in any single day, when "as received" waste refers to the waste as received in the shipment from the generator or sample collector;

(4) The quantity of "as received" hazardous waste stored at the facility for the purpose of evaluation in treatability studies, exclusive of treatability study residues and treatment materials, including nonhazardous solid waste, added to "as received" hazardous waste, does not exceed 1,000 kilograms, the total of which can include 500 kilograms of soils, water, or debris contaminated with acute hazardous waste or 1 kilogram of acute hazardous waste;

(5) Not more than 90 days have elapsed since the treatability study for the sample was completed, or not more than 1 year has elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurred;

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste;

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits, with all of the following specific items included for each treatability study conducted:

(a) The name, address, and EPA identification number of the generator or sample collector of each waste sample,

(b) The date the shipment was received,

(c) The quantity of waste accepted,

(d) The quantity of "as received" waste in storage each day,

(e) The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day,

(f) The date the treatability study was concluded, and

884-6
(g) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number;

(8) The facility keeps on-site a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study;

(9) The facility prepares and submits a report to the Secretary by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year, and includes all of the following information for the previous calendar year:

(a) The name, address, and EPA identification number of the facility conducting the treatability studies,

(b) The types, by process, of treatability studies conducted,

(c) The names and addresses of persons for whom studies have been conducted, including their EPA identification numbers,

(d) The total quantity of waste in storage each day,

(e) The quantity and types of waste subjected to treatability studies,

(f) When each treatability study was conducted, and

(g) The final disposition of residues and unused sample from each treatability study;

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under Regulation .03 of this chapter;

(11) The facility manages any unused samples or residues generated by the treatability study that are determined to be hazardous waste in accordance with the requirements of this chapter and COMAR 26.13.03—26.13.10 unless the residues and unused samples are returned to the sample originator under the exemption of Regulation .04-4 of this chapter;

(12) The facility notifies the Secretary by letter when the facility is no longer planning to conduct any treatability studies at the site; and

(13) The treatability study is not being used as a means to dispose of hazardous waste.

884-7

#### ENVIRONMENT

26.13.02.05

B. A mobile treatment unit may qualify as a testing facility subject to §A of this regulation. When a group of mobile treatment units are located at the same site, the limitations specified in §A of this regulation apply to the entire group of mobile treatment units collectively as if the group were one mobile treatment unit.

# .05 Special Requirements for Hazardous Waste Generated by Small Quantity Generators.

A. Except for those wastes identified in §§B and C, if a person generates, in a calendar month, a total of less than 100 kilograms (approximately 220 pounds) of hazardous wastes, those wastes are not subject to regulation under COMAR 26.13.03—26.13.07 and the notification requirements of §3010 of RCRA, provided the generator complies with the requirements of §§B, D, E, and F.

B. Hazardous waste that is removed from the site of generation and is accumulated for the purpose of thermal destruction or is thermally destroyed in quantities greater than the minimum quantities specified in §§A and C of this regulation may not be excluded from the requirements of COMAR 26.13.05.15 and .16, and 26.13.07.02, .02-6, and .05.

C. If a person generates in a calendar month or accumulates at any time any of the following hazardous wastes in quantities greater than set forth below, those wastes are subject to regulation under COMAR 26.13.03—26.13.07:

(1) One kilogram of any commercial product or manufacturing chemical intermediate having the generic name listed in Regulation .19E or F of this chapter;

(2) One kilogram of any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in Regulation .19E or F;

(3) Any containers identified in Regulation .19C of this chapter that are larger than 20 liters in capacity;

(4) 10 kilograms of inner liners from containers identified under Regulation .19C of this chapter;

(5) 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill, into or onto any land or water, of any acute hazardous waste listed in Regulation .16, .17, .18, or .19 of this chapter;

884-8

# CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.05

A STATE AND A

(6) One kilogram of any of the following wastes:

(a) F020, F021, F022, F023, F026, and F027 as identified in Regulation .16 of this chapter, and

(b) K991, K992, K993, K994, K995, K996, K997, K998, and K999 as identified in Regulation .17.

(See page 885)

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.05

D. In order for hazardous waste to be excluded from regulation under this chapter, the generator:

(1) Shall comply with COMAR 26.13.03.02.

(2) Shall treat or dispose of the waste in an on-site facility, or ensure delivery to an off-site treatment, storage, or disposal facility, either of which, if located in the United States, is:

(a) Permitted by EPA under 40 CFR 270, or by a state with a hazardous waste management program authorized under 40 CFR 271;

(b) In interim status under 40 CFR 270 and 265;

(c) Permitted, licensed, or registered by a state to manage municipal or industrial solid waste;

(d) Permitted under COMAR 26.11.02.13 (air quality operating permit) and has a limited facility permit;

(e) A generating station constructed by an electric company and has a limited facility permit; or

(f) A facility which:

(i) Beneficially uses or reuses, or legitimately recycles or reclaims its waste, or

(ii) Treats its waste before beneficial use or reuse, or legitimate recycling or reclamation.

(3) May not accumulate hazardous waste on-site if the generator accumulates at any time:

(a) Acute hazardous wastes in quantities greater than those set forth in §C of this regulation. Those accumulated wastes are subject to regulation under COMAR 26.13.03—.07 and the applicable notification requirements of §3010 of RCRA. The time period of COMAR 26.13.03.05E for accumulation of wastes on-site begins when the accumulated wastes exceed the applicable exclusion limit.

(b) More than a total of 100 kilograms of any hazardous waste not otherwise regulated under D(3)(a) of this regulation. Those accumulated wastes are subject to regulation under COMAR 26.13.03— .07 and the applicable notification requirements of \$3010 of RCRA. The time period of COMAR 26.13.03.05E for accumulation of wastes on-site begins for a generator when the initial waste is generated.

#### 26.13.02.06

#### ENVIRONMENT

E. Mixed Hazardous Wastes.

(1) Except as provided in E(2), hazardous waste subject to the reduced requirements of this chapter may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this chapter, unless the mixture meets any of the characteristics of hazardous waste identified in Regulations .10—.14 of this chapter.

(2) If a generator's hazardous waste is mixed with used oil, the mixture is subject to regulation under applicable provisions of COMAR 26.10.15, 26.11.09, and 26.11.10, if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery.

F. Hazardous waste subject to the requirements of COMAR 26.13.10.01—.03 or 26.13.02.06B and C is included in the quantity determination of this section and is subject to the requirements of this regulation.

#### .06 Requirements for Recyclable Materials.

#### A. General.

(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of §§B and C except for the materials listed in A(2) and (3) of this regulation. Hazardous wastes that are recycled will be known as "recyclable materials". Recyclable materials, except as otherwise provided in A(2) or (3), C(1), or COMAR 26.13.10 are not controlled hazardous substances (CHS) for purposes of COMAR 26.13.07.

(2) Exemption From Regulation.

(a) The following recyclable materials are not CHS for purposes of the regulations indicated:

(i) Recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these are not CHS for purposes of COMAR 26.13.05.01—.04, .05A, D—H, and .06—.18, and 26.13.07;

(ii) Spent lead-acid batteries that are recyclable materials are not CHS for purposes of COMAR 26.13.03, 26.13.04, 26.13.05.02D, and 26.13.07, and, for persons who store but do not reclaim, are not CHS for purposes of COMAR 26.13.05.

# CONTROLLED HAZARDOUS SUBSTANCES

(b) The following recyclable materials are not subject to the requirements of this section but are regulated under either COMAR 26.13.05.16 or 26.13.10 and all applicable provisions in 26.13.07.02—.03;

(i) Recyclable materials used in a manner constituting disposal;

(ii) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are regulated under COMAR 26.13.05.15 and .16, and 26.13.07.05;

(iii) Recyclable materials from which precious metals are reclaimed; or

(iv) Spent lead-acid batteries that are being reclaimed under COMAR 26.13.10.

(3) Exclusions.

(a) The following recyclable materials are not CHS for purposes of the regulations indicated:

(i) Industrial ethyl alcohol that is reclaimed is not a CHS for purposes of COMAR 26.13.03—26.13.07;

(ii) Used batteries or used battery cells returned to a battery manufacturer for regeneration are not CHS for purposes of COMAR 26.13.03 and 26.13.05—26.13.07;

(iii) Scrap metal, for purposes of COMAR 26.13.03-26.13.07;

(iv) Fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if those wastes result from normal petroleum refining, production, and transportation practices, for purposes of COMAR 26.13.03— 26.13.07;

(v) Oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, when the oil is to be refined along with normal process streams at a petroleum refining facility, for purposes of COMAR 26.13.03— 26.13.07.

(b) The following recyclable materials are not subject to regulation under COMAR 26.13.03—26.13.07 and are not subject to the regulations indicated or the notification requirements of §3010 of RCRA:

(i) Industrial ethyl alcohol that is reclaimed is not subject to COMAR 26.13.03—26.13.07, except for the requirements specified in §D of this regulation;

#### ENVIRONMENT

(ii) Scrap metal is not subject to COMAR 26.13.03—.07;

(iii) Used batteries or used battery cells returned to a battery manufacturer for regeneration are not subject to COMAR 26.13.03.01-.03 and .05-.07 and 26.13.05-.07.

(c) Used oil is not subject to the requirements of COMAR 26.13.03—26.13.07, but is regulated instead under COMAR 26.13.10 and 26.10.15, if it:

(i) Would be regulated as a hazardous waste solely because it exhibits a characteristic of hazardous waste under Regulations .11— .14 of this chapter; and

(ii) Is recycled by being reused, following its original use, for any beneficial purpose, through such means as re-refining, reclamation, burning for energy recovery, or reprocessing.

B. Generators and transporters of recyclable materials are subject to the applicable requirements of COMAR 26.13.03—.04 and the notification requirements under §3010 of RCRA, except as provided in §A of this regulation.

C. Storage of Recyclable Materials.

26.13.02.06

(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of COMAR 26.13.01—.10 and the notification requirements under \$3010 of RCRA, except as provided in \$A(2) and (3) of this regulation.

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in A(1) of this regulation:

(a) Notification requirements under §3010 of RCRA; and

(b) COMAR 26.13.05.05B and C.

D. Industrial Ethyl Alcohol Reclaimed in a Foreign Country.

(1) A person initiating a shipment of industrial ethyl alcohol that is to be reclaimed in a foreign country, and any intermediary arranging for the shipment shall:

(a) Comply with the requirements of COMAR 26.13.03.07-1, .07-2C(1), .07-2C(2)(a)—(d) and (g), and .07-2D concerning the responsibilities of a primary exporter;

(b) Export the industrial ethyl alcohol only upon consent of the receiving country, and in conformance with the EPA Acknowledge-

888

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.07

ment of Consent for the shipment obtained under the provisions of COMAR 26.13.03.07B(3); and

(c) Provide a copy of the EPA Acknowledgement of Consent to the transporter who is transporting the shipment for export.

(2) A transporter transporting for export a shipment of industrial ethyl alcohol that is to be reclaimed:

(a) May not accept the shipment if the transporter knows that it does not conform to the EPA Acknowledgement of Consent;

(b) Shall ensure that a copy of the EPA Acknowledgement of Consent accompanies the shipment; and

(c) Shall ensure that the shipment is delivered to the facility designated by the person initiating the shipment.

#### .07 Residues of Hazardous Waste in Empty Containers.

A. General.

(1) Hazardous waste remaining in either an empty container or an inner liner removed from an empty container, as defined in §B of this regulation, is not subject to regulation under this subtitle, unless it is determined by the Secretary that sufficient amounts of the hazardous waste remain to pose a potential threat to human health or the environment.

(2) Any hazardous waste in either a container that is not empty, or an inner liner removed from a container that is not empty, as defined in §B of this regulation, is subject to regulation under this subtitle.

B. Definition of Empty.

(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is compressed gas or that is identified in Regulations .16-.19 of this chapter as an acute hazardous waste is empty if:

(a) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, such as pouring, pumping, and aspirating;

(b) Not more than 2.5 centimeters (1 inch) of residue remain on the bottom of the container or inner liner;

(c) Not more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size; or

888-1

## 26.13.02.07

# Environment

(d) Not more than 0.3 percent by weight of the total capacity of the container or inner liner remains in the container or inner liner if the container is greater than 110 gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(See page 889)

income in

Statistics of

(3) A container or an inner liner removed from a container that has held an acute hazardous waste identified in Regulations .16—.19 is empty if:

(a) The container or inner liner has been triple rinsed using a solvent capable of removing the hazardous waste;

(b) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(c) In the case of a container, the inner liner that prevented contact of the hazardous waste with the container has been removed.

# .08 Criteria for Identifying the Characteristics of Hazardous Waste.

The Secretary shall identify and define a characteristic of hazardous waste in Regulations .10—.14 only upon determining that:

A. A solid waste that exhibits the characteristic may:

(1) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness, or

(2) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

B. The characteristic can be:

(1) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste, or

(2) Reasonably detected by generators of solid waste through their knowledge of their waste.

#### .09 Criteria for Listing Hazardous Waste.

A. The Secretary shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in Regulations .10-.14.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to

#### ENVIRONMENT

have an oral  $LD_{50}$  toxicity (rat) of less than 50 milligrams per kilogram, an inhalation  $LC_{50}$  toxicity (rat) of less than 2 milligrams per liter, or a dermal  $LD_{50}$  toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.

(3) It contains any of the toxic constituents listed in Regulation .24 of this chapter and, after considering the following factors, the Secretary concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed:

(a) The nature of the toxicity presented by the constituent.

(b) The concentration of the constituent in the waste.

(c) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in A(3)(g), below.

(d) The persistence of the constituent or any toxic degradation product of the constituent.

(e) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(f) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(g) The plausible types of improper management to which the waste could be subjected.

(h) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(i) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(j) Actions taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituents.

(k) Such other factors as may be appropriate.

## CONTROLLED HAZARDOUS SUBSTANCES

B. Substances will be listed in Regulation .24 only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms. Wastes listed in accordance with these criteria will be designated Toxic Wastes.

C. The Secretary may list classes or types of solid waste as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in COMAR 26.13.02.

D. The Secretary will use the criteria for listing specified in this subsection to establish the exclusion limits referred to in Regulation .05C.

# .10 General Characteristics of Hazardous Waste.

A. A solid waste, as defined in Regulation .02, which is not excluded from regulation as a hazardous waste under Regulation .04-1 of this chapter is a hazardous waste if it exhibits any of the characteristics identified in this regulation and in Regulations .11-.14 of this chapter.

B. A hazardous waste which is identified by a characteristic in Regulations .10-.14, but is not listed as a hazardous waste in Regulations .15-.19, is assigned the Hazardous Waste Number set forth in the respective characteristic. This number shall be used in complying with the certain record keeping and reporting requirements under COMAR 26.13.03-26.13.06.

C. For purposes of Regulations .10 - .14, the Secretary will consider a sample obtained using any of the applicable sampling methods specified in Regulation .20 to be a representative sample within the meaning of COMAR 26.13.01.

#### .11 Characteristic of Ignitability.

A. A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than  $60^{\circ}$ C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79, or D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78, or as determined by an equivalent test method approved by the Secretary under the procedures set forth in COMAR 26.13.01.04A and B;

891

# 26.13.02.12

#### ENVIRONMENT

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard;

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Department under COMAR 26.13.01.04A and B;

(4) It is an oxidizer as defined in 49 CFR 173.151.

B. A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Regulations .15—.19, has the Hazardous Waste Number of D001.

Agency note: ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia. PA 19103.

#### .12 Characteristic of Corrosivity.

A. A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either the test method specified in EPA Method 5.2 on "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", or an equivalent test method approved by the Secretary under the procedures set forth in COMAR 26.13.01.04A and B;

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of  $55^{\circ}$ C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69\* as standard-ized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods"), or an equivalent test method approved by the Secretary under the procedures set forth in COMAR 26.13.01.04A and B.

B. A solid waste that exhibits the characteristics of corrosivity, but is not listed as a hazardous waste in Regulations .15—.19, has the EPA Hazardous Waste Number of D002.

\*The NACE Standard is available from the National Association of Corrosion Engineers, P.O. Box 986, Katy, Texas 77450.

# CONTROLLED HAZARDOUS SUBSTANCES

#### .13 Characteristic of Reactivity.

A. A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating;

(2) It reacts violently with water;

(3) It forms potentially explosive mixtures with water;

(4) When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment;

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment;

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure;

(8) It is a forbidden explosive as defined in 49 CFR §173.51, or a Class A explosive as defined in 49 CFR §173.53 or a Class B explosive as defined in 49 CFR §173.88.

B. A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in Regulations .15—.19 of this chapter, has the EPA Hazardous Waste Number of D003.

#### .14 Toxicity Characteristic.

A. A solid waste exhibits the characteristic of toxicity if, using the test methods described in Regulation .25B of this chapter or equivalent methods approved by the Secretary under the procedures set forth in COMAR 26.13:01.04A and B, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 at the concentration equal to or greater than the respective value given in that table. When the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Regulation .25B of this chapter, is considered to be the extract for the purpose of this section.

B. A solid waste that exhibits the characteristic of toxicity, but is not listed as a hazardous waste in Regulations .15-.19 of this

Supp. 11

893

# 26.13.02.14

#### ENVIRONMENT

chapter, has the EPA hazardous waste number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous.

# Table 1Maximum Concentration of Contaminantsfor the Toxicity Characteristic

EPA HW No.1	Contaminant	CAS No. <sup>2</sup>	Regulatory Level (milligrams per liter)
D004	Arsenic	7440-38-2	5.0
<b>D</b> 005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.04
D024	m-Cresol	108-39-4	200.04
D025	p-Cresol	106-44-5	200.04
D026	Cresol		200.04
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	$0.13^{3}$
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	$0.13^{3}$
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methylethylketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0

.

894

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.15

EPA HW No.1	Contaminant	CAS No. <sup>2</sup>	Regulatory Level (milligrams per liter)
D038	Pyridine	100-86-1	5.0 <sup>3</sup>
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

<sup>1</sup> Hazardous waste number.

<sup>2</sup> Chemical Abstracts Service number.

<sup>3</sup> Quantitation limit is greater than the calculated regulatory level. The quantitation limit, therefore, becomes the regulatory level.

<sup>4</sup> If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 milligrams per liter.

#### .15 Lists of Hazardous Wastes: General.

A. A solid waste is a hazardous waste if it is listed in Regulations .16—.19 unless it has been excluded from this list under COMAR 26.13.01.04A and B.

B. The Secretary will indicate his basis for listing the classes or types of wastes listed in Regulations .16—.19 of this chapter by employing one or more of the following hazard codes:

(1)	Ignitable waste(I);
(2)	Corrosive waste
(3)	Reactive waste
(4)	Toxicity characteristic waste $\dots \dots \dots$
(5)	Acute hazardous waste(H);
(6)	<b>Toxic waste</b>

C. Regulation .23 of this chapter identifies the constituent which caused the Secretary to list the waste as a toxicity characteristic waste (E) or toxic waste (T) in Regulations .16 and .17 of this chapter.

D. Each hazardous waste listed in Regulations .16-.19 is assigned a Hazardous Waste Number which precedes the name of the waste.

Supp. 4

**JS EPA ARCHIVE DOCUMENT** 

# 26.13.02.15

# ENVIRONMENT

This number shall be used in complying with the notification requirements, and certain record-keeping and reporting requirements under COMAR 26.13.03-26.13.05.

E. The following hazardous wastes also listed in Regulations .16 and .17 are subject to the exclusion limits for acute hazardous wastes established in Regulation .05:

(1) F021, F022, F023, F026, and F027 of Regulation .16; and

(2) K991-K999 of Regulation .17.

# (See table on following pages)

Supp. 4

# .16 Hazardous Waste from Nonspecific Sources.

A. As qualified by §B of this regulation, the following solid wastes are listed as hazardous wastes from nonspecific sources unless they are excluded under COMAR 26.13.01.04A and B and listed in Regulation .26 of this chapter, or they are excluded under §C of this regulation:

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
Generic	F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1- trichloroethane, carbon tetrachloride, and chlorinated fluorocar- bons; all spent solvent mixtures or blends used in degreasing and containing, before or after use, a total of 10 percent or more, by volume of any of the above halogenated solvents or those solvents listed in F002, F004, and F005 or any combination of those solvents; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
	F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-tri- fluoroethane, ortho dichlorobenzene, and trichlorofluorome- thane; all spent solvent mixtures or blends containing, before or after use, a total of 10 percent or more, by volume, of any of the above halogenated solvents or those listed in F001, F004, or F005 or any combination of those solvents; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	<b>(T)</b>

Supp. 11

EPA ARCHIVE DOCUMENT

SN

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	F003	The following spent nonhalogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent	(I)*

(See page 897)

ENVIRONMENT

EPA Hazardous Hazard Waste Number Industry Hazardous Waste Code mixtures or blends containing, before or after use, only the above spent non-halogenated solvents; and all spent solvent mixtures or blends containing, before or after use, any of the above nonhalogenated solvents, and a total of 10 percent or more, by volume, of any of those solvents listed in F001, F002, F004, and F005 or any combination of those solvents: and still bottoms from the recovery of these spent solvents and spent solvent mixtures F004 The following spent non-halogenated solvents: cresols and cresyl-**(T)** ic acid, and nitrobenzene; all spent solvent mixtures or blends containing, before or after use, a total of 10 percent or more, by volume, of any of the above non-halogenated solvents or those solvents listed in F001, F002, and F005 or any combination of those solvents; and still bottoms from the recovery of these spent solvents and spent solvent mixtures F005 The following spent non-halogenated solvents: toluene, methyl (I,T)ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before or after use, a total of 10 percent or more, by volume, of any of the above non-halogenated solvents or those solvents listed in F001, F002, or F004 or any combination of those solvents: and still bottoms from the recovery of these spent solvents and spent solvent mixtures F006 Wastewater treatment sludges from electroplating operations **(T)** 

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.16

Supp.

EPA ARCHIVE DOCUMENT

. 897

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
		except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc alumi- num plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum	
	F007	Spent cyanide plating bath solutions from electroplating opera- tions	(R,T)
	F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process	( <b>R</b> , <b>T</b> )
· · · ·	F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	(R,Ť)
• • •	F010	Quenching bath residue from oil bath from metal heat treating operations where cyanides are used in the process	(R,T)
	F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations	(R,T)
tan sa	F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process	(T)

Ò

. . . . . .

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	F014	Cyanidation wastewater treatment tailing pond sediment from mineral metals recovery operations	(T)
	F015	Spent cyanide bath solutions from mineral metals recovery operations	(R,T)
	F019	Wastewater treatment sludges from the chemical conversion coating of aluminum	<b>(T</b> )
	F020	Wastes except wastewater and spent carbon from hydrogen chloride purification from the production or manufacturing use as a reactant, chemical intermediate, or component in a formu- lating process of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol	(H)
· · · · · · · · · · · · · · · · · · ·	F021	Wastes except wastewater and spent carbon from hydrogen chloride purification from the production or manufacturing use as a reactant, chemical intermediate, or component in a formu- lating process of pentachlorophenol, or of intermediates used to produce its derivatives	<b>(H)</b>
	F022	Wastes except wastewater and spent carbon from hydrogen chloride purification from the manufacturing use as a reactant, chemical intermediate, or component in a formulating process	<b>(H</b> )

ndustry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
		of tetra-, penta-, or hexachlorobenzenes under alkaline condi- tions	· · · · ·
	F023	Wastes except wastewater and spent carbon from hydrogen chlo- ride purification from the production of materials on equipment previously used for the production or manufacturing use as a re- actant, chemical intermediate, or component in a formulating process of tri- or tetrachlorophenols. This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol	(H)
	F024	Process wastes including, but not limited to, distillation resi- dues, heavy ends, tars, and reactor cleanout wastes from the pro- duction of chlorinated aliphatic hydrocarbons by free radical ca- talyzed processes. These chlorinated hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitu- tion. This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in this reg- ulation or Regulation .17 of this chapter	(T)
	F025	Condensed light ends, spent filters and filter aids, and spent des- iccant wastes from the production of certain chlorinated ali- phatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon	<b>(T)</b>

900

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
		chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution	
	F026	Wastes except wastewater and spent carbon from hydrogen chloride purification from the production of materials on equip- ment previously used for the manufacturing use as a reactant, chemical intermediate, or component in a formulating process of tetra-, penta-, or hexachlorobenzene under alkaline conditions	(H)
	F027	Discarded unused formulations containing tri-, tetra-, or pen- tachlorophenol, or discarded unused formulations containing compounds derived from these chlorophenols. This listing does not include formulations containing hexachlorophene synthe- sized from prepurified 2,4,5-trichlorophenol as the sole compo- nent	(H)
	F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027	(T)

Controlled Hazardous Substances

26.13.02.16

Supp. 11

900-1

700.0 daysers

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	F032	The following wastes from wood preserving processes generated at plants that currently use or have previously used chlorophe- nolic formulations: wastewaters, except those that have not come into with process contaminants; process residuals; preservative drippage; and spent formulations from wood preserving pro- cesses. This listing does not include potentially cross- contaminated wastes that have had the F032 waste code deleted in accordance with §C of this regulation or potentially cross- contaminated wastes that are otherwise currently regulated as hazardous wastes under hazardous waste codes F034 or F035 of this section, and where the generator does not resume or initiate use of chlorophenolic formulations. This listing also does not	(T)
•.•		include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol, or both.	
	F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes gener- ated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol, or both.	( <b>T</b> )
•			

900-2

-

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes gener- ated at plants that use inorganic preservatives containing ar- senic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol, or both.	(T)
	F037	Petroleum refinery primary oil/water/solids separation sludge — As qualified by §B of this regulation, any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewa- ters from petroleum refineries. These sludges include, but are not limited to, those generated in oil/water/solids separators, tanks and impoundments, ditches and other conveyances, sumps, and storm water units receiving dry weather flow. Sludge generated in storm water units that do not receive dry weather flow, sludges generated from noncontact once-through cooling waters segre- gated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as	(T)

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
		defined in §B of this regulation, including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treat units, and K051 wastes are not included in this listing	(T)
	<b>F038</b>	Petroleum refinery secondary (emulsified) oil/water/solids sepa- ration sludge — As qualified by §B of this regulation, any sludge or float, or both, generated from the physical or chemical sepa- ration of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. These wastes include, but are not limited to, all sludges and floats generated in induced air floation (IAF) units, tanks and impoundments, and all other sludges generated in dissolved air floation (DAF) units. Sludges generated in storm water units that do not receive dry weather flow, sludges generated from noncontact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive bio- logical treatment units as defined in §B of this regulation, including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biologi- cal treatment units, and F037, K048, and K051 wastes are not included in this listing	

 $\overline{(I,T)}$  should be used to specify mixtures containing ignitable and toxic constituents.

900-4

# CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.16

B. Clarifications for Listing of Wastes from Nonspecific Sources.

(1) For the purpose of the F037 and F038 listings in §A of this regulation, "oil/water/solids" means oil, water, or solids, or all of these.

(2) Aggressive Biological Treatment.

(a) For the purposes of the F037 and F038 listings, "aggressive biological treatment units" means units which employ one of the following four treatment methods:

(i) Activated sludge;

(ii) Trickling filter;

(iii) Rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or

(iv) High rate aeration.

(b) For the purposes of B(2)(a) of this regulation, "high rate aeration" means a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes and enhance biological activity, in which the units employ a minimum of 6 horsepower per 1,000,000 gallons of treatment volume, and in which either the:

(i) Hydraulic retention time is not longer than 5 days; or

(ii) Hydraulic retention time is not longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the toxicity characteristic.

(3) Generators and treatment, storage, and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes. If seeking to exempt a sludge from listing as F037 and F038 waste, a person shall maintain, in an operating record or in other on-site records, documents, and data sufficient to prove that the:

(a) Unit is an aggressive biological treatment unit as defined in B(2) of this regulation; and

(b) Sludges for which an exemption from the definitions of F037 or F038, or both, is being sought were actually generated in the aggressive biological treatment unit.

(4) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, when "deposition" means at least a temporary cessation of lateral particle movement.

Supp. 11

900-5

#### ENVIRONMENT

(5) For the F038 listing:

(a) Sludges are considered to be generated at the moment of deposition in the unit, when "deposition" means at least a temporary cessation of lateral particle movement; and

(b) Floats are considered to be generated at the moment they ' are formed in the top of the unit.

C. Deletion of Certain Hazardous Waste Codes Following Equipment Cleaning and Replacement.

(1) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 in §A of this regulation once the generator has met all of the requirements of C(3) of this regulation.

(2) The waste in C(1) of this regulation, however, may still be regulated as hazardous waste for other reasons under the provisions of this chapter.

(3) A generator who seeks to have the F032 waste code deleted from a waste shall:

(a) Clean or replace all process equipment that may have come into contact with chlorophenolic formulations or their constituents, including, but not limited to:

(i) Treatment cylinders,

(ii) Sumps,

(iii) Tanks,

S EPA ARCHIVE DOCUMENT

(iv) Piping systems,

- (v) Drip pads,
- (vi) Fork lifts, and
- (vii) Trams;

(b) Clean or replace all process equipment described in C(3)(a) of this regulation in a manner that minimizes or eliminates the release of hazardous waste, hazardous waste constituents or decomposition products, leachate, or drippage to the ground water, surface water, or atmosphere;

(c) Do one of the following:

(i) Prepare, sign, and follow an equipment cleaning plan that meets the requirements of C(3)(d) of this regulation and clean equipment in accordance with this section,

900-6

#### CONTROLLED HAZARDOUS SUBSTANCES

(ii) Prepare, sign, and follow an equipment replacement plan that meets the requirements of C(3)(h) of this regulation and replace equipment in accordance with this section, or

(iii) Document that equipment cleaning and replacement carried out after the termination of use of chlorophenolic preservatives, and before June 6, 1991, was performed in accordance with the requirements of this section;

(d) Ensure that an equipment cleaning plan prepared under C(3)(c) of this regulation describes:

(i) What equipment will be cleaned,

(ii) How equipment will be cleaned,

(iii) What solvent will be used in cleaning,

(iv) How solvent rinses will be tested, and

(v) How cleaning residues will be disposed;

(e) Ensure that cleaning performed under C(3)(c) of this regulation complies with the following requirements:

(i) All visible residues are removed from equipment, and

(ii) Equipment is rinsed with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse;

(f) Ensure that the following analytical requirements are met:

(i) Rinses are tested in accordance with SW-846, Method 8290, which is incorporated by reference in COMAR 26.13.01.05A(4), and

(ii) If a result is characterized as "not detected", it is at or below the lower method calibration limit (MCL) in SW-846, Method 8290, Table 1, which is incorporated by reference in COMAR 26.13.01.05A(4);

(g) Manage all residues from the cleaning process as F032 wastes;

(h) Ensure that an equipment replacement plan prepared under C(3)(c) of this regulation describes:

(i) What equipment will be replaced,

(ii) How equipment will be replaced, and

(iii) How equipment will be disposed;

Supp. 11

**US EPA ARCHIVE DOCUMENT** 

900-7

**JS EPA ARCHIVE DOCUMENT** 

#### Environment

(i) Manage as F032 wastes equipment that is discarded as a result of compliance with C(3)(c) of this regulation;

(j) Document that previous equipment cleaning and replacement was performed in accordance with this section and occurred after the cessation of use of chlorophenolic preservatives; and

(k) Maintain the following records documenting the equipment cleaning and replacement as part of the facility's operating record:

(i) The name and address of the facility,

(ii) A list of formulations previously used and the date on which their use was terminated in each process at the plant,

(iii) A list of formulations currently used in each process at the plant,

(iv) The equipment cleaning or replacement plan,

(v) The name and address of the persons who conducted the equipment cleaning and replacement,

(vi) The dates on which equipment cleaning and replacement were accomplished,

(vii) The dates of sampling and testing,

(viii) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples,

(ix) A description of the tests performed, the dates the tests were performed, and the results of the tests,

(x) The names and model numbers of instruments used in performing the tests,

(xi) Quality assurance/quality control (QA/QC) documentation, and

(xii) The following statement signed by the generator or his authorized representative: "I certify under penalty of law that all process equipment required to be cleaned or replaced under COMAR 26.13.02.16C was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment."

900-8

Image: Second second

(See page 901)

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.16

6-006

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
Inorganic Pig- ments	K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments	(T)
	K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
	K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
	K005	Wastewater treatment sludge from the production of chrome green pigments	<b>(T)</b>
	K006	Wastewater treatment sludge from the production of chrome ox- ide green pigments (anhydrous and hydrated)	(T)
	K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
	K008	Oven residue from the production of chrome oxide green pig- ments	<b>(T</b> )
Organic Chemi- cals	K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)
	K010	Distillation side cuts from the production of acetaldehyde from ethylene	<b>(T)</b>
	K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R,T)

 $\mathbf{Y}$ 

901

ŝ

26.13.02.17

902

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K013	Bottom stream from the acetronitrile column in the production of acrylonitrile	(R,T)
	K014	Bottoms from the acetronitrile purification column in the pro- duction of acrylonitrile	<b>(T)</b>
	K015	Still bottoms from the distillation of benzyl chloride	<b>(T)</b>
	K016	Heavy ends or distillation residues from the production of car- bon tetrachloride	(T)
	K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	<b>(T)</b>
	K018	Heavy ends from fractionation in ethyl chloride production	(T)
	K019	Heavy ends from the distillation of ethylene dichloride in ethy- lene dichloride production	(T)
	K020	Heavy ends from the distillation of vinyl chloride in vinyl chlo- ride monomer production	<b>(T)</b>
	K021	Aqueous spent antimony catalyst waste from fluoromethanes production	( <b>T</b> )
	K022	Distillation bottom tars from the production of phenol/acetone from cumene	<b>(T)</b>
	K023	Distillation light ends from the production of phthalic anhy- dride from naphthalene	<b>(T)</b>

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
	K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
	K026	Stripping still tails from the production of methyl ethyl pyridines	(T)
	K027	Centrifuge and distillation residues from toluene diisocyanate production	(R,T)
	K028	Spent catalyst from the hydrochlorinator reactor in the produc- tion of 1,1,1-trichloroethane	( <b>T</b> )
	K029	Waste from the product stream stripper in the production of 1,1,1-trichloroethane	<b>(T)</b>
•	K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
	K083	Distillation bottoms from aniline production	<b>(T</b> )
	K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	<b>(T)</b>
	K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)

Supp. 6

903

S

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
	K095	Distillation bottoms from the production of 1,1,1-trichloroethane	<b>(T)</b>
	K096	Heavy ends from the heavy ends column from the production of $1,1,1$ -trichloroethane	( <b>T</b> )
	K103	Process residues from aniline extraction from the production of aniline	( <b>T</b> )
	K104	Combined wastewater streams generated from nitrobenzene/ aniline production	(T)
	K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	<b>(T)</b>
·	K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines	(C,T)
	K108	Condensed column overheads from product separation and con- densed reactor vent gases from the production of 1,1-dimethyl- hydrazine (UDMH) from carboxylic acid hydrazides	(I,T)
•	K109	Spent filter cartridges from product purification from the pro- duction of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)

904


**EPA** Hazardous Hazard Waste Number Hazardous Waste Code Industry Condensed column overheads from intermediate separation from **(T)** K110 the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides K111 Product washwaters from the production of dinitrotoluene by ni-(C,T)CONTROLLED HAZARDOUS SUBSTANCES tration of toluene Reaction by-product water from the drying column in the produc-**(T)** K112 tion of toluenediamine by hydrogenation of dinitrotoluene K113 **(T)** Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine by hydrogenation of dinitrotoluene Vicinals from the purification of toluenediamine in the produc-K114 **(T)** tion of toluenediamine by hydrogenation of dinitrotoluene K115 Heavy ends from the purification of toluenediamine in the pro-**(T)** duction of toluenediamine by hydrogenation of dinitrotoluene K116 Organic condensate from the solvent recovery column in the pro-**(T)** duction of toluene diisocyanate by phosgenation of toluenediamine 26.13.02.17 K117 Wastewater from the reactor vent gas scrubber in the production **(T)** of ethylene dibromide by bromination of ethene

905

Supp.

თ

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide by bromination of ethene	(T)
	K122	Wastewater from stream regeneration of activated alumina cat- alyst used in the production of diphenylamine by the condensa- tion of aniline	(T)
	K133	Ammonia produced as a by-product in the production of dipheny- lamine by the condensation of aniline	<b>(T)</b>
• • • • • • • • • • • • • • • • • • • •	K134	Heavy and light ends from the distillation/purification of di- phenylamine produced by the condensation of aniline	<b>(T</b> )
	K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide by bromination of ethene	<b>(T</b> )
'esticides	K031	By-products salts generated in the production of MSMA and cacocylic acid	(T)
	K032	Wastewater treatment sludge from the production of chlordane	(T)
	K033	Wastewater and scrub water from the chlorination of cyclopenta- diene in the production of chlordane	( <b>T</b> )
	K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	<b>(T)</b>

905-1



EPA Hazardous Hazard Waste Number Hazardous Waste Code Industry Wastewater treatment sludges generated in the production of K035 **(T)** creosote Still bottoms from toluene reclamation distillation in the produc-K036 **(T)** tion of disulfoton K037 Wastewater treatment sludges from the production of disulfoton **(T)** (T) K038 Wastewater from the washing and stripping of phorate production K039 Filter cake from the filtration of diethylphosphorodithioic acid **(T)** in the production of phorate K040 Wastewater treatment sludge from the production of phorate **(T)** K041 Wastewater treatment sludge from the production of toxaphene **(T)** K042 Heavy ends or distillation residues from the distillation of te-(**T**) trachlorobenzene in the production of 2,4,5-T K043 2,6-Dichlorophenol waste from the production of 2,4-D **(T)** K097 Vacuum stripper discharge from the chlordane chlorinator in (T) the production of chlordane Untreated process wastewater from the production of toxaphene K098 **(T)** K099 Untreated wastewater from the production of 2.4-D **(T)** 

26.13.02.17

Supp.

ດ

905-2

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K123	Process washwater, including supernates, filtrates, and waste- waters from the production of ethylenebisdithiocarbamic acid and its salts	(T)
	K124	Reactor vent scrubber water from the production of ethylenebis- dithiocarbamic acid and its salts	(C,T)
	K125	Filtration, evaporation, and centrifugation solids from the pro- duction of ethylenebisdithiocarbamic acid and its salts	(T)
	K126	Baghouse dust and floor sweepings in milling and packaging op- erations from the production or formulation of ethylenebisdithio- carbamic acid and its salts	<b>(T</b> )
	K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide	(C;T)
	K132	Spent absorbent and wastewater separator solids from the pro- duction of methyl bromide	(T)
Explosives	K044	Wastewater treatment sludges from the manufacturing and pro- cessing of explosives	(R)
tan an a	K045	Spent carbon from the treatment of wastewater containing explosives	(R)
	K046	Wastewater treatment sludges from the manufacturing, formu- lation and loading of lead-based initiating compounds	<b>(T</b> )

.

905-3

Supp. 6



Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K047	Pink/red water from TNT operations	(R)
Petroleum Refining	K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
	K049	Slop oil emulsion from the petroleum refining industry	<b>(T</b> )
	K050	Heat exchanger bundle cleaning sludge from the petroleum re- fining industry	(T)

(See page 906)

Supp. 6

905-4

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K051	API separator sludge from the petroleum refining industry	(T)
	K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Iron and Steel	K061	Emission control dust/sludge from the electric furnace produc- tion of steel	(T)
	K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332)	(C,T)
Primary Copper	K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production	(T)
Primary Lead	K065	Surface impoundment solids contained in and dredged from surface impoundments at primary level lead smelting facilities	(T)
Primary Zinc	K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production	(T)
	K067	Electrolytic anode slimes/sludges from primary zinc production	(T)
	K068	Cadmium plant leachate residue (iron oxide) from primary zinc production	(T)
Primary Alumi- num	K088	Spent potlines from primary aluminum reduction	(T)
Ferroalloys	K090	Emission control dust or sludge from ferrochromiumsilicon production	(T)

906

# Supp. 4

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K091	Emission control dust or sludge from ferrochromium produc- tion	(T)
Secondary Lead	K069	Emission control dust/sludge from secondary lead smelting	(T)
	K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting	(T)
Inorganic Chemicals	K071	Brine purification muds from the mercury cell process in chlo- rine production, where separately prepurified brine is not used	(T)
	K073	Chlorinated hydrocarbon wastes from the purification step of the diaphragm cell process using graphite anodes in chlorine production	<b>(T)</b>
•	K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Ink Formula- tion	K086	Solvent washes and sludges, caustic washes and sludges, or wa- ter washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and sta- bilizers containing chromium and lead	(T)
Veterinary Pharmaceuti- cals	K084	Wastewater treatment sludges generated during the produc- tion of veterinary pharmaceuticals from arsenic or organoarse- nic compounds	(T)

п	
≥	
$\simeq$	
$\bigcirc$	
$\sim$	
_	
П	
~	
_	
$\mathbf{O}$	
$\sim$	
Ω.	
-	
-	
_	
ຽ	

806

EPA Hazardous Hazard Hazardous Waste Code Industry Waste Number K101 Distillation tar residues from the distillation of aniline-based **(T**) compounds in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds (See page 909)

26.13.02.17

ENVIRONMENT

11 C	
1	
- 남은 신문하는 것	
- 지난, 영양 명 것.	
- 11 M & 14	
142 C. C. W.	

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K102	Residue from the use of activated carbon for decoloriza- tion in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds	(T)
Coking	K060	Ammonia still lime sludge from coking operations	(T)
	K087	Decantor tank tar sludge from coking operations	<b>(T)</b>
	K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the pro- duction of coke from coal or the recovery of coke by-prod- ucts produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations)	(T)
	K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products pro- duced from coal	(T)
	K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by- products produced from coal	(T)
	K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamina- tion sump sludges from the recovery of coke by-products produced from coal	( <b>T</b> )

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
	K145	Residues from naphthalene collection and recovery oper- ations from the recovery of coke by-products produced from coal	(T)
	K147	Tar storage tank residues from coal tar refining	<b>(T)</b>
	K148	Residues from coal tar distillation, including, but not limited to, still bottoms	(T)
I'he following s ion .05C of thi	substances are acut is chapter:	e hazardous waste (H) and are subject to the exclusion defined	l in Regula
Military	K991	Waste ethyl dimethylamidocyanophosphate, also known by the common names GA and Tabun and the following alternate chemical names:	(H)
•		Ethyl N,N-dimethylphosphoramidocyanidate Dimethylamidoethoxyphosphoryl cyanide	
	K992	Waste isopropyl methanefluorophosphonate, also known by the common names GB and Sarin and the following alternate chemical names: Isopropyl methylphosphonofluoridate	(H)

(See page 910)

909-1

EPA Hazardous Waste Number	Hazardous Waste	Hazard Code
K993	Waste 3,3-dimethyl-n-but-2-yl methylphosphonofluoridate, also known by the common names GD and Soman and the following alternate chemical names: Pinacolyl methylphosphonofluoridate 1,2,2-trimethyl, methylphosphonofluoridate Pinacoloxymethylphosphoryl fluoridate	(H)
K994	Waste O-ethyl S-(2-diisopropyl-aminoethyl) methylphospho- nothioate also known by the common name VX	(H)
K995	Waste chlorovinylarsine dichloride, also known by the common names L and Lewisite and the following alternate chemical names: Dichloro (2-chlorovinyl) arsine 2-chlorovinyldichlorarsine	(H)
K996	Waste phenarsazine chloride, also known by the common name Adamsite	(H)
K997	Waste bis(2-chloroethyl) sulfide, also known by the common name sulfur mustard and HD	(H)
K998	Waste 2-2'-di(3-chloroethylthio)-diethyl ether, also known by the common name T and the following alternate chemical name:	(H)
	EPA Hazardous Waste Number K993 K994 K995 K996 K997 K998	EPA Hazardous Waste NumberHazardous WasteK993Waste 3,3-dimethyl-n-but-2-yl methylphosphonofluoridate, also known by the common names GD and Soman and the following alternate chemical names: Pinacolyl methylphosphonofluoridate 1,2,2-trimethyl, methylphosphonofluoridate Pinacoloxymethylphosphoryl fluoridateK994Waste O-ethyl S-(2-diisopropyl-aminoethyl) methylphospho- nothioate also known by the common name VXK995Waste chlorovinylarsine dichloride, also known by the common names L and Lewisite and the following alternate chemical names: Dichloro (2-chlorovinyl) arsine 2-chlorovinyldichlorarsineK996Waste phenarsazine chloride, also known by the common name AdamsiteK997Waste bis(2-chloroethyl) sulfide, also known by the common name sulfur mustard and HDK998Waste 2-2'-di(3-chloroethylthio)-diethyl ether, also known by the common name T and the following alternate chemical name: Die due there the following alternate chemical name: Die due there the following alternate chemical name sulfur mustard and HD



911

Industry	EPA Hazardous Waste Number	Hazardous Waste	Hazara Code
	K999	Waste military chemical warfare agents (chemical surety agents) having any substances K991 through K998 as their active or principal ingredient or ingredients, or mixtures of K991 through K998 with any characteristic or listed hazardous waste	(H)
.18 Hazardous	Waste from Sp	ecific Sources (State).	

Industry :	State Hazardous Waste Number	Hazardous Waste	Hazard Code
Organic Chem- ical	MD01	Filter cake and chemical sludge from API separators, generated during the production of phthalate esters	<b>(T)</b>
Military	MD02	Residues from the treatment of wastes K991 through K999, except as listed in Regulation .26	(C,T)

26.13.02.18

#### ENVIRONMENT

#### .19 Discarded Commercial Chemical Products, Off-Specification Species, Containers, and Spill Residues of These.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in Regulation .02A(2)(a) of this chapter, when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land instead of their original intended use or when they are contained in products that are applied to the land instead of their original intended use or when, instead of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel:

A. Any commercial chemical product, or manufacturing chemical intermediate, having the generic name listed in §E, F, G, or H of this regulation.

B. Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in §E, F, G, or H of this regulation.

C. Any residue remaining in a container or inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having the generic name listed in §E, F, G, or H of this regulation unless the container or inner liner is empty as defined in Regulation .07B of this chapter.

D. Any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical product or manufacturing chemical intermediate having the generic name listed in §E or G or mixtures containing polychlorinated biphenyls (PCBs) at concentrations greater than 50 ppm. The hazardous waste number for these mixtures is MX 01.

E. The commercial chemical products, or manufacturing chemical intermediates, or off-specification commercial chemical products or manufacturing chemical intermediates referred to in §§A—D of this regulation, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in Regulation .05C of this chapter. These wastes and their corresponding EPA Hazardous Waste Numbers are:

(See page 913)

912

Supp. 6

26.13.02.19

Hazardous Waste Number

Substance\*

1080 see P058
1081 see P057
(Acetato) phenylmercury see P092
Acetone cyanohydrin see P069
2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-
phenylbutyl)- and salts when present at
concentrations greater than 0.3 percent
1-Acetyl-2-thiourea
Acrolein
Agarin see P007
Agrosan GN 5 see P092
Aldicarb see P070
Aldifen see P048
Aldrin
Alginycin see P092
Allyl alcohol
Aluminum phosphide (R,T)
ALVIT see P037
Aminoethylene see P054
5-(Aminomethyl)-3-isoxazolol
4-Aminopyridine
N-(Aminothioxomethyl)-acetamide see
P002
Ammonium metavanadate see P119
Ammonium picrate (R)
Ammonium vanadate see P119
ANTIMUCIN WDR see P092
ANTURAT see P073
AQUATHOL see P088
ARETIT see P020
Argentate (1-), bis(cyano-C)-, potassium see P099
Arsenic acid
Arsenic pentoxide

\*The Department included those trade names of which it was aware. An omission of a trade name does not imply that it is not hazardous. The material is hazardous if it is listed under its generic name.

-----

26.13.02.19	Environment
Hazardous Waste Number	Substance*
P012	Arsenic trioxide
	Athrombin see P001
	AVITROL see P008
	Aziridene see P054
	AZOFOS see P061
	Azophos see P061
	BANTU see P072
P013	Barium cyanide
	BASENITE see P020
	BCME see P016
P014	Benzenethiol
	Benzoepin see P050
	Benzyl chloride see P028
P015	Beryllium dust
P016	Bis(chloromethyl) ether
	BLADAN-M see P071
P017	Bromoacetone
	1-Bromo-2-propanone see P017
P018	Brucine
	BUFEN see P092
	Butaphene see P020
P020	2-sec-Butyl-4,6-dinitrophenol
P021	Calcium cyanide
	CALDON see P020
P022	Carbon disulfide
	Carbonic dichloride see P095
	CERESAN see P092
	CERESAN UNIVERSAL see P092
	CHEMOX GENERAL see P020
	CHEMOX P.E. see P020
	CHEM-TOL see P090
P023	Chloroacetaldehyde
P024	p-Chloroaniline
	4-Chlorobenzenamine see P024.
	(Chloromethyl) benzene see P028
P026	1-(o-Chlorophenyl)thiourea
	3-Chloropropanenitrile see P027
P027	3-Chloropropionitrile
P028	alpha-Chlorotoluene

J	
$\mathbf{}$	
$\sim$	
_	
_	
_	
$\sim$	
-	
-	
•••	

Service and

Sector and

26.13.02.19

Hazardous W	aste
Number	Substance*
P029	Copper cyanide
	CRETOX see P108
	Coumadin see P001
	Coumafen see P001
P030	Cyanide salt mixtures not otherwise listed
P031	Cyanogen
<b>P</b> 033	Cyanogen chloride
	Cyclodan see P050
P034	2-Cyclohexyl-4,6-dinitrophenol
	D-CON see U001
	DETHMOR see P001
	DETHNEL see P001
	DFP see P043
	Dichloromethyl ether see P016
P036	Dichlorophenylarsine
	Dicyanogen see P031
P037	Dieldrin
	DIELDREX see P037
P038	Diethylarsine
P039	O,O-Diethyl-S-(2-ethylthioethyl) ester of phosphorothioic acid
	Diethyl-p-nitrophenyl phosphate see P041
P040	O.O-Diethyl-O-(2-pyrazinyl) phosphorothioate
P041	O.O-Diethyl phosphoric acid.
	O-p-nitrophenyl ester
P042	3,4-Dihydroxy-alpha-(methylamino)-methyl benzyl alcohol
P043	Di-iso-propylfluorophosphate
	DIMETANE see P044
	1.4:5.8-Dimethanonaphthalene, 1.2.3.4.10.10-
	hexachloro-1,4,4a,5,8,8a-hexabydro-
	endo.endo see P060
P044	Dimethoate
	2.3-Dimethoxystrychnidin-10-one see P018
A	lpha.alpha-Dimethylbenzeneethanamine see P046
P045	3.3-Dimethyl-1-(methylthio)-2-butanone-O-
	(methylaminocarbonyl) oxime

Supp. 6

## ENVIRONMENT

Hazardous Waste Number

 $Substance^*$ 

P046	alpha,alpha-Dimethylphenethylamine Dinitrocycloheyynhenol see P034
P047	4 6.Dinitro-o-cressl and salts
P048	2 4. Dinitronhenol
1040	DINOSEB see P020
	DINOSEBE see P020
	Diphosphoria agid totraothyl octor soo
	P111
	Disulfoton see P039
P049	2,4-Dithiobiuret
	DNBP see P020
	DOLCO MOUSE CEREAL see P108
	DOW GENER. L see P020
	DOW GENERAL WEED KILLER see P020
	DOW SELECTIVE WEED KILLER
	see P020
	DOWICIDE G see P090
	DYANACIDE see P092
	EASTERN STATES DUOCIDE see
	<b>P001</b>
	ELGETOL see P020
P050	Endosulfan
	Endothall see P088
P051	Endrin and metabolites
	Epinephrine see P042
	Ethanedinitrile see P031
	Ethyl cyanide see P101
P054	Ethyleneimine
	Famphur see P097
	FASCO FASCRAT POWDER see P001
	FEMMA see P091
P056	Fluorine
P057	2-Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
-,	FOLODOL-80 see P071
	FOLODOL M see P071
	FOSFERNO M 50 see P071

Supp. 6

-----

And South and

A CONTRACTOR OF

26.13.02.19

Hazardous Waste Number

P059

Substance\*

FRATOL see P058 Fulminate of mercury see P065 FUNGITOX OR see P092 FUSSOF see P057 **GALLOTOX** see P092 **GEARPHOS** see P071 **GERUTOX see P020** Heptachlor 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4, 7-methano-1H-indene see P059 P060 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4: 5,8-endo, endodimethanonaphthalene 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-hexahydro-6,9methano-2,4,3-benzodioxathiepin 3-oxide see P050 1,4,5,6,7,7-Hexachloro-cyclic-5-norbornene-2, 3-dimethanol sulfite see P050 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphth (2,3-b) oxirene (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)-see P037 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphth (2,3-b) oxirene (laalpha, 2beta, 2abeta, 3alpha, 6alpha, 6abeta, 7beta, 7aalpha), and metabolites see P051 Hexaethyl tetraphosphate **HOSTAQUICK** see P092 **HOSTAQUIK** see P092 Hydrazinecarbothioamide see P116 Hydrazomethane see P068 Hydrocyanic acid Hydrogen cyanide see P063 Hydrogen phosphide see P096 (R)-4-(1-Hydroxy-2-(methylamino)ethyl)-1,2benzenediol see P042 2-Hydroxy-2-methylpropanenitrile see P069

P062

P063

Supp. 6

Hazardous Waste Number

## ENVIRONMENT

#### Substance\*

4-Hydroxy-3-(3-oxo-1-phenyl-butyl)-2H-1benzopyran-2-one and salts, when present at concentrations greater than 0.3 percent see P001 **ILLOXOL** see P037 **INDOCI** (Registered) see P025 Indomethacin see P025 **INSECTOPHENE see P050** Isocyanatomethane see P064 Isocyanic acid, methyl ester Isodrin see P060 **KILOSEB** see P020 **KOP-THIODAN** see P050 KWIK-KIL see P108 **KWIKSAN see P092 KUMADER** see P001 **KYPFARIN** see P001 **LEYTOSAN** see P092 LIQUIPHENE see P092 MALIK see P050 MAREVAN see P001 MAR-FRIN see P001 MARTIN'D MAR-FRIN see P001 **MAVERAN** see P001 **MEGATOX** see P005 Mercury fulminate (R), (T) **MERSOLITE** see P092 METACID 50 see P071 **METAFOS** see P071 **METAPHOR** see P071 **METAPHOS** see P071 METASOL 30 see P092 Methomyl N-[((Methylamino) carbonyl) oxy]-ethanimidothioic acid, methyl ester see P066 2-Methylaziridine 2-Methyl-4,6-dinitrophenol and salts see P047

METHYL-E 605 see P071

918

Supp. 6

P064

P065

P066

P067

26.13.02.19

Hazardous Waste	
Number	Substance*
P068	Methyl hydrazine
	Methyl isocyanate see P064
P069	2-Methyllactonitrile
P070	2-Methyl-2-(methylthio) propionalde-
	hyde-o-(methylcarbonyl) oxime
	METHYL NIRON see P042
• •	N-Methyl-N-nitrosovinylamine see P084
P071	Methyl parathion
	2-(1-Methylpropyl)-4,6-dinitrophenol see P020
	3-(1-Methyl-2-pyrrolidinyl)-pyridine (S) and
	salts see P075
	METRON see P071
	MOLE DEATH see P108
	MOUSE-NOTS see P108
	MOUSE-RID see P108
•	MOUSE TOX see P108
	MUSCIMOL see P007
P072	1-Naphthyl-2-thiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline
	4-Nitrobenzenamine see P077
P078	Nitrogen dioxide
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
	NYLMERATE see P092
r M	OCTALOX see P037
	Octamethyldiphosphoramide see P085
P085	Octamethyl pyrophosphoramide
	OCTAN see P092
· · · · · ·	OMPA see P085
	OMPACIDE see P085
	OMPAX see P085
P087	Osmium tetroxide

Supp. 6

terror and

#### ENVIRONMENT

Substance\*

Hazardous Waste Number

P088

P089

P093

P092

**JS EPA ARCHIVE DOCUMENT** 

P094 P095 P096

7-Oxabicyclo (2.2.1) heptane-2,3dicarboxylic acid Oxybis (chloro) methane see P016 **PANIVARFIN** see P001 PANORAM D-31 see P037 **PANTHERINE** see P007 **PANWARFIN** see P001 Parathion PCP see P090 PENNCAP-M see P071 PENOXYL CARBON N see P048 Pentachlorophenate see P090 PENTA KILL Ede P090 PENTASOL see P090 PENWAR see P090 **PERMICIDE see P090** PERMAGUARD see P090 **PERMATOX** see P090 PERMITE see P090 PERTOX see P090 PESTOX III see P085 PHENMAD see P092 PHENOTAN see P020 Phenylarsonous dichloride see P036 Phenyl mercaptan see P014 Phenylmercury acetate N-Phenylthiourea PHILIPS 1861 see P008 PHIX see P092 Phorate Phosgene Phosphine Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio) ethyl] ester see P039 Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio) methyl] ester see P094 Phosphorodithioic acid. 0,0-diethyl O-(4-(nitrophenyl) ester see P089

920

ALC: NO

26.13.02.19

Hazardous Waste Number

P097

P098 P099

P101

P102

Constantine of

## Substance\*

Phosphorodithioic acid, O,O-diethyl O-	
pyrazinyl ester see P040	
Phosphorodithioic acid, O,O-dimethyl S-[2-	
(methylamino)-2-oxoethyl] ester see P044	:
Phosphorofluoridic acid, bis(1-methylethyl ester see P043	)
Phosphorothioic acid, O,O-dimethyl-O-	
Phoenhorothiois said 0.0 dimethyl 0	
(n mitmanh angl) actor and <b>D071</b>	
(p-nitropnenyi) ester see P071	
PIED FIFER MOUSE SEED see F100	
Potassium cyanide	
Potassium sliver cyanide	
PREMERGE see P020	
Propanenitrile see P101	
1,2,3-Propanetriol, trinitrate (R) see P081	
Propargyl alcohol see P102	
2-Propenal see P003	
2-Propen-1-ol—see P005	
Propionitrile	
1,2-Propylenimine see P067	
2-Propyn-1-ol	
PROTHROMADIN see P001	
4-Pyridinamine see P008	
QUICKSAM see P092	
QUINTOX see P037	
RAT AND MICE BAIT see P001	
RAT-A-WAY see P001	
RAT-B-GON see P001	
RAT-O-CIDE #2 see P001	
RAT-GUARD see P001	
RAT-KILL see P001	
RAT-MIX see P001	
RATS-NO-MORE see P001	
RAT-OLA P001	
RATOREX see P001	
RATTUNAL see P001	

Supp. 6

## ENVIRONMENT

Hazardous Waste Number

> P103 P104

> P105

P106

P108

 $Substance^*$ 

RAT-TROL see P001
RO-DETH see P001
RO-DEX see P108
ROSEX see P001
ROUGH & READY MOUSE MIX see
P001
SANASEED see P108
SANTOBRITE see P090
SANTOPHEN see P090
SANTOPHEN 20 see P090
SCHRADAN see P085
Selenourea
Silver cyanide
SMITE see P105
Sodium azide
Sodium coumadin see P001
Sodium cyanide
Sodium fluoroacetate see P056
SODIUM WARFARIN see P001
SOLFARIN see P001
SOLFOBLACK BB see P048
SOLFOBLACK SB see P048
SPARIC see P020
SPOR-KIL see P092
SPRAY-TROL BRAND RODEN-TROL
see P001
SPURGE see P020
Strychnidin-10-one and salts see P108
Strychnine and salts
SUBTEX see P020
Sulfuric acid, dithallium (1+) salt see
P115
SYSTAM see P085
TAG FUNGICIDE see P092
TEKWAISA see P071
TEMIC see P070
TEMIK see P070
TERMITROL see P090

**JS EPA ARCHIVE DOCUMENT** 

922

Supp. 6

hacasado

 $\prod$ 

0

Property and

n.

Section 2.

26.13.02.19

Hazardous Waste	
Number	Substance*
P109	Tetraethyldithiopyrophosphate
_	Tetraethylplumbane see P110
P110	Tetramethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
	Tetraphosphoric acid, hexaethyl ester see P062
	TETROSULPHUR BLACK PB see P048
	TETROSULPHUR PBR see P048
<b>P</b> 113	Thallic oxide
	Thallium oxide see P113
P114	Thallium (I) selenite
P115	Thallium (I) sulfate
	THIFOR see P092
	THIMUL see P092
· · · · · · · · · · · · · · · · · · ·	THIODAN see P050
	Thiodiphosphoric acid, tetraethyl ester see P109
	Thiofanox see P045
•	THIOFOR see P050
	Thioimidodicarbonic diamide see P049
	THIOMUL see P050
	THIONEX see P050
•	THIOPHENIT see P071
	Thiophenol see P014
P116	Thiosemicarbazide
	Thiosulfan tionel see P050
	THOMPSON'S WOOD FIX see P090
	TIOVEL see P050
P118	Trichloromethanethiol
х.	2,4,6-Trinitrophenol, ammonium salt (R) see P009
	TWIN LIGHT RAT AWAY see P001
	USAF RH-8 see P069
•	USAF EK-4890 see P002
P119	Vanadic acid, ammonium salt

Supp. 6

10

-

4

in the set

<del>9</del>23

ENVIRONMENT

Hazardous Waste Number

Substance\*

P120	Vanadium pentoxide
	VOFATOX see P071
	WANADU see P120
	WARCOUMIN see P001
	WARFARIN SODIUM see P001
	WARFICIDE see P001
•	WOFOTOX see P072
	YANOCK see P057
•	YASOKNOCK see P058
	ZIARNIK see P092
P121	Zinc cvanide
P122	Zinc phosphite when present at concentra- tions greater than 10 percent (R.T)
	ZOOCOLIMARIN see P001
P123	Toxaphene

F. Additionally, the following wastes are identified as acute hazardous (H) and are subject to the small quantity exclusion defined in Regulation .05C:

M001

**JS EPA ARCHIVE DOCUMENT** 

#### Polychlorinated biphenyls (PCB) (above 500 ppm)

G. The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products, referred to in \$&A - D of this regulation, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in Regulation .05A and C of this chapter. These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste Number

**U001** 

#### $Substance^*$

AAF see U005

## Acetaldehyde (I) Acetic acid, ethyl ester (I) see U112 Acetic acid, lead (2+) salt see U144 Acetic acid, thallium (1+) salt see U214

\*The Department included those trade names of which it was aware. An omission of a trade name does not imply that it is not hazardous. The material is hazardous if it is listed under its generic name.

924

Supp. 6

26.13.02.19

Hazardous Waste	
Number	Substance*
U002	Acetone (I)
U003	Acetonitrile (I,T)
U004	Acetophenone
U005	2-Acetylaminofluorene
	8-Acetyl-10[(3-amino-2,3-6-trideoxy-alpha-L
	lyxo-hexopyranosyl) oxy]-7,8,9,10-
	tetrahydro-6.8.11-trihydroxy-1-
	methoxy-5,12-naphthacenedione, (8S-cis
	see U-059
U006	Acetyl chloride (C.R.T)
U007	Acrylamide
	Acetylene tetrachloride see U209
	Acetylene trichloride see U228
U008	Acrylic acid (I)
U009	Acrylonitrile
•	AEROTHENE IT see U226
, ,	3-Amino-5-(p-acetamidophenyl)
· · · ·	1H-1.2.4-triazole, hydrate
	see U011
	6-Amino-8-[[(aminocarbonyl)oxy]
	methyll-1.1a.2.8.8a.8b-hexahydro-
•	8a-methoxy-5-methyl-azirino (2',3':3.4)
	pyrrolo (1.2-a) indole-4.7-dione. [1aS-
	(laalpha, 8beta, 8aalpha, 8balpha)]-
	see U010
U010	6-Amino-1.1a.2.8.8a.8b-hexahvdro-
	8-(hydroxymethyl)8-methoxy-5-
	methylcarbamate azirino
	(2'.3':3.4) pyrrolo
	(1.2-a)indole-4.7-dione (ester)
	2-Amino-1-methylbenzene see U328
	4-Amino-1-methylbenzene see U353
U011	Amitrole
U012	Aniline (I.T)
	Ar-methylbenzenediamine see U221
U014	Auramine
U015	Azaserine
U016	Benz(c)acridine
TI017	Benzal chloride
0011	

Supp. 6

26.13.02.19	ENVIRONMENT
Hazardous Waste Number	Substance*
U018	Benz(a)anthracene Benzenzenzine (LT) ese U018
U019	Benzene (I,T)
	1,2-Benzenedicarboxylic acid, bis (2-ethylhexyl) ester see U-028 1 2-Benzenedicarboxylic acid, dibutyl ester
•	see U-069
	1,2-Benzenedicarboxylic acid, diethyl ester see U088
	1,2-Benzenedicarboxylic acid, dimethyl ester see U102
	1,2-Benzenedicarboxylic acid, dioctyl ester see U107
	1,3-Benzenediol see U201
U020	Benzenesulfonyl chloride (C,R)
U021	Benzidine
	1,2-Benzisothiazolin-3-one,1,1-dioxide see U202
	Benzo(a)anthracene see U018
e de la companya de l	Benzo(rst)pentaphene see U064
U022	Benzo(a)pyrene
U023	Benzotrichloride (C,R,T)
and the second second	2,2'-Bioxirane see U085
•	(1,1'-Biphenyl)-4,4'-diamine see U021
	Bis(acetato-O)tetrahydroxytri-lead see U146
U024	Bis(2-chloroethoxy) methane
	4-[Bis(2-chloroethyl) amino] benzenebutanoic acid see U035
	4-[Bis(2-chloroethyl) amino]-L-phenylalanine see U150
	5-[Bis(2-chloroethyl) amino]-2,4-(1H,3H)- pyrimidinedione see U237
<b>U</b> 025	Bis(2-chloroethyl) ether
<b>U</b> 026	N.N-Bis(2-chloroethyl)-2-naphthylamine
	N,N-Bis(2-chloroethyl) tetrahydro-
	2H-1,3,2-oxazaphosphorin-2-amine, 2-oxide see U-058
<b>U027</b>	Bis(2-chloroisopropyl) ether

SALAR AND AND AND

Ľ

Í

<u>i</u>n 1

and a second s

[]

Surger of

**L**ensing the second

Barry Line

.

26.13.02.19

Hazardous Waste Number

Substance\*

U063	Dibenz(a,h)anthracene
	Dibenzo(a,h)anthracene see U063
U064	Dibenzo(a,i)pyrene
U065	Dibromochloromethane
U066	1,2-Dibromo-3-chloropropane
U067	1,2-Dibromoethane
<b>U06</b> 8	Dibromomethane
	2,3-Dibromo-1-propanol phosphate (3:1) see U235
U069	Di-n-butyl phthalate
U070	1,2-Dichlorobenzene
U071	1,3-Dichlorobenzene
U072	1,4-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene (I,T)
	3,3'-Dichloro-4,4'-diaminobiphenyl see U073
U075	Dichlorodifluoromethane
· · ·	3-5-Dichloro-N-(1.1-dimethyl-2-propynyl)-
	benzamide see U192
U076	1,1-Dichloroethane
U077	1,2-Dichloroethane
U078	1,1-Dichloroethylene
U079	1,2-trans-Dichloroethylene
	Dichloroethyl ether see U025
	Dichloroisopropyl ether see U027
U080	Dichloromethane
•	Dichloromethoxy ethane see U024
	Dichloromethylbenzene see U017
U081	2,4-Dichlorophenol
U082	2.6-Dichlorophenol
	(2,4-Dichlorophenoxy)-acetic acid, salts and
	esters see U240
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane (I,T)
	1.4.Diethyleneovide see U108

-

## ENVIRONMENT

Hazardous Waste Number

 $Substance^*$ 

	4,4'-(1,2-Diethyl-1,2-ethenediyl) bisphenol, (E)- see U089
	Diethylhexyl phthalate see U028
<b>U086</b>	1,2-Diethylhydrazine
U087	0,0-Diethyl-S-methyl ester of
	phosphorodithioic acid
<b>U08</b> 8	Diethyl phthalate
U089	Diethylstilbestrol
	1,2-Dihydro-3-methylbenz(j)aceanthrylene see U157
	2,3-Dihydro-6-methyl-2-thioxo-4(1H)-pyrimidi- none see U164
	1,2-Dihydro-3,6-pyridazinedione see U148
<b>U090</b>	Dihydrosafrole
	1,3-Diisocyanatomethylbenzene (R,T) see U223
U091	3,3'-Dimethoxybenzidine
	11,17-Dimethoxy-18-[(3,4,5-trimethoxybenzoyl)
	oxy]-yohimban-16-carboxylic acid,
	methyl ester, (3beta, 16beta, 17alpha,
	18beta, 20alpha)- see U200
U092	Dimethylamine (I)
U093	p-Dimethylaminoazobenzene
	Dimethylarsinic acid see U136
U094	7,12-Dimethylbenz(a)anthracene
	Dimethylbenzene (I,T) see U239
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
	3,3'-[(3,3'-Dimethyl[1,1'-diphenyl]-4,4'-diyl) bis (azo)
	bis [5-amino-4-hydroxy] 2,7-naphtha-
	lenedisulfonic acid, tetrasodium salt
	see U236
<b>U09</b> 7	Dimethylcarbamoyl chloride
<b>U09</b> 8	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
	N,N-Dimethyl-4-(phenylazo)-benzenamine see
	TIOGS

Supp. 6

and a second second

T

The second second

Tutte

Internet

Concernant of

Survey and

Buine Strange Strange

Service of the servic

26.13.02.19

Hazardous Waste Number

## Substance\*

U028	Bis(2-ethylhexyl) phthalate Bis(1-methylethyl)-carbamothioic acid, S-(2,3-dichloro-2-propenyl) ester
	see U062
	Bromoform see U225
U029	Bromomethane
	1-Bromo-4-phenoxybenzene see U030
U030	4-Bromophenyl phenyl ether
	2-Butanone (I,T) see U159
	2-Butanone, peroxide (R,T) see U160
	2-Butenal see U-053
· ·	2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-
	2-(1-methoxyethyl)-3-methyl-1-oxo-
	butoxy] methyl]-2,3,5,7a-tetrahydro-
	1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),
	7(2S*,3R*),7aalpha]] see U143
U031	n-Butyl alcohol (I)
	Cacodylic acid see U136
U032	Calcium chromate
	Carbamic acid, ethyl ester see U238
	Carbolic acid see U188
	Carbon tetrachloride see U211
	Carbonic difluoride see U033
	4,4'-Carbonimidoylbis[N,N-dimethyl-
	benzenamine] see U014
	Carbonochloridic acid, methyl ester (I,T) see U156
	Carbon oxyfluoride (R,T) see U033
U033	. Carbonyl fluoride (R,T)
U034	Chloral
U035	Chlorambucil
U036	Chlordane
	Chlornaphazin see U026
U037	Chlorobenzene
U038	Chlorobenzilate
	4-Chloro-alpha-(4-chlorophenyl)-
	alpha-hydroxybenzeneacetic acid,
	ethyl ester see U038
U039	p-Chloro-m-cresol

Ť

Supp. 6

26.13.02.19	ENVIRONMENT
Hazardous Waste	
Number	Substance*
U041	1-Chloro-2,3-epoxypropane CHLOROETHENE NU see U226
U042	Chloroethyl vinyl ether
U043	Chloroethene
U044	Chloroform
U045	Chloromethane (I.T)
	Chloromethoxymethane see U046
	4-Chloro-2-methylbenzeneamine
11046	Chloromethyl methyl ether
0040	(Chloromethyl) ovirane see U041
	4.Chloro.3.methylphenol see U041
T1047	2. Chloronaphthalone
11048	2. Chlorophenol
11049	4-Chloro-o-toluidine bydrochloride
0040	Chromic acid calcium salt see 11032
11050	Chrysone
0000	C I 23060  see  11073
11051	Creosote
11052	Cresulic acid
U053	Crotonaldehyde
11055	Cumene (I)
0000	Cyanogen bromide see U246
	Cyanomethane see U003
	2 5 Cyclobevadiene 1 4 dione see U197
11056	Cyclohexane (I)
U057	Cyclohexanore (I)
11058	Cyclophosphamide
11059	Daunomycin
1060	ססס
11061	דתת
1 1a 3 3a 4 5 5 5a	5h 6-Decachlorooctahydro-1.3 4-metheno-2H
1,14,0,04, 1,0,0,04	cyclobuta[cd]pentalen-2-one see U142
	2-Deoxy-2-[[(methylnitrosoamino)-
· · · · · · · · · · · · · · · · · · ·	carbonyl]amino]-D-glucose see U206
	2-Deoxy-2-(3-methyl-3-nitrosoureido)-D-
	glucopyranose see U206
<b>U06</b> 2	Diallate

**US EPA ARCHIVE DOCUMENT** 

Supp. 6

928

「ない」というではない

and the second

C

Ì

<u>()</u>

Burgersteinen Strate

March 199

Anna Anna

Hazardous Waste

26.13.02.19

Number  $Substance^*$ U102 Dimethyl phthalate N,N-Dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-1,2-ethanediamine see U155 U103 **Dimethyl sulfate** U105 2,4-Dinitrotoluene **U106** 2.6-Dinitrotoluene U107 Di-n-octyl phthalate U108 1.4-Dioxane U109 1,2-Diphenylhydrazine U110 Dipropylamine (I) U111 Di-n-propylnitrosamine EBDC see U114 Epichlorohydrine see U041 1,4-Epoxybutane see U213 Ethanal (I) see U001 1,2-Ethanediylbiscarbamodithioic acid, salts and esters see U114 Ethanethioamide see U218 2-Ethoxyethanol see U359 N-(4-Ethoxyphenyl)-acetamide see U187 U112 Ethyl acetate (I) U113 Ethyl acrylate (I) U114 Ethylenebisdithiocarbamate acid, salts and esters Ethylene dibromide see U067 Ethylene dichloride see U077 Ethylene glycol monoethyl ether see U359 U115 Ethylene oxide (I,T) U116 Ethylene thiourea U117 Ethyl ether (I) Ethylidene dichloride see U076 **U118** Ethylmethacrylate U119 Ethyl methanesulfonate Ethylnitrile see U003 N-Ethyl-N-nitrosoethanamine see U174 N-Ethyl-N-nitrosourea see U176 Firemaster T23P see U235 U120 Fluoranthene N-9H-Fluoren-2-yl-acetamide see U005

Supp. 6

930-1

6.13.02.19	ENVIRONMENT
Hazardous Waste	
Number	Substance*
U121	Flouorotrichloromethane
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
	2-Furancarboxaldehyde (I) see U125
	2,5-Furandione see U147
U125	Furfural (I)
	Furfuran (I) see U124
<b>U126</b>	Glycidylaldehyde
U127	Hexachlorobenzene
H128	Hexachlorobutadiene
U129	<b>Hexachlorocyclohexane</b>
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
di seria de la composición de la compos	Hexahydrobenzene (I) see U056
U133	Hydrazine (R,T)
U134	Hydrofluoric acid (C,T)
U135	Hydrogen sulfide
	Hydroxybenzene see U188
U136	Hydroxydimethyl arsine oxide
	4-Hydroxy-3-(3-oxo-1-phenyl-butyl)-2H-1-
	benzopyran-2-one and salts, when
	present at concentrations of 0.3 percent
	or less see U248
	2-Imidazolidinethione see U116
	4,4'-(Imidocarbonyl)bis(N,N-dimethyl)aniline
	see U014
<b>U137</b>	Indeno(1,2,3-cd)pyrene
<b>U138</b>	Iodomethane
	1,3-Isobenzofurandione see U190
U140	Isobutyl alcohol (I,T)
U141	Isosafrole
<b>U142</b>	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
	Lindane see U129

**9**30-2

26.13

Supp. 6



Û

Û

26.13.02.19

Hazardous Waste	
Number	Substance*
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
	MEK peroxide see U160
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile (I,T)
· · · ·	Methanesulfonic acid, ethyl ester see U119
U153	Methanethiol (I.T)
U154	Methanol (I)
U155	Methapyrilene
	Methyl alcohol see U154
	2-Methylbenzenamine see U328
	4-Methylbenzenamine see U353
	2-Methylbenzenamine hydrochloride
•	see U222
	Methylbenzene see U220
	Methyl bromide see U029
	1-Methylbutadiene (I) see U186
	Methyl chloride (I,T) see U045
U156	Methyl chlorocarbonate (I,T)
	Methyl chloroform see U226
	Methyl chloroformate see U156
U157	3-Methylcholanthrene
	1-Methyl-2,4-dinitrobenzene see U105
	2-Methyl-1,3-dinitrobenzene see U106
U158	4,4'-Methylene-bis-(2-chloroaniline)
	1,1'-[Methylenebis(oxy)]bis[2-chloroethane] see U024
	2,2'-Methylenebis (3,4,6-trichlorophenol) see U132
	Methylene bromide see U068
	Methylene chloride see U080
· · ·	(1-Methylethyl)-benzene (I) see U055
U159	Methyl ethyl ketone (MEK) (I,T)
<b>U160</b>	Methyl ethyl ketone peroxide $(R,T)$ Methyl iodide see U138
U161	Methyl isobutyl ketone (I)
U160 U161	Methyl ethyl ketone peroxide $(R,T)$ Methyl iodide see U138 Methyl isobutyl ketone (I)

Supp. 6

930-3

Hazardous Waste Number

# ENVIRONMENT

#### $Substance^*$

U162	Methyl methacrylate $(I,T)$
	N-Methylmethanamine (I) see U092
	2-Methyl-5-nitrobenzenamine see U181
U163	N-Methyl-N'-nitro-N-nitro-soguanidine
	Methylnitrosocarbamic acid, ethyl ester
	see U178
	N-Methyl-N-nitrosourea see U177
	4-Methylpentanol see U161
	4-Methyl-2-pentanone (I) see U161
	Methylphenol see U052
	1-Methyl-1-phenylethylhydroperoxide (R)
	see U096
•	2-Methyl-1-propanol (I,T) see U140
	2-Methyl-2-propenenitrile (I,T) see U152
	2-Methyl-2-propenoic acid, ethyl ester
	see U118
	2-Methyl-2-propenoic acid, methyl ester (I,T)
•	see U162
	2-Methylpyridine see U191
U164	Methylthiouracil
	Mitomycin C see U010
	MNNG see U163
U165	Naphthalene
U166 👘	1,4-Naphthoquinone
U167	1-Naphthylamine
<b>U168</b>	2-Naphthylamine
U169	Nitrobenzene (I,T)
1 a 1	Nitrobenzol see U169
U170	4-Nitrophenol
U171	2-Nitropropane (I, T)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
	2,2'-(Nitrosoimino) bisethanol see U173
U176	N-Nitroso-n-ethylurea
U177	N-Nitroso-n-methylurea
U178	N-Nitroso-n-methylurethane
<b>U179</b>	N-Nitrosopiperidine
	N-Nitroso-N-propyl-1-propanamine see U111

EPA ARCHIVE DOCUMENT S

930-4

Supp. 6

Sector Sector

And and a second second

Hazardous Waste Number  $Substance^*$ **U180** N-Nitrosopyrrolidine U181 5-Nitro-o-toluidine 1,2-Oxathiolane, 2,2-dioxide St 11193 Oxirane (I,T) see U115 Oxiranecarboxyaldehyde se. U126 1,1'-Oxybis[2-chloroethane] see U025 2,2'-Oxybis[2-chloropropane] see U027 1,1'-Oxybisethane (I) see U117 U182 Paraldehyde PCNB see U185 U183 Pentachlorobenzene U184 Pentachloroethane U185 Pentachloronitrobenzene Pentachlorophenol see F027 **U186** 1.3-Pentadiene (I) Perc see U210 Perchlorethylene see U210 U187 Phenacetin **U188** Phenol 1-Phenylethanone see U004 U189 Phosphorous sulfide (R) U190 Phthalic anhydride U191 2-Picoline U192 Pronamide **U193 1.3-Propane sultone Propanedinitrile see U149** 2-Propanone (I) see U002 2-Propenamide see U007 2-Propenitrile see U009 2-Propenoic acid (I) see U008 2-Propenoic acid, ethyl ester (I) see U113 5-(2-Propenyl)-1,3-benzodioxole see U203 5-(1-Propenyl)-1,3-benzodioxole see U141 U194 n-Propylamine (I,T) 5-Propyl-1,3-benzodioxole see U090 Propylene dichloride see U083 N-Propyl-1-propanamine (I) see U110 Pyridine U196 U197 p-Benzoquinone

Supp. 6

930-5

26.13.02.19
26.13.02.19

ENVIRONMENT

Hazardous Waste Number

 $Substance^*$ 

U200	Reserpine
U201	Resorcinol
U202	Saccharin and salts
U203	Safrole
U204	Selenious acid
	Selenium dioxide see U204
U205	Selenium sulfide (R.T)
	L-Serine, diazoacetate (ester) see U015
	Silvex (2,4,5-TP) see F027
U206	Streptozotocin
	Sulfuric acid, dimethyl ester see U103
	Sulfur phosphide (R) see U189
	2,4,5-T see F027
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethene
	Tetrachloroethylene see U210
U211	Tetrachloromethane
	2,3,4,6-Tetrachlorophenol see F027
U213	Tetrahydrofuran (I)
	Tetramethylthioperoxydicarbonicdiamide see U244
U214	Thallium (I) acetate
U215	Thallium (I) carbonate
U216	Thallium (I) chloride
U217	Thallium (I) nitrate
U218	Thioacetamide
· · · ·	Thiomethanol (I,T) see U153
U219	Thiourea
U220	Toluene
<b>U2</b> 21	Toluenediamine
	o-Toluidine see U328
	p-Toluidine see U353
U222	o-Toluidine hydrochloride
U223	Toluene diisocyanate (R,T)
	2,4,5-TP see F027
	1H-1,2,4-Triazol-3-amine see U011

$\geq$	
$\overline{\mathbf{O}}$	
$\mathbf{H}$	
Ο	
$\sim$	
$\mathbf{O}$	
$\sim$	
•	
-	
Δ.	
Π	

•

930-6

Supp. 6

ALC: NO

Contraction of the local distribution of the

The second se

U

No. Constant

# CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.19

Hazardous Wast	e
Number	Substance*
U225	Tribromomethane
	Trichloroacetaldehyde see U034
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
	Trichloroethylene see U228
1	,1'-(2,2,2-Trichloroethylidene) bis[4-chlorobenzene]
1	See $U001$
1	,1 -(2,2,2-1 richolorethylidene)bis(4-methoxy-
	Denzenej see U247
	Trichleremethene and U044
	(Twish larger other) barrens and 1002
·	(Trichlenomethyl)-benzene see U023
	1 richloromonolluoromethane see 0121
	2,4,5-Trichlorophenol see F027
	2,4,0-11 Ichiorophenor see F 027
	2,4,5-Trichlorophenoxylacetic acid see F027
alnha alni	2-2, 4, 5-11 chilorophenoxy-propanoic acia see 1 027
aipiia,aipi	TRICLENE see U228
	2.4.6-Trimethyl-1.3.5-trioxane see U182
U234	Trinitrobenzene (R T)
U235	Tris(2.3-dibromopropyl) phosphate
U236	Trypan blue
U237	Uracil mustard
U238	Ethyl carbamate (urethane)
	Vinyl chloride see U043
	Vinvlidene chloride see U078
U239	Xvlene (I)
U240	2.4-Dichlorophenoxyacetic acid and associated
	salts and esters
<b>U24</b> 2	Pentachlorophenol
U243	Hexachloropropene
U244	Thiram
U245	1-(p-Chlorobenzoyl)-5-methoxy-
	2-methylindole-3-acetic acid
U246	Cyanogen bromide
U247	Methoxychlor

Supp. 6

IC.

930-7

### 26.13.02.19

#### ENVIRONMENT

Hazardous Waste Number

Substance\*

Warfarin and salts, when present at con-
centrations of 0.3 percent or less
Zinc phosphide, when present at
concentrations of 10 percent or less
o-Toluidine
p-Toluidine
2-Ethoxyethanol

H. Additionally, the following wastes are identified as Maryland Toxic (MT) and are subject to the same provisions as those identified in Regulation .19G:

Hazardous Waste Number

## Substance\*

**MT01** 

Polychlorinated biphenyls (50 to 500 ppm)

(See page 931)

Supp. 6

A CONTRACTOR OF A CONTRACTOR A CONTRACTOR

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.21

#### .20 Representative Sampling Methods.

A. The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed in §B, for sampling waste with properties similar to the indicated materials, will be considered by the Department to be representative of the waste.

B. Sampling Protocols.

(1) Extremely viscous liquid—ASTM Standard D140-70.

(2) Crushed or powdered material—ASTM Standard D346-75.

(3) Soil or rock-like material—ASTM Standard D420-69.

(4) Soil-like material—ASTM Standard D1452-65.

(5) Fly Ash-like material—ASTM Standard D2234-76. (ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103.)

(6) Containerized liquid wastes—"COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods"\*, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 29460 (copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio 45268).

(7) Liquid waste in pits, ponds, lagoons, and similar reservoirs—"Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods".\*

C. This regulation also contains additional information on application of these protocols.

.21 EP Toxicity Test Procedure.

A. Extraction Procedure (EP).

(1) A representative sample of the waste to be tested (minimum size 100 grams) should be obtained using the methods specified in Regulation .20 or any other method capable of yielding a representative sample within the meaning of COMAR 26.13.01. (For detailed guidance on conducting the various aspects of the EP, see "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", SW-846, U.S.

\* These methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA 600/2-80-018, January 1980.

### 26 13.02.21

### ENVIRONMENT

Environmental Protection Agency Office of Solid Waste, Washington, D.C. 20460\*)

(2) The sample should be separated into its component liquid and solid phases using the method described in "Separation Procedure", §B, below. If the solid residue<sup>\*\*</sup> obtained using this method totals less than 0.5 percent of the original weight of the waste, the residue can be discarded and the operator should treat the liquid phase as the extract and proceed immediately to Step (8).<sup>\*\*</sup>

(3) The solid material obtained from the Separation Procedure should be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than,  $3.1 \text{ cm}^2$  or passes through a 9.5 mm (0.375 inch) standard sieve, the operator should proceed to Step (4). If the surface area is smaller or the particle size larger than specified above, the solid material should be prepared for extraction by crushing, cutting, or grinding the materials so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" described in §C, below.

(4) The solid material obtained in Step 3 should be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extraction fluid but also insure that all sample surfaces are continuously brought into contact with well mixed extraction fluid.

(5) After the solid material and deionized water are placed in the extractor, the operator should begin agitation and measure the pH of the solution in the extractor. If the pH is greater than 5.0, the pH of the solution should be decreased to  $5.0 \pm 0.2$  by adding 0.5N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be added. The pH of the solution should be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5N acetic acid should be added to bring the pH down to  $5.0 \pm 0.2$ .

\* Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45268.

\*\* The percent solids is determined by drying the filter pad at 80°C until it reaches constant weight and then calculating the present solids using the following equation:

(weight of pad + solid) - (tare weight of pad) initial weight of sample × 100

 $\times 100 = \%$  solids

### CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.21

However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture should be agitated for 24 hours and maintained at  $20^{\circ}-40^{\circ}$ C ( $68^{\circ}-104^{\circ}$ F) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon 97123 or its equivalent, in conjunction with a metering pump and reservoir of 0.5N acetic acid. If such a system is not available, the following manual procedure shall be employed:

(a) A pH meter should be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution should be checked and, if necessary, 0.5N acetic acid should be manually added to the extractor until the pH reaches 5.0  $\pm$  0.2. The pH of the solution should be adjusted at 15, 30, and 60 minute intervals, moving to the longer interval if the pH does not have to be adjusted more than 0.5N pH units.

(c) The adjustment procedure should be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH should be adjusted to 5.0  $\pm 0.2$  and the extraction continued for an additional 4 hours, during which the pH should be adjusted at 1-hour intervals.

(6) At the end of the 24-hour extraction period, deionized watershould be added to the extractor in an amount determined by the following equation:

V = (20)(W) - 16(W) - A where

V = ml deionized water to be added

W = weight in grams of solid charged to extractor

A = ml of 0.5N acetic acid added during extraction.

(7) The material in the extractor should be separated into its component liquid and solid phases as described under "Separation Procedure".

(8) The liquids resulting from Steps (2) and (7) should be combined. This combined liquid (or the waste itself if it has less than  $\frac{1}{2}$ percent solids, as noted in Step (2)) is the extract and should be analyzed for the presence of any of the contaminants specified in Table I

### 26.13.02.21

### ENVIRONMENT

of COMAR 26.13.02.14 using the Analytical Procedures designated below.

B. Separation Procedure.

(1) Equipment:

(a) A filter holder, designed for filtration media having a nominal pore size of 0.45 micrometer and capable of applying a 5.3 kilogram/square centimeter (75 psi) hydrostatic pressure to the solution being filtered, shall be used.

(b) For mixtures containing nonabsorptive solids, where separation can be affected without imposing a 5.3 kilogram/square centimeter pressure differential, vacuum filters employing a 0.45 micrometer filter media can be used. (For further guidance on filtration equipment or procedures see "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods".)

(2) Procedure:\*

(a) Following manufacturer's directions, the filter unit should be assembled with a filter bed consisting of a 0.45 micrometer filter membrane. For difficult or slow to filter mixtures a prefilter bed consisting of the following prefilters in increasing pore size (0.65 micrometer membrane, fine glass fiber prefilter, and coarse glass fiber prefilter) can be used.

(b) The waste should be poured into the filtration unit.

(c) The reservoir should be slowly pressurized until liquid begins to flow from the filtrate outlet at which point the pressure in the filter should be immediately lowered to 10—15 psig. Filtration should be continued until liquid flow ceases.

(d) The pressure should be increased stepwise in 10 psi increments to 75 psig and filtration continued until flow ceases or the pressurizing gas begins to exit from the filtrate outlet.

\* This procedure is intended to result in separation of the "free" liquid portion of the waste from any solid matter having a particle size 0.45 micrometer. If the sample will not filter, various other separation techniques can be used to aid in the filtration. As described above, pressure filtration is employed to speed up the filtration process. This does not alter the nature of the separation occurs during centrifugation, the liquid portion (centrifugate) is filtered through the 0.45 micrometer filter prior to becoming mixed with the liquid portion of the waste obtained from the initial filtration. Any material that will not pass through the filter after centrifugation is considered a solid and is extracted.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.02.21

(e) The filter unit should be depressurized, the solid material removed and weighed and then transferred to the extraction apparatus, or, in the case of final filtration prior to analysis, discarded. Do not allow the material retained on the filter pad to dry prior to weighing.

(f) The liquid phase should be stored at  $4^{\circ}C$  for subsequent use in A(8).

C. Structural Integrity Procedure.

(1) Equipment. A Structural Integrity Tester having a 3.18 centimeters (1.25 inches) diameter hammer weighing 0.33 kilogram (0.73 pounds) and having a free fall of 15.24 centimeters (6 inches) shall be used. This device is available from Associated Design and Manufacturing Company, Alexandria, VA 22314, as Part No. 125, or it may be fabricated to meet the specifications shown in Figure 1, below. ENVIRONMENT



### FIGURE 1 COMPACTION TESTER

### (2) Procedure:

(a) The sample holder should be filled with the material to be tested. If the sample of waste is a large monolithic block, a portion should be cut from the block having the dimensions of a 3.3 centimeters (1.3 inches) diameter  $\times$  7.1 centimeters (2.8 inches) cylinder. For a fixated waste, samples may be cast in the form of a 3.3 centimeters (1.3 inches) diameter  $\times$  7.1 centimeters (2.8 inches) cylinder for purposes of conducting this test. In these cases, the waste may be allowed to cure for 30 days prior to further testing.

**9**36

and a subscription

### CONTROLLED HAZARDOUS SUBSTANCES

(b) The sample holder should be placed into the Structural Integrity Tester, then the hammer should be raised to its maximum height and dropped. This should be repeated fifteen times.

(c) The material should be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.

D. Analytical Procedures for Analyzing Extract Contaminants.

(1) The test methods for analyzing the extract are as follows:

(a) For arsenic, barium, cadmium, chromium, lead, mercury, selenium, or silver: "Methods for Analysis of Water and Wastes", Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268 (EPA-600/4-79-020, March 1979).

(b) For Endrin; Lindane; Methoxychlor; Toxaphene; 2,4-D; 2,4,5-TP Silvex: in "Methods for Benzidine, Chlorinated Organic Compounds, Pentachlorophenol and Pesticides in Water and Wastewater", September 1978, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268. This method appears as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods".

(2) For all analyses, the method of standard addition shall be used for the quantification of species concentration. This method is described in "Test Methods for the Evaluation of Solid Waste". (It is also described in "Methods for Analysis of Water and Wastes".)

#### .22 Chemical Analysis Test Methods.

A. Tables 1, 2, and 3 of §D of this regulation specify the appropriate analytical procedures, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846 as amended, and incorporated by reference, see COMAR 26.13.01.05A), which shall be used to determine whether a sample contains a given Regulation .23 or .24 toxic constituent.

B. Table 1 identifies each Regulation .23 or .24 organic constituent along with the approved measurement method. Table 2 identifies the corresponding methods for inorganic species. Table 3 summarizes the contents of SW-846 and supplies specific section and method numbers for sampling and analysis methods.

C. Before final sampling and analysis method selection the analyst should consult the specific section or method described in SW-846 in the tables in D(1)—(3) of this regulation for additional guidance on

S EPA ARCHIVE DOCUMENT

26.13.02.22

### ENVIRONMENT

which of the approved methods should be employed for a specific sample analysis situation.

D. Tables 1, 2, and 3.

# (See tables on following pages)

938

Supp. 5

and the second second

Protestant of

### CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.22

# (1) Table 1—Analysis Methods for Organic Chemicals Contained in SW-846

Compound	First Edition Method(s)	Second Edition Method(s)
Acetonitrile	8.03, 8.24	8030, 8240
Acrolein	8.03, 8.24	8030, 8240
Acrylamide	8.01, 8.24	8015, 8240
Acrylonitrile	8.03, 8.24	8030, 8240
2-Amino-1-methylbenzene(o-Toluidine)		8250
4-Amino-1-methylbenzene (p-Toluidine)		8250
Aniline		8250
Benzene	8.02, 8.24	8020, 8240
Benz(a)anthracene	8.10, 8.25	8100, 8250, 8310
Benzo(a)pyrene	8.10, 8.25	8100, 8250, 8310
Benzotrichloride	8.12, 8.25	8120, 8250
Benzyl chloride	8.01, 8.12	
	8.24, 8.25	8120, 8250
Benzo(b)fluoranthene	8.10, 8.25	8100, 8250, 8310
Benzo(k)fluoranthene	810	00,8250,8270,8310
Bis(2-chloroethoxymethane)	8.01, 8.24	8010, 8240
Bis(2-chloroethyl)ether	8.01, 8.24	8010, 8240
Bis(2-chloroisopropyl)ether	8.01, 8.24	8010, 8240
Carbon disulfide	8.01, 8.24	8015, 8240
Carbon tetrachloride	8.01, 8.24	8010, 8240
Chlordane	8.08, 8.25	8080, 8250
Chlorinated biphenyls	8.08, 8.25	8080, 8250
Chloroacetaldehyde	8.01, 8.24	8010, 8240
Chlorobenzene	8.01, 8.02, 8.24	8020, 8240
Chloroform	8.01, 8.24	8010, 8240
Chloromethane	8.01, 8.24	8010, 8240
2-Chlorophenol	8.04, 8.25	8040, 8250
Chrysene	8.10, 8.25	8100, 8250, 8310
Creosote <sup>1</sup>	8.10, 8.25	8100, 8250
Cresol(s)	8.04, 8.25	8040, 8250
Cresylic acid(s)	8.01, 8.02	8040, 8250
Dichlorobenzene(s)	8.01, 8.02	
	8.12, 8.25	8010, 8120, 8250
Dichloroethane(s)	8.01, 8.24	8010, 8240
Dichloromethane	8.01, 8.24	8010, 8240
Dichlorophenoxyacetic acid	8.40, 8.25	8150, 8250
Dichloropropanol	8.12, 8.25	8120, 8250
1,1-Dimethylhydrazine (UDMH)		. 8250
2,4-Dimethylphenol	8.04, 8.25	8040, 8250

<sup>1</sup>Analyze for phenanthrene and carbazole; if these are present in a ratio between 1.4:1 and 5:1, creosote should be considered present.

Supp. 11

ENVIRONMENT

Compound	First Edition Method(s)	Second Edition Method(s)
Dimethyl sulfate	<u></u>	8250, 8270
Dinitrobenzene	8.0 <b>9, 8.25</b>	8090, 8250
4.6-Dinitro-o-cresol	8.04, 8.25	8040, 8250
2,4-Dinitrotoluene	8.09, 8.25	8090, 8250
2,6-Dinitrotoluene		8060, 8250
Endrin	8.08, 8.25	8080, 8250
2-Ethoxyethanol		8030, 8240
Ethylene dibromide		8010, 8240
Ethylene thiourea		8250, 8330
Ethyl ether	8.01, 8.02, 8.24	8015, 8240
Formaldehvde	8.01, 8.24	8015, 8240
Formic acid	8.06, 8.25	8250
Heptachlor	8.06, 8.25	8080, 8250
Hexachlorobenzene	8.12, 8.25	8120, 8250
Hexachlorobutadiene	8.12. 8.25	8120, 8250
Hexachloroethane	8.12, 8.25	8010, 8240
Hexachlorocyclopentadiene	8.12, 8.25	8120, 8250
Lindane	8.08, 8.25	8080, 8250
Meleic anhydride	8.06, 8.25	8250
Methanol	8.01. 8.24	8010, 8240
Methomyl	8.32	8250
Methyl bromide		8010, 8240, 8260
Methyl ethyl ketone	8.01. 8.02. 8.24	8015, 8240
Methyl isobutyl ketone	8.01, 8.02, 8.24	8015, 8240
Nanhthalene	8.10. 8.25	8100, 8250
Nanhthoguinone	8.06, 8.09, 8.25	8090, 8250
Nitrobenzene	8.09, 8.25	8090, 8250
4-Nitronhenol	8.04. 8.25	8040, 8240
Paraldehyde (trimer of acetaldehyde)	8.01, 8.24	8015.8240
Pentachlorophenol	8 04. 8.25	8040, 8250
Phenol	8.04, 8.25	8040, 8250
Phorate	8 22	8140
Phosphorodithioic acid esters	806 809 822	8140
Phthalic anhydride	8.06 8.09 8.25	8090, 8250
2 Disolino	8.06 8.09 8.25	8090, 8250
2-1 iconne Durridine	8.06, 8.09, 8.25	8090 8120 8250
Totrachlorohenzene(s)	8 12 8 25	8010 8240
Tetrachloroethane(s)	801 894	8010 8240
Tetrachloroethono	801 894	8040 8250
Tetrachlorophonol	201, 0.24 201 29/	8020 8024
Teluere	0.04, 0.24 2 AD 2 D	8951
Totuene The last of the mine	0.02. 0.24	2020C
Ioluenediamine	0.23	9 0200
2,4-loluenediamine		

ſ

Û

[]

Carrier Mar

Contraction of the second

(Antonia)

940

**US EPA ARCHIVE DOCUMENT** 

CONTROLLED	HAZARDOUS	SUBSTANCES
------------	-----------	------------

26.13.02.22

Compound	First Edition Method(s)	Second Edition Method(s)
3,4-Toluenediamine		8250
Toluene diisocyanate(s)	8.06, 8.25	8080, 8250
Toxaphene	8.08, 8.25	8010, 8240
Trichloroethane	8.01, 8.24	8010, 8240
Trichloroethene(s)	8.01, 8.24	8010, 8240
Trichlorofluoromethane	8.01, 8.24	8040, 8250
Trichlorophenol(s)	8.04, 8.25	8040, 8250
2,4,5-Trichlorophenoxypropionic acid	8.40, 8.25	8150, 8250
Trichloropropane	8.01, 8.24	8010, 8240
Vinyl chloride	8.01, 8.24	8010, 8240
Vinylidene chloride	8.01, 8.24	8010, 8240
Xylene	8.01, 8.24	8020, 8240

### (2) Table 2-Analysis Methods for Inorganic Chemicals Contained in SW-846

Compound	First Edition Method(s)	Second Edition Method(s)
Antimony	8.50	7040, 7041
Arsenic	8.51	7060, 7061
Barium	8.52	7080, 7081
Cadmium	8.53	7130, 7131
Chromium	8.54	7190, 7191
Chromium: hexavalent	8.545, 8.546,	7195, 7196
	8.547	7197
Lead	8.56	7420, 7421
Mercury	8.57	7470, 7471
Nickel	8.58	7520, 7521
Selenium	8.59	7740, 7741
Silver	8.60	7760, 7761
Cyanides	8.55	<del>9</del> 010
Total organic halogen	8.66	9020
Sulfides	8.67	9030

(See page 942)

Supp. 6

942

Supp. 5

	Contained	I III SW-040			
λ	an da ar	First Edition		Second Edition	
Title		Section No.	Method No.	Section No.	Method No.
Sampling of Solid Wastes	·	1.0	·	1.0	······································
Development of Appropriate Sampling Plans		1.0	-in-	1.1	· · · ·
<b>Regulatory &amp; Scientific Objectives</b>		1.0-2	· · · ·	1.1.1	
Fundamental Statistical Concepts		1.0-3	_	1.1.2	· · · · · · · · · · · · · · · · · · ·
<b>Basic Statistical Strategies</b>		1.0-7	****	1.1.3	
Simple Random Sampling		· · · · ·	a	1.1.3.1	·
Stratified Random Sampling		. —	<del></del>	1.1.3.2	
Systematic Random Sampling			. · . ·	1.1.3.3	
Special Considerations		1.0.7	- -		_
Composite Sampling			·	1.1.4.1	
Subsampling	· · ·	_	· · · · ·	1.1.4.2	
Cost and Loss Functions			·	1.1.4.3	· . <u>-</u>
Implementation of Sampling Plan		1.0-7		1.2	· · · · · ·
Selection of Sampling Equipment			·	1.2.1	_
Composite Liquid Waste Sampler	s	3.2.1	-	1.2.1.1	
Weighted Bottle		3.2.2		1.2.1.2	
Dipper		3.2.3	·	1.2.1.3	-
Thief		3.2.4		1.2.1.4	· · ·
Trier		3.2.5	<u> </u>	1.2.1.5	· · · · ·
Auger		· 3.2.6	-	1.2.1.6	·

(3) Table 3–Sampling and Analysis Methods Contained in SW-846

26.13.02.22

ENVIRONMENT

	First I	Edition	Second Edition	
Title	Section No.	Method No.	Section No.	Method No.
Scoop and Shovel	3.2.7		1.2.1.7	
Selection of Sample Containers	3.3	_	1.2.2	·
Processing and Storage of Samples	3.3		1.2.3	
Documentation of Chain of Custody	2.0	<sup>·</sup>	1.3	
Sample Labels	2.0-1		1.3.1	-
Sample Seals	2.0-3		1.3.2	·
Field Log Book	2.0-5		1.3.3	
Chain-of-Custody Record	2.0-6	·	1.3.4	_
Sample Analysis Request Sheet	2.0-9		1.3.5	
Sample Delivery to Laboratory	2.0-10		1.3.6	. —
Shipping of Samples	2.0-10	· · · · ·	1.3.7	· -
Receipt and Logging of Sample	2.0-12	-	1.3.8	· · ·
Assignment of Sample for Analysis	2.0-13		1.3.9	· · · · ·
Sampling Methodology	3.0		1.4	· _
Containers	3.2-2	· · · · · · · · · · · · · · · · · · ·	1.4.1	·
Tanks	3.2-2		1.4.2	_
Waste Piles	3.2-2	<u> </u>	1.4.3	·
Landfills and Lagoons	3.2-2	_	1.4.4	· · · · ·
Waste Evaluation Procedures	—	_	2.0	
Characteristics of Hazardous Waste	<u> </u>	—	2.1	· · · · · · · · · · · · · · · · · · ·
Ignitability	4.0		2.1.1	- · · · -
Pensky-Martens Closed-Cup Method	4.1	,	2.1.1	1010
Setaflash Closed-Cup Method	4.1		2.1.1	102

	First 1	Edition	Second	Edition
Title	Section No.	Method No.	Section No.	Method No.
Corrosivity	5.0	_	2.1.2	·
<b>Corrosivity Toward Steel</b>	5.3		2.1.2	1110
Reactivity	6.0		2.1.3	<u> </u>
Extraction Procedure Toxicity	7.0	·	2.1.4	·
<b>Extraction Procedure Toxicity Test</b>	7.1, 7.2, 7.5			
Method and Structural Integrity Test	7.4	· · · · · · · · · · · · · · · · · · ·	2.1.4	1310
Sample Workup Techniques			4.0	×
Inorganic Techniques	8.49		4.1	·
Acid Digestion for Flame AAS		, <u> </u>	4.1	3010
Acid Digestion for Furnace AAS			4.1	3020
Acid Digestion of Oil, Grease or	8.49-8		4.1	3030
Wax				
Dissolution Procedure for Oil, Grease or	8.49-9	· · ·	· · · · · · · · · · · · · · · · · · ·	. <u> </u>
Alkaline Digestion	8.0	8.458	4.1	3060
Organic Techniques	8.0		4.2	
Separatory Funnel Liquid—Liquid Extrac- tion	9.0	<b>9.1</b>	4.2	3510
Continuous Liquid—Liquid Extraction	9.0	9.01	4.2	3520
Acid-Base Cleanup Extraction	8.0	8.84	4.2	3530
Soxhlet Extraction	8.0	8.86	4.2	3540
Sonication Extraction	8.0	8.85	4.2	3550

-

	First E	dition	Second E	Edition
Title	Section No.	Method No.	Section No.	Method No
Sample Introduction Techniques			5.0	·
Headspace	· 8.0	8.82	5.0	5020
Purge-and-Trap	8.0	8.83	5.0	5030
Inorganic Analytical Methods	8.0		7.0	·
Antimony, Flame AAS	8.0	8.50	7.0	7040
Antimony, Furnace AAS	8.0	8.50	7.0	7041
Arsenic, Flame AAS	8.0	8.51	7.0	7061
Arsenic, Furnace AAS	8.0	8.51	7.0	7060
Barium, Flame AAS	8.0	8.52	7.0	7080
Barium, Furnace AAS	8.0	8.52	7.0	7081
Cadmium, Flame AAS	8.0	8.53	7.0	7130
Cadmium, Furnace AAS	8.0	8.53	7.0	7131
Chromium, Flame AAS	8.0	8.54	7.0	7190
Chromium, Furnace AAS	8.0	8.54	7.0	7191
Chromium, Hexavalent, Coprecipitation	8.0	8.545	7.0	7195
Chromium, Hexavalent, Colorimetric	8.0	8.546	7.0	7196
Chromium, Hexavalent, Chelation	8.0	8.457	7.0	7197
Lead, Flame AAS	8.0	8.56	7.0	7420
Lead, Furnace AAS	8.0	8.56	7.0	7421
Mercury, Cold Vapor, Liquid	8.0	8.57	7.0	7470
Mercury, Cold Vapor, Solid	· 8.0	8.57	7.0	7471
Nickel, Flame AAS	8.0	8.58	7.0	7520
Nickel, Furnace AAS	8.0	8.58	7.0	7521
Selenium, Flame AAS	8.0	8.59	7.0	7741

Supp. 6

DOCUMEN

ARCHIVE

EPA

SN

	First Ed	First Edition		Second Edition	
Title	Section No.	Method No.	Section No.	Method No	
Selenium, Furnace AAS	8.0	8.59	7.0	774(	
Silver, Flame AAS	8.0	8.60	7.0	7760	
Silver, Furnace AAS	8.0	8.60	7.0	7761	
Organic, Analytical Methods	8.0	_	8.0		
Gas Chromatographic Methods	8.0		8.0	· –	
Halogenated Volatile Organics	8.0	8.01	8.1	8010	
Nonhalogenated Volatile Organics	8.0	8.01	8.1	8015	
Aromatic Volatile Organics	8.0	8.02	8.1	8020	
Acrolein, Acrylonitrile, Acetronitrile	8.0	8.03	8.1	8030	
Phenols	8.0	8.04	8.1	8040	
Phthalate Esters	8.0	8.06	8.1	8060	
Organochlorine Pesticides and PCBs	8.0	8.08	8.1	8080	
Nitroaromatics and Cyclic Ketones	8.0	8.09	8.1	8090	
Polynuclear Aromatic Hydrocarbons	8.0	8.10	8.1	8100	
Chlorinated Hydrocarbons	8.0	8.12	8.1	8120	
Organophosphorus Pesticides	8.0	8.22	8.1	8140	
Chlorinated Herbicides	8.0	8.40	8.1	8150	
Gas Chromatographic/Mass			• . •		
Spectroscopy Methods (GC/MS)	8.0		8.2		
GC/MS Volatiles	8.0	8.24	8.2	8240	
GC/MS Semi-Violatiles, Packed Column	8.0	8.25	8.2	8250	
GC/MS Semi-Violatiles, Capillary	8.0	8.27	8.2	8270	

				1	
		First Edition		Second Edition	
	Title	Section No.	Method No.	Section No.	Method No.
	Analysis of Chlorinated Dioxins	_	. · ·	8.2	8280
	and Dibenzofurans	· · · ·		•	
	High Performance Liquid	· 8.0	·	8.3	_
	Chromatographic Methods (HPLC)				
	Polynuclear Aromatic Hydrocarbons	8.0	8.10	8.3	8310
	Miscellaneous Analytical Methods	8.0	_	9.0	
	<b>Cyanide: Total and Amenable to Chlorination</b>	8.0	8.55	9.0	9010
	Total Organic Halogen (TOX)	8.0	8.66	9.0	9020
	Sulfides	8.0	8.67	9.0	9030
	pH Measurement	5.0	5.2	9.0	9040
	Quality Control/Quality Assurance	10.0	_	10.1	_
ρ.	Introduction	10.0	<u> </u>	10.1	-
7	Program Design	10.0	—	10.2	-
	Sampling	. 10.0		10.3	·
	Analysis	10.0	· <u> </u>	10.4	_
	Data Handling	10.0		10.5	

Controlled Hazardous Substances

26.13.02.22

Supp. 5

EPA Hazardous Waste Number	Hazardous Constituents For Which Listed	02.23
F001	tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorinated fluorocarbons, carbon tetrachloride	
F002	tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-dichlorobenzene, trichlorofluoromethane	EN
F003	N.A.*	/IRO
F004	cresols and cresylic acid, nitrobenzene	NME
F005	toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane	T
F006	cadmium, hexavalent chromium, nickel, cyanide (complexed)	
F007	cyanide (salts)	
F008	cyanide (salts)	
F009	cyanide (salts)	

# .23 Basis for Listing Hazardous Wastes.

DOCUME

ARCHIVE

EPA

U

EPA Hazardous Waste Number	Hazardous Constituents For Which Listed
F010	cyanide (salts)
F011	cyanide (salts)
F012	cyanide (complexed)
F014	cyanide (complexed)
F015	cyanide (salts)
F019	hexavalent chromium, cyanide (complexed)
F020	tetra- and pentachlorodibenzo-p-dioxins, tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts
F021	penta- and hexachlorodibenzo-p-dioxins, penta- and hexachlorodibenzofurans, pentachlorophenol and its derivatives
F022	tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans

CONTROLLED HAZARDOUS SUBSTANCES

Supp. 6

PA Hazardous Vaste Number	Hazardous Constituents For Which Listed	
F023	tetra-, and pentachlorodibenzo-p-dioxins, tetra- and pentachlorodibenzofurans, tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts	
F024	chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane,	
	1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1.3-butadiene, hexachloro-1.3-butadiene,	
	hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorobenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene,	. *.
	naphthalene	

.

ersecourt.

EPA Hazardous Waste Number

F025

F026

F027

Hazardous Constituents For Which Listed chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1,2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, benzene, chlorobenzene, dichlorobenzene, 1,2,4-trichlorobenzene, hexachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene

tetra-, penta-, and hexachlorodibenzo-p-dioxins, tetra-, penta-, and hexachlorodibenzofurans

tetra- and penta-, and hexachlorodibenzo-p-dioxins, tetra-, penta-, and hexachlorodibenzofurans, tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts

Waste Number	Hazardous Constituents For Which Listed
F028	tetra-, penta-, and hexachlorodibenzo-p-dioxins, tetra-, penta-, and hexachlorodibenzofurans, tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts
F032	benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chro- mium, tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans
F034	benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphtha- lene, arsenic, chromium
F035	arsenic, chromium, lead
F037	benzene, benzo(a)pyrene, chrysene, lead, chromium
F038	benzene, benzo(a)pyrene, chrysene, lead, chromium

Supp. 11

· /	Waste Number		Hazardous Constituents For Which Listed
	K001		pentachlorophenol, phenol, 2-chlorophenol,
			p-chioro-m-cresol, 2,4-annethylphenol, 2 4-dinitronhenol, trichloronhenols
			tetrachlorophenols, creosote, chrysene,
			naphthalene, fluoranthene, benzo(b)fluoranthene,
		•	benzo(a)pyrene, indeno(1,2,3-cd)pyrene,
			benz(a)anthracene, dibenz(a)anthracene, acenaphthalene
	K002	•	hexavalent chromium, lead
05 T	K003		hexavalent chromium, lead
-2	K004		hexavalent chromium
			(See page 952)
	•		
		• .	

26.13.02.23

	EPA Hazardous Waste Number
	K005
	K006
	K007
	K008
	K009
	K010
ΰ	
5 2	K011
	K013
	K014
	K015
	K016
	K017

	Hazardous Constituents For Which Listed
	hexavalent chromium, lead
	hexavalent chromium
	cyanide (complexed), hexavalent chromium
	hexavalent chromium
•	chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid
	chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde
	acrylonitrile, acetonitrile, hydrocyanic acid
· ·	hydrocyanic acid, acrylonitrile, acetonitrile
• • •	acetonitrile, acrylamide
•	benzyl chloride, chlorobenzene, toluene, benzotrichloride
	hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene
	epichlorohydrin, chloroethers, (bis(chloromethyl) ether and bis(2-chloroethyl) ethers), trichloropropane, dichloropropanols

26.13.02.23

**ARCHIVE DOCUMEN** EPA S

ŀ

processing and

See Training

EPA Hazardous Waste Number Hazardous Constituents For Which Listed 1.2-dichloroethane, trichloroethylene, K018 hexachlorobutadiene, hexachlorobenzene ethylene dichloride, 1.1.1-trichloroethane, K019 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride ethylene dichloride, 1,1,1-trichloroethane, K020 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride antimony, carbon tetrachloride, chloroform K021 phenol, tars (polycyclic aromatic hydrocarbons) K022 K023 phthalic anhydride, maleic anhydride K024 phthalic anhydride, 1,4-naphthoquinone K025 meta-dinitrobenzene, 2,4-dinitrotoluene K026 paraldehyde, pyridines, 2-picoline

953

26.13.02.23

CONTROLLED HAZARDOUS SUBSTANCES

EPA Hazardous Waste Number	Hazardous Constituents For Which Listed
K027	toluene diisocyanate, toluene-2,4-diamine,
K028	1,1,1-trichloroethane, vinyl chloride
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform
K030	hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride
K031	arsenic
K032	hexachlorocyclopentadiene
K033	hexachlorocyclopentadiene
K034	hexachlorocyclopentadiene
K035	creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)anthracene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene
K036	toluene, phosphorodithioic and phosphorothioic acid esters
K037	toluene, phosphorodithioic and phosphorothioic acid esters

26.13.02.23

ENVIRONMENT

n prosesses

EPA Hazardous Waste Number	Hazardous Constituents For Which Listed
K038	phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters
K039	phosphorodithioic and phosphorothioic acid esters
K040	phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters
K041	toxaphene
K042	hexachlorobenzene, ortho-dichlorobenzene
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol
K044	N.A.
K045	N.A.
K046	lead
K047	N.A.
K048	hexavalent chromium, lead
K049	hexavalent chromium, lead
K050	hexavalent chromium
K051	hexavalent chromium, lead
K052	lead

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.23

EPA Hazardous Waste Number	Hazordous Constituents For Which Listed	26.13.
K060	cyanide, naphthalene, phenolic compounds, arsenic	02.2
K061	hexavalent chromium, lead, cadmium	3
K062	hexavalent chromium, lead	
K064	lead, cadmium	
K065	lead, cadmium	
K066	lead, cadmium	
K067	lead, cadmium	មិ
K068	lead, cadmium	IVIE
K069	hexavalent chromium, lead, cadmium	ION
K071	mercury	MEN
K073	chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane	-J
K083	aniline, nitrobenzene, diphenylamine, phenylenediamine	
K084	arsenic	
K085	benzene, dichlorobenzenes, trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, benzyl chloride	

New York of the local data

Supp. 4

DOCUMEN

ARCHIVE

EР

**S** 

95	
-1	

EPA Hazardous Waste Number	Hazardous Constituents For Which Listed	
K086	hexavalent chromium, lead	
K087	phenol, naphthalene	
K088	cyanide (complexes)	~
K090	chromium	NO
K091	chromium	FROI
K093	phthalic anhydride, maleic anhydride	LED
K094	phthalic anhydride	HA
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetra- chloroethane	ZARDOU
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane	S S
K097	chlordane, heptachlor	UBSJ
K098	toxaphene	TANC
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol	ES
K100	hexavalent chromium, lead, cadmium	
K101	arsenic	26.
K103	aniline, nitrobenzene, phenylenediamine	13.02.23

EPA Hazardous Waste Number		Hazardous Constituents For Which Listed	
K104		aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine	
K105		benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol	
K106		mercury	
K107		1,1-dimethylhydrazine (UDMH)	. · .
K108		1,1-dimethylhydrazine (UDMH)	ţ
K109		1,1-dimethylhydrazine (UDMH)	
K110		1,1-dimethylhydrazine (UDMH)	
K111		2,4-dinitrotoluene	
K112		2,4-toluenediamine, o-toluidine, p-toluidine, aniline	
K113		2,4-toluenediamine, o-toluidine, p-toluidine, aniline	
K114		2,4-toluenediamine, o-toluidine, p-toluidine	
K115		2,4-toluenediamine	•
K116	e V	carbon tetrachloride, tetrachloroethylene, chloroform, phosgene	
K117		ethylene dibromide	

Supp. 6

And the second second



EPA Hazardous Waste Number

K118

K122

K123

K124

K125

K126

K131

K132

K133

K134

K136

K141

K142

K143

K144

Hazardous Constituents For Which Listed		
ethylene dibromide		
aniline		
ethylene thiourea		
dimethyl sulfate, methyl bromide		
methyl bromide		
aniline, benzene		
aniline, diphenylamine, quinoline		
ethylene dibromide		
Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene		
Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene		
Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene		
Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene		

958-1

CONTROLLED HAZARDOUS SUBSTANCES

958-2

Supp. 9

EPA Hazardous Waste Number	Hazardous Constituents For Which Listed
K145	Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene
K147	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
K148	Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene

(See page 959)

Environment

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.24

### .24 Hazardous Constituents.

Acetaldehyde (Acetato) phenylmercury Acetonitrile 3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts 2-Acetylaminofluorene Acetyl chloride 1-Acetyl-2-thiourea Acrolein Acrylamide Acrylamide Aflatoxins Aldrin

Allyl alcohol

Allyl chloride

Aluminum phosphide

4-Aminobiphenyl

6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methylcarbamate azirino (2',3':3,4) pyrrolo (1,2-a) indole-4,7-dione (ester)

(Mitomycin C)

2-Amino-1-methylbenzene (o-toluidine)

4-Amino-1-methylbenzene (p-toluidine)

5-(Aminomethyl)-3-isoxazolol

4-Aminopyridine

Amitrole Aniline

Antimony and compounds, N.O.S.\*

Aramite

Arsenic and compounds, N.O.S.

Arsenic acid

Arsenic pentoxide

Arsenic trioxide

Auramine

Azaserine

Barium and compounds, N.O.S.

Barium cyanide

Benz(c)acridine Benz(a)anthracene

Benzene

\* The abbreviation N.O.S. signifies those members of the general class "not otherwise specified" by name in this listing.

EPA ARCHIVE DOCUMENT
26.13.02.24

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

Benzenearsonic acid Benzenethiol Benzidine Benzo(a)anthracene Benzo(b)fluoranthene Benzo(j)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Benzotrichloride Benzyl chloride Beryllium and compounds, N.O.S. Bis(2-chloroethoxy)methane Bis(2-chloroethyl) ether N-N,Bis(2-chloroethyl)-2-naphthylamine Bis(2-chloroisopropyl) ether Bis(chloromethyl) ether Bis(2-ethylhexyl) phthalate Bromoacetone Bromomethane 4-Bromophenyl phenyl ether Brucine 2-Butanone peroxide Butyl benzyl phthalate 2-sec-Butyl-4,6-dinitrophenol (DNBP) Cadmium and compounds, N.O.S. Calcium chromate Calcium cyanide Carbon disulfide Chlorambucil Chlordane (alpha and gamma isomers) Chlorinated benzenes, N.O.S. Chlorinated ethane, N.O.S. Chlorinated naphthalene, N.O.S. Chlorinated phenol, N.O.S. Chloroacetaldehyde Chloroalkyl ethers p-Chloroaniline Chlorobenzene Chlorobenzilate 1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid

p-Chloro-m-cresol

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.24

2-Chloro-1,3-butadiene (chloroprene) 1-Chloro-2,3-epoxybutane 2-Chloroethyl vinyl ether Chloroform Chloromethane Chloromethyl methyl ether 2-Chloronaphthalene 2-Chlorophenol 1-(o-Chlorophenyl)thiourea 3-Chloropropene (allyl chloride) 3-Chloropropionitrile alpha-Chlorotoluene Chromium and compounds, N.O.S. Chrysene Citrus red No. 2 Copper cyanide Creosote Crotonaldehyde Cyanides (soluble salts and complexes), N.O.S. Cyanogen Cyanogen bromide Cyanogen chloride Cycasin 2-Cyclohexyl-4,6-dinitrophenol Cyclophosphamide Daunomycin DDD DDE DDT Diallate Dibenz(a,h)acridine Dibenz(a,j)acridine Dibenz(a,h)anthracene (Dibenzo(a,h)anthracene) 7H-Dibenzo(c,g)carbazole Dibenzo(a,e)pyrene Dibenzo(a,h)pyrene Dibenzo(a,i)pyrene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane Dibromomethane

## 26.13.02.24

## ENVIRONMENT

- Di-n-butyl phthalate
- Dichlorobenzene, N.O.S.
- 3,3'-Dichlorobenzidine
- 1,1-Dichloroethane
- 1,2-Dichloroethane
- trans-1,2-Dichloroethene
  - Dichloroethylene, N.O.S.
  - 1,1-Dichloroethylene
    - Dichloromethane
  - 2,4-Dichlorophenol
  - 2,6-Dichlorophenol
  - 2,4-Dichlorophenoxyacetic acid (2,4-D) Dichlorophenylarsine
  - Dichloropropane 1,2-Dichloropropane
    - Dichloropropanol, N.O.S.
    - Dichloropropene, N.O.S.
  - 1,3-Dichloropropene
    - Dieldrin
    - Diepoxybutane
    - Diethylarsine
  - O,O-Diethyl-S-(2-ethylthio)ethyl ester of phosphorothioic acid
  - 1,2-Diethylhydrazine
  - 0,0-Diethyl-S-methyl ester phosphorodithioic acid
  - O,O-Diethylphosphoric acid, O-p-nitrophenyl ester Diethyl phthalate
  - O,O-Diethyl-O-(2-pyrazinyl)phosphorothioate
    - Diethylstilbestrol
    - Dihydrosafrole

3,4-Dihydroxy-alpha-(methylamino)-methyl benzyl alcohol

Di-isopropylfluorophosphate (DFP)

Dimethoate

3,3'-Dimethoxybenzidine

- p-Dimethylaminoazobenzene
- 7,12-Dimethylbenz(a)anthracene

3,3'-Dimethylbenzidine

- Dimethylcarbamoyl chloride
- 1,1-Dimethylhydrazine
- 1,2-Dimethylhydrazine

ALL CONTRACTOR

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.24

3,3-Dimethyl-1-(methylthio)-2-butanone-O-((methylamino) carbonyl) oxime Dimethylnitrosamine

alpha, alpha-Dimethylphenethylamine

2,4-Dimethylphenol

Dimethyl phthalate

Dimethyl sulfate

Dinitrobenzene, N.O.S.

4,6-Dinitro-o-cresol and salts

2,4-Dinitrophenol

2,4-Dinitrotoluene

2,6-Dinitrotoluene

Di-n-octyl phthalate

1,4-Dioxane

Diphenylamine

1,2-Diphenylhydrazine

Di-n-propylnitrosamine

Disulfoton

2,4-Dithiobiuret

Endosulfan

Endrin and metabolites

Epichlorohydrin

Ethyl cyanide

Ethylene diamine

Ethylenebisdithiocarbamate (EBDC)

Ethyleneimine

Ethylene oxide

Ethylenethiourea Ethyl methanesulfonate

Fluoranthene

Fluorine

2-Fluoroacetamide

Fluoroacetic acid, sodium salt

Formaldehyde

Glycidylaldehyde

Halomethane, N.O.S.

Heptachlor

Heptachlor epoxide (alpha, beta, and gamma iso-

mers)

Heptachlorodibenzofurans

EPA ARCHIVE DOCUMENT

26.13.02.24

**JS EPA ARCHIVE DOCUMENT** 

### ENVIRONMENT

Heptachlorodibenzo-p-dioxins Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclohexane (all isomers) Hexachlorocyclopentadiene Hexachlorodibenzo-p-dioxins Hexachlorodibenzofurans Hexachloroethane 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4: 5,8-endo,endo-dimethanonaphthalene Hexachlorophene Hexachloropropene Hexaethyl tetraphosphate Hydrazine Hydrocyanic acid Hydrogen sulfide Indeno(1,2,3-c,d)pyrene Iodomethane Isocyanic acid, methyl ester Isosafrole Kepone Lasiocarpine Lead and compounds, N.O.S. Lead acetate Lead phosphate Lead subacetate Maleic anhydride Malononitrile Melphalan Mercury and compounds, N.O.S. Methapyrilene · Methomyl 2-Methylaziridine 3-Methylcholanthrene 4,4'-Methylene-bis-(2-chloroaniline) Methyl ethyl ketone (MEK) Methyl hydrazine 2-Methyllactonitrile

Methyl methacrylate Methyl methanesulfonate

964

Supp. 11

in the second second

CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.24

2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime

N-Methyl-N'-nitro-N-nitrosoguanidine

Methyl parathion

Methylthiouracil

Mustard gas

Naphthalene

1,4-Naphthoquinone

1-Naphthylamine

2-Naphthylamine

1-Naphthyl-2-thiourea

Nickel and compounds, N.O.S.

Nickel carbonyl

Nickel cyanide

Nicotine and salts

Nitric oxide

p-Nitroaniline

Nitrobenzene

Nitrogen dioxide

Nitrogen mustard and hydrochloride salt

Nitrogen mustard N-oxide and hydrochloride salt Nitrogen peroxide

Nitrogen tetroxide

Nitroglycerin

5-Nitro-o-toluidine

4-Nitrophenol

4-Nitroquinoline-1-oxide Nitrosamine, N.O.S.

N-Nitrosodiethanolamine

N-Nitrosodiethylamine

N-Nitrosodimethylamine

N-Nitrosodi-N-butylamine

N-Nitrosodi-N-propylamine

N-Nitrosodiphenylamine

N-Nitrosomethylethylamine

N-Nitrosomethylvinylamine

N-Nitrosomorpholine

N-Nitroso-N-ethylurea N-Nitroso-N-methylurea

N-Nitroso-N-methylurethane

N-Nitrosonornicotine

N-Nitrosopiperidine

Supp. 11

EPA ARCHIVE DOCUMENT

EPA ARCHIVE DOCUMENT

## ENVIRONMENT

N-Nitrosopyrrolidine

N-Nitrososarcosine

Octamethylpyrophosphoramide

Oleyl alcohol condensed with 2 moles ethylene oxide Osmium tetroxide

 $7\mbox{-}Oxabicyclo(2.2.1) heptane-2, 3\mbox{-}dicarboxylic\ acid$ 

Parathion

Pentachlorobenzene

Pentachlorodibenzo-p-dioxins

Pentachlorodibenzofurans

Pentachloroethane

Pentachloronitrobenzene (PCNB)

Pentachlorophenol

Phenacetin

Phenol

Phenyl dichloroarsine

Phenylenediamine

Phenylmercury acetate

N-Phenylthiourea

Phosgene

Phosphine

Phosphorothioic acid, O,O-dimethyl ester, O-ester with N,N-dimethyl benzene sulfonamide

Phthalic acid esters, N.O.S.

Phthalic anhydride

Polychlorinated biphenyl, N.O.S.

Potassium cyanide

Potassium pentachlorophenate

Potassium silver cyanide

Pronamide

- 1,2-Propanediol
- 1,3-Propane sultone Propionitrile Propylthiouracil
  - 2-Propyn-1-ol Pyridine Quinoline (1-Azanaphthalene) Reserpine Saccharin
    - Safrole

Selenious acid

966

Supp. 11

And a second second

CONTROLLED HAZARDOUS SUBSTANCES

Selenium and compounds, N.O.S.

Silver and compounds, N.O.S.

Selenium sulfide Selenourea

26.13.02.24

Silver cyanide Sodium cyanide Sodium pentachlorophenate Streptozotocin Strychnine and salts 1,2,4,5-Tetrachlorobenzene 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Tetrachlorodibenzo-p-dioxins Tetrachlorodibenzofurans Tetrachloroethane, N.O.S. 1,1,1,2-Tetrachloroethane Tetrachloromethane 2,3,4,6-Tetrachlorophenol 2,3,4,6-Tetrachlorophenol, potassium salt 2,3,4,6-Tetrachlorophenol, sodium salt Tetraethyldithiopyrophosphate Tetraethyl lead Tetraethylpyrophosphate Thallium and compounds, N.O.S.

1,1,2,2-Tetrachloroethane

Tetrachloroethene (tetrachloroethylene)

Thallic oxide Thallium (I) acetate Thallium (I) carbonate Thallium (I) chloride Thallium (I) nitrate Thallium selenite Thallium (I) sulfate Thioacetamide Thiosemicarbazide Thiourea Thiuram Toluene Toluenediamine, N.O.S. 2.4-Toluenediamine 2,6-Toluenediamine 3,4-Toluenediamine o-Toluidine hydrochloride

Supp 11

EPA ARCHIVE DOCUMENT

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

- Tolylene diisocyanate
- Toxaphene
- Tribromomethane
- 1,2,4-Trichlorobenzene
- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
  - Trichloroethene (trichloroethylene) Trichloromethanethiol
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol
- 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)
- 2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex)
  - Trichloropropane, N.O.S.
- 1,2,3-Trichloropropane
- O,O,O-Triethyl phosphorothioate
  - Trinitrobenzene
  - Tris(1-aziridinyl)phosphine sulfide Tris(2,3-dibromopropyl) phosphate Trypan blue Uracil mustard Urethane
  - Vanadic acid, ammonium salt Vanadium pentoxide (dust) Vinyl chloride
  - Vinylidene chloride
  - Zinc cyanide Zinc phosphide
- .25 Incorporation by Reference.

A. Appendix X of 40 CFR 261, promulgated as of July 1, 1995, is incorporated by reference.

B. Method 1311—Toxicity Characteristic Leaching Procedure (TCLP), Appendix II of 40 CFR 261, promulgated as of July 1, 1995, is incorporated by reference.

C. Appendix IX Ground Water Monitoring List of 40 CFR 264, promulgated as of July 1, 1995, is incorporated by reference.

968

## .26 Wastes Excluded Under COMAR 26.13.01.04A and C.

Liquids and residues from the chemical decontamination of the chemical warfare agents (chemical surety materials) known by the common names listed in §§A and B and located at the facilities indicated in §§A and B are excluded from Regulations .17 and .18 of this chapter when the chemical decontamination has been conducted according to the protocol presented in §4.2 of the report "To Support the Delisting of Decontaminated Liquid Chemical Surety Materials as Hazardous Waste from Specific Sources COMAR 26.13.02.17 and 26.13.02.18, K991—K999 and Residues from K991—K999" (U.S. Army Chemical Research, Development and Engineering Center, Aberdeen Proving Ground, Maryland, 1988), which is incorporated by reference:

(See page 969)

**US EPA ARCHIVE DOCUMENT** 

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.02.26

A. U.S. Army Aberdeen Proving Ground/U.S. Army Chemical Research, Development and Engineering Center, and U.S. Army Product Assurance Directorate, Aberdeen Proving Ground, MD:

(1) GA (State hazardous waste code K991);

- (2) GB (State hazardous waste code K992);
- (3) GD (State hazardous waste code K993);
- (4) VX (State hazardous waste code K994);
- (5) L and Lewisite (State hazardous waste code K995);
- (6) HD (State hazardous waste code K997).

B. U.S. Army Aberdeen Proving Ground/Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD:

- (1) GA (State hazardous waste code K991);
- (2) GB (State hazardous waste code K992);
- (3) GD (State hazardous waste code K993);
- (4) VX (State hazardous waste code K994);
- (5) L and Lewisite (State hazardous waste code K995);
- (6) HD (State hazardous waste code K997).

#### Administrative History

#### Effective date:

Regulations .01 — .17 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642)
Regulations .02C, F; .04A, B, D; .05D, .06B, .15, .16, and .17E. F amended, .05F adopted, and .07C repealed effective February 13, 1984 (11:3 Md. R. 202)

Regulations .02F, .03A. .06B, .13B, .14, .15, .17E - F and Appendices IV and V amended, and .05G adopted effective July 30, 1984 (11:5 Md. R. 1330)

Regulations .02F, .04D, .07C, and .16-1 adopted effective January 31, 1983 (10:2 Md. R. 110)

Regulations .03A, .04A and B, .07A and B, .10A, .11A, .12A, and .17F amended effective January 31, 1983 (10:2 Md. R. 110)

Regulations .04, .05C, .06B, .15, .16, .17E, F, and Appendix IV amended effective January 18, 1982 (9:1 Md. R. 20)

Regulation .05A, B amended effective August 12, 1985 (12:16 Md. R. 1607)

Regulation .16 amended as an emergency provision effective January 13, 1987 (14:3 Md. R. 269); emergency status expired June 29, 1987; adopted permanently effective July 12, 1987 (14:14 Md. R. 1573)

Regulation .16-1 amended as an emergency provision effective January 13, 1987 (14:3 Md. R. 269); emergency status expired June 29, 1987; adopted permanently effective July 12, 1987 (14:14 Md. R. 1573)

#### ENVIRONMENT

EPA ARCHIVE DOCUMENT

Annotation: COMAR 10.51.02 cited in Thomas v. State of Maryland, 62 Md. App. 160 (1985)

Regulation .01 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .02A—F repealed, and new A—G adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .03C amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .04A, B amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .05A—F amended, and G repealed effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .06 repealed and new Regulation .06 adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .06-1 adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .14E amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .15 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .16 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .16-1 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .17 amended effective April 18, 1988 (15:8 Md. R. 1009)

Appendices III, IV, and V amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .06-1 recodified to Regulation .07

Regulations .07-.16 recodified to Regulations .08-.17

Regulation .16-1 recodified to Regulation .18

Regulation .17A—E recodified to Regulation .19A—E

Regulation .17E-1, F, and G recodified to Regulation .19F, G, and H

Appendices I—VI codified as Regulations .20—.25

Chapter recodified from COMAR 10.51.02 to COMAR 26.13.02

Regulation .01C amended effective December 23, 1991 (18:25 Md. R. 2759); May 24, 1993 (20:10 Md. R. 853)

Regulation .02A amended effective August 28, 1995 (22:17 Md. R. 1321)

Regulation .02A and G amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .02C amended effective May 24, 1993 (20:10 Md. R. 853)

Regulation .03A amended effective December 23, 1991 (18:25 Md. R. 2759); September 7, 1998 (25:18 Md. R. 1438)

Regulation .04 amended and recodified to Regulations .04 and .04-1-.04-3 effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .04A amended effective May 24, 1993 (20:10 Md. R. 853); August 28, 1995 (22:17 Md. R. 1321); September 10, 1997 (24:5 Md. R. 413)

Regulations .04-1 amended effective April 11, 1994 (21:7 Md. R. 533); September 7, 1998 (25:18 Md. R. 1438)

Regulations .04-4 and .04-5 adopted effective December 23, 1991 (18:25 Md. R. 2759) Regulation .04-4B amended effective May 5, 1997 (24:9 Md. R. 659)

Regulation .05B amended effective September 10, 1997 (24:5 Md. R. 413)

Regulation .05C amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .05D amended effective May 24, 1993 (20:10 Md. R. 853); May 8, 1995 (22:9 Md. R. 648)

Regulation .05E amended effective September 7, 1998 (25:18 Md. R. 1438) Regulation .06 amended effective December 23, 1991 (18:25 Md. R. 2759)

970

26.13.02.26

Regulation .06A amended effective May 24, 1993 (20:10 Md. R. 853); August 28, 1995 (22:17 Md. R. 1321); September 10, 1997 (24:5 Md. R. 413); September 7, 1998 (25:18 Md. R. 1438)

Regulation .06D adopted effective August 28, 1995 (22:17 Md. R. 1321)

Regulation .09A amended effective April 11, 1994 (21:7 Md. R. 533)

Regulation .10A amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .14 repealed and new Regulation .14 adopted effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .15B and C amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .16 amended effective December 23, 1991 (18:25 Md. R. 2759); May 24, 1993 (20:10 Md. R. 853); April 11, 1994 (21:7 Md. R. 533); September 10, 1997 (24:5 Md. R. 413)

Regulation .17 amended effective June 10, 1992 (18:25 Md. R. 2759); April 11, 1994 (21:7 Md. R. 533); August 28, 1995 (22:17 Md. R. 1321)

Regulation .18 amended effective March 6, 1989 (16:4 Md. R. 498)

Regulation .19 amended effective December 23, 1991 (18:25 Md. R. 2759); May 24, 1993 (20:10 Md. R. 853); April 11, 1994 (21:7 Md. R. 533)

Regulation .22 amended effective May 24, 1993 (20:10 Md. R. 853); April 11, 1994 (21:7 Md. R. 533); September 10, 1997 (24:5 Md. R. 413)

Regulation .23 amended effective December 23, 1991 (18:25 Md. R. 2759); April 11, 1994 (21:7 Md. R. 533); August 28, 1995 (22:17 Md. R. 1321); September 10, 1997 (24:5 Md. R. 413)

Regulation .24 amended effective April 11, 1994 (21:7 Md. R. 533); September 10, 1997 (24:5 Md. R. 413)

Regulation .25 amended effective December 23, 1991 (18:25 Md. R. 2759); April 11, 1994 (21:7 Md. R. 533); September 10, 1997 (24:5 Md. R. 413)

Regulation .26 adopted effective March 6, 1989 (16:4 Md. R. 498)

970-1

## Title 26 DEPARTMENT OF THE ENVIRONMENT

## Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

## Chapter 03 Standards Applicable to Generators of Hazardous Waste

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

#### .01 Purpose, Scope, and Applicability.

A. These regulations establish standards for generators of hazardous waste.

B. A generator who treats, stores, or disposes of hazardous wastes on-site shall only comply with the following sections of this chapter with regards to that waste:

(1) Regulation .02 of this chapter for determining whether or not he has a hazardous waste;

(2) Regulation .03 for obtaining an identification number;

(3) Regulation .06A(3) and (4) for record keeping;

(4) Regulation .06D for additional reporting;

(5) If applicable, Regulation .07-4 of this chapter for farmers; and

(6) Regulation .05E for accumulation time.

C. Any person who imports foreign hazardous waste into the State shall comply with the standards applicable to generators established in this chapter.

D. A farmer who generates waste pesticides which are hazardous wastes and who complies with all of the requirements of Regulation .07-4 of this chapter is not required to comply with other standards in this chapter or COMAR 26.13.05 or 26.13.07 with respect to these pesticides.

E. A person who generates a hazardous waste as defined by COMAR 26.13.02 is subject to the compliance requirements and penalties prescribed in the Environment Article, §7-206 inclusive, Annotated Code of Maryland, if he does not comply with the requirements of this chapter.

## 26.13.03.02

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

Agency Note: A generator who treats, stores, or disposes of hazardous waste on-site shall comply with the applicable standards and permit requirements set forth in COMAR 26.13.05 and COMAR 26.13.07.

F. An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility shall comply with the generator standards established in this chapter.

G. Regulation by Reference. Reference to 49 CFR in this chapter is to 49 CFR as it has been adopted as of July 1, 1990.

H. A generator subject to regulation under this chapter shall also comply with the "Emergency Procedures" requirements of COMAR 26.13.05.04G(4).

I. A generator subject to regulation under this chapter shall follow the notification requirements of Section 3010 of RCRA.

#### .02 Hazardous Waste Determination

A person who generates a solid waste, as defined in COMAR 26.13.02.02, shall determine if that waste is a hazardous waste using the following method:

A. The person should first determine if the waste is excluded from regulation under COMAR 26.13.02.04-.04-5.

B. The person shall then determine if the waste is listed as a hazardous waste in COMAR 26.13.02.15 - .19.

Agency Note: Even if the waste is listed, the generator still has an opportunity under COMAR 26.13.02.09A(3) to demonstrate to the Secretary that the waste from his particular facility or operation is not a hazardous waste.

C. If the waste is not listed as a hazardous waste in COMAR 26.13.02.15—.19, the person shall determine whether the waste is identified by either:

(1) Testing the waste according to the methods set forth in COMAR 26.13.02.10—.14, or according to an equivalent method approved by the Secretary under COMAR 26.13.01.04B; or

(2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

#### .03 EPA Identification Numbers.

A. A generator may not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Secretary.

B. A generator who has not received an EPA identification number may obtain one by applying to the Secretary using EPA Form 8700-12. Upon receiving the request the Secretary will assign an identification number to the generator.

C. A generator may not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number.

#### .04 The Manifest.

A. General Requirements.

(1) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal shall prepare an approved manifest (OMB control number 2050-0039) on EPA Form 8700-22, and, if necessary, EPA Form 8700-22A, according to the instructions included on the form before transporting the waste offsite.

(2) A generator shall designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(3) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste if an emergency prevents delivery of the waste to the primary designated facility.

(4) A generator whose manifest for an interstate shipment has not been returned to the generator within the prescribed time (30 days) shall give notice of that to the State in which the designated facility is located, the State in which the shipment may have been delivered (or to the EPA in the case of an unauthorized State) and to the Department.

(5) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator shall either designate another facility or instruct the transporter to return the waste.

B. Acquisition of Manifests.

(1) If the state to which the shipment is manifested (consignment state) supplies the manifest and requires its use, then the generator shall use that manifest.

(2) If the consignment state does not supply the manifests, but the state in which the generator is located (generator state) supplies the manifest and requires its use, then the generator shall use that state's manifest.

## 26.13.03.04

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(3) If neither the generator state nor the consignment state supplies the manifest, then the generator may obtain the manifest from any source.

C. Required Information.

(1) The manifest shall contain all of the following information:

(a) A manifest document number;

(b) The generator's name, mailing address, telephone number, and EPA identification number;

(c) The name and EPA identification number of each transporter;

(d) The name, address, and EPA identification number of the designated facility and an alternate facility, if any;

(e) The description of the waste (for example, proper shipping name, etc.) required by regulations of the U. S. Department of Transportation in 49 CFR §§172.101, 172.202, and 172.203;

(f) The total quantity of each hazardous waste by units of weights or volume, and the type and number of containers as loaded into or onto the transport vehicle.

(2) The following certification shall appear on the manifests: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and Maryland statutes or regulations."

D. Number and Distribution of Copies.

(1) The manifest consists of eight copies so that copies can be distributed as described in D(2) of this regulation.

(2) Manifest copies shall be distributed as follows:

(a) The generator shall retain one copy, in accordance with Regulation .06A(1) of this chapter;

(b) Each transporter shall retain one copy in accordance with COMAR 26.13.04.02C, reproducing the preprinted form if necessary;

(c) The designated facility shall retain one copy in accordance with COMAR 26.13.05.05B;

## Controlled Hazardous Substances 26.13.03.04

(d) The designated facility shall forward one copy each to the generator, generator state, and consignment state in accordance with COMAR 26.13.05.05B;

(e) The generator shall forward one copy each to the generator state and the consignment state in accordance with E(1) and (2) of this regulation.

E. Use of the Manifest.

(1) The generator shall:

(a) Sign the manifest certification by hand;

(b) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest;

(c) Retain one copy, in accordance with Regulation .06A(1); and

(d) Provide to the Department a copy of that portion of the manifest describing the characteristics of the waste immediately upon shipment of all hazardous waste from a source within the State or which is destined for a facility within the State.

(2) The generator shall forward one copy of the manifest to the consignment state.

(3) The generator shall give the transporter the remaining copies of the manifest.

(4) For shipment of hazardous waste within the United States solely by water (bulk shipments only), the generator shall send three copies of the manifest dated and signed in accordance with this regulation to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(5) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator shall send at least three copies of the manifest dated and signed in accordance with this section to the:

(a) Next nonrail transporter, if any;

(b) Designated facility if transported solely by rail; or

(c) Last rail transporter to handle the waste in the United States if exported by rail.

## 26.13.03.05

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

F. Supplemental Information. When the following information is not included on the manifest a generator shall forward to the Department within 5 days the:

(1) Manifest document number;

(2) Generator's ID number;

(3) Transporter's ID number (vehicle certification number), hauler's certification number, and driver certification number;

(4) Transporter's telephone number;

(5) Second transporter's ID number (if applicable);

(6) Second transporter's telephone number;

(7) Facility's ID number;

(8) Facility's telephone number;

(9) EPA or State hazardous waste number;

(10) EPA hazard codes;

(11) Physical state of waste;

(12) Constituent percentages;

(13) Chemical names;

(14) Handling codes; and

(15) Other information that may be required.

G. Manifests shall include the following certification, signed by the generator: "Unless I am a generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment."

#### .05 Pretransport Requirements.

A. Packaging. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR 173, 178, and 179.

B. Labeling. Before transporting or offering hazardous waste for transportation off-site, a generator shall label each package in accordance with the applicable Department of Transportation regulations on hazardous materials, under 49 CFR 172.

C. Marking.

(1) Before transporting or offering hazardous waste for transportation off-site, a generator shall mark each package of hazardous waste in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR 172.

Agency Note: See COMAR 26.13.04.02A(5) or (6) for special provisions for rail or water (bulk shipment) transporters who deliver hazardous waste by rail or water to the designated facility.

(2) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall mark each container of 110 gallons or less used in the transportation with the following words and information displayed in accordance with the requirements of 49 CFR §172.304:

> "HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U. S. Environmental Protection Agency, or Maryland Department of the Environment.

Generator's Name and Address

Manifest Document Number

D. Placarding. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR Part 172, Subpart F.

E. Accumulation Time.

(1) A generator may accumulate hazardous waste on-site without a permit for 90 days or less if:

(a) The waste is shipped off-site within 90 days to a permitted facility or placed in an on-site permitted facility;

(b) The generator accumulates the waste:

(i) In containers,

(ii) In tanks, or

(iii) On drip pads, if the waste is drippage from a wood-preserving process, precipitation, or surface water run-on;

#### ENVIRONMENT

(c) Containers used to accumulate the waste meet the standards of §A of this regulation;

(d) The generator accumulates the waste in containers in accordance with COMAR 26.13.05.09;

(e) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

(f) Each container is properly labeled and marked according to §§B and C of this regulation;

(g) The generator complies with the requirements for owners or operators in COMAR 26.13.05.02G, .03, and .04;

(h) The generator, in accumulating waste in tanks:

(i) Complies with the requirements of COMAR 26.13.05.10—.10-3, .10-6, and .10-7, except for COMAR 26.13.05.10B, 26.13.05.10-3A, and 26.13.05.10-7D,

(ii) Complies with the requirements of COMAR 26.13.05.10-4, except that the generator may not seek a variance from the requirements of COMAR 26.13.05.10-4 under the provisions of COMAR 26.13.05.10-5, and

(iii) Inspects overfill controls at least once each operating day;

(i) The generator, if accumulating hazardous waste in tanks, submits the following information to the Secretary for each tank exempted from permit requirements under this section:

(i) Date of installation of the tank, or, if the date of installation is unknown, the age of the facility,

(ii) Tank capacity,

**JS EPA ARCHIVE DOCUMENT** 

(iii) Secondary containment capacity,

(iv) Whether the tank is an above-ground tank, on-ground tank, in-ground tank, or underground tank,

(v) For underground tanks, whether the tank can be entered for inspection, and

(vi) Waste code of each waste managed in the tank;

(j) The generator provides the information required by E(1)(i) of this regulation by the following deadlines:

(i) For existing tanks, by January 1, 1994,

(ii) For new tanks, before the tank is used to manage hazardous waste;

(k) The generator maintains an inspection log or summary in accordance with the following:

(i) The log or summary documents inspections performed in accordance with E(1)(d) and (h) of this regulation,

(ii) The log or summary includes the date and time of each inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs made or other remedial actions taken, and

(iii) The generator keeps the log on file for a minimum of 3 years from the date of inspection; and

(l) The generator, if accumulating waste on drip pads:

(i) Accumulates the waste in accordance with COMAR 26.13.05.17-1-.17-4,

(ii) Maintains, at the facility, a description of procedures that are followed to ensure that all wastes are removed from the drip pad, the sump, and the collection system at least once every 90 days,

(iii) Maintains documentation at the facility, for each waste removal, of the date, the time, and the quantity of waste removed from the drip pad, the sump, and the collection system, and

(iv) Notifies the Secretary of the intent to close a drip pad at least 45 days before closure begins.

(2) A generator who accumulates hazardous waste is an operator of a storage facility and is subject to the requirements of COMAR 26.13.05, unless the hazardous waste:

(a) Is accumulated for 90 days or less; or

(b) Accumulated is less than 500 kilograms, contains less than 1 kilogram of acute hazardous waste, and is accumulated for 180 days or less from the date of initial generation or accumulation.

(3) Satellite Accumulation. A generator may accumulate as much as 55 gallons of hazardous waste or 1 quart of acutely hazardous waste

## (See page 978)

#### 26.13.03.06

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

listed in COMAR 26.13.02.19E in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit and without complying with E(1) provided the generator:

(a) Complies with COMAR 26.13.05.09B-D; and

(b) Marks his containers either with the words "Hazardous Waste" or with other words that identify the contents of the containers.

#### .06 Record Keeping and Reporting.

A. Record Keeping.

(1) A generator shall keep a copy of each manifest signed in accordance with Regulation .04A(1) for 3 years or until he receives a signed copy from the designated facility which received the waste. This signed copy shall be retained as a record for at least 3 years from the date the waste was accepted by the initial transporter.

(2) A generator shall keep a copy of each annual report or biennial report required under §B of this regulation, and each exception report required under §C of this regulation, for a period of at least 3 years from the due date of the report, or the date the report was submitted, whichever is later.

(3) A generator shall keep records of any test results, waste analyses, or other determinations made in accordance with Regulation .02 of this chapter for at least 3 years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(4) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Secretary.

B. Annual or Biennial Reporting.

(1) A person who generates hazardous waste and ships it off-site to a facility within the United States shall:

(a) Periodically, submit reports to the Secretary concerning hazardous waste generated during the preceding calendar year on EPA or State Form 8700-13A, or on an alternate form provided by the Secretary;

(b) Submit the reports required by B(1)(a) of this regulation with the following frequency:

## Controlled Hazardous Substances 26.13.03.06

(i) Annually, for reporting periods through December 31, 1995, and

(ii) Biennially, for reporting periods beginning January 1, 1997;

(c) Submit the reports required by B(1)(a) of this regulation not later than:

(i) March 1 of the following year for reporting periods through December 31, 1995, and

(ii) March 1 of each even numbered year for the preceding calendar year for reporting periods beginning January 1, 1997; and

(d) Assure that the reports required by B(1)(a) of this regulation contain, at a minimum, the following information:

(i) The EPA identification number, name, and address of the generator,

(ii) The calendar year covered by the report,

(iii) The EPA identification number, name, and address for each off-site treatment, storage, or disposal facility in the United States to which waste was shipped during the year,

(iv) The name and EPA identification number of each transporter used during the reporting year for shipments to a treatment, storage, or disposal facility within the United States,

(v) For shipments of hazardous waste to a treatment, storage, or disposal facility within the United States, the description, the EPA or State hazardous waste number from COMAR 26.13.02, the DOT hazard class, and the quantity of each hazardous waste listed by the EPA identification number of each off-site facility to which waste was shipped,

(vi) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated,

(vii) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available, and

(viii) The certification on EPA or State Form 8700-13A signed by the generator or authorized representative.

(2) A generator who treats, stores, or disposes of hazardous waste on-site shall submit an annual or biennial report covering those

Supp. 10

## 26.13.03.06

#### ENVIRONMENT

wastes in accordance with the provisions of COMAR 26.13.05.05F and 26.13.07.15E(3).

(3) Information on exports of hazardous waste is not required to be included in the report required by B(1) and (2) of this regulation. Instead, exporters of hazardous waste shall comply with the annual reporting requirements of Regulation .07-2C of this chapter.

C. Exception Reporting.

(1) A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 20 days of the date the waste was accepted by the initial transporter shall contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator shall submit an exception report to the Secretary if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 30

(See page 980)

979-1

Providence and Provid

#### ENVIRONMENT

days of the date the waste was accepted by the initial transporter. The exception report shall include:

(a) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(b) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

(3) If the designated facility is located out-of-State in a state which administers the federal program, the generator who does not receive a copy of the manifest as described in C(1), shall submit an exception report to that state's approving authority as specified in C(2) of this regulation. If that state's program is administered by the EPA, the report shall be forwarded to the EPA Regional Administrator for the region in which the designated facility is located.

D. Additional Reporting. The Secretary, as he deems necessary, may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in COMAR 26.13.02.

#### .07 Exports of Hazardous Waste-General.

A. Applicability.

(1) This regulation and Regulations .07-1—.07-3 of this chapter establish requirements applicable to exports of hazardous waste, except for hazardous wastes identified in A(4) of this regulation.

(2) A primary exporter of hazardous waste shall comply with the special requirements of this regulation and Regulations .07-1-.07-3 of this chapter.

(3) A transporter transporting hazardous waste for export shall comply with applicable requirements of COMAR 26.13.04.

(4) Waste Excluded from these Requirements.

(a) Wastes that are regulated as hazardous by the State but not by the U.S. EPA are excluded from the requirements of this regulation and Regulations .07-1—.07-3 of this chapter.

(b) The waste codes for the wastes referred to in A(4)(a) of this regulation, and the sections of COMAR where the waste codes are assigned are:

(i) K122, K133, K134, K136, and K991-K999: COMAR 26.13.02.17;

## CONTROLLED HAZARDOUS SUBSTANCES

26.13.03.07

(ii) MD01-MD02: COMAR 26.13.02.18;

(iii) MX01: COMAR 26.13.02.19D;

(iv) M001: COMAR 26.13.02.19F; and

(v) MT01: COMAR 26.13.02.19H.

B. General Requirements.

(1) Exports of hazardous waste are prohibited unless the exports are in compliance with this regulation, Regulations .07-1-.07-3 of this chapter, and COMAR 26.13.04.

(2) A person may not export hazardous waste unless the following conditions are met:

(a) The primary exporter has submitted a notification in accordance with Regulation .07-1 of this chapter;

(b) The receiving country has consented to accept the hazardous waste;

(c) A copy of the EPA Acknowledgement of Consent for the shipment accompanies the hazardous waste shipment;

(d) Except for hazardous waste shipments exported by rail or bulk shipments exported by water, a copy of the EPA Acknowledgement of Consent is attached to the manifest;

(e) For bulk shipments exported by water, a copy of the EPA Acknowledgement of Consent is attached to the shipping paper; and

(f) The hazardous waste shipment conforms to the terms of the receiving country's written consent, as reflected in the EPA Acknowl-edgement of Consent.

(3) As specified in 40 CFR §262.53(e) and (f), the U.S. EPA will handle:

(a) Processing of the notification of intent to export required by B(2) of this regulation; and

(b) Consent or objections by receiving countries or transit countries, including:

(i) Providing the primary exporter with an EPA Acknowledgement of Consent, and

(ii) Notifying the primary exporter of a receiving country's objections to a shipment, a country's withdrawal of a prior consent for the shipment, or any responses from transit countries.

## 26.13.03.07-1

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(4) If more than one person qualifies as a primary exporter for a shipment of hazardous waste:

(a) Only one of the persons may submit the notification of intent to export required by Regulation .07-1 of this chapter and the annual report required by Regulation .07-2B of this chapter on behalf of all of the primary exporters;

(b) The primary exporters shall select one person themselves who will make the submissions described in B(4)(a) of this regulation on behalf of the others; and

(c) The person who makes the submissions described in B(4)(a) of this regulation shall provide copies to the other primary exporters on whose behalf the submissions are being made.

## .07-1 Export Notification.

A. Notification of Intent to Export.

(1) A primary exporter shall notify the Secretary and the U.S. EPA in writing of the intention to export hazardous waste before the waste is scheduled to leave the United States.

(2) A primary exporter shall submit a complete notification of intent to export not less than 60 days before the initial shipment is expected to be shipped off-site.

(3) The notification required by A(1) of this regulation may cover export activities extending over a period of 12 months.

(4) A primary exporter shall sign the notification intent to export.

(5) A primary exporter shall include in the notification of intent to export:

(a) The name, mailing address, telephone number, and EPA identification number of the primary exporter; and

(b) The following information, by consignee, for each hazardous waste type:

(i) A description of the hazardous waste and the EPA hazardous waste number from COMAR 26.13.02.10—.19, and for each hazardous waste, the U.S. DOT proper shipping name, hazard class, and identification number as identified in 49 CFR 171-177,

(ii) The estimated frequency or rate at which the waste is to be exported and the period of time over which the waste is to be exported,

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.03.07-1

(iii) The estimated total quantity of the hazardous waste in units as specified in the instructions to the Uniform Hazardous Waste Manifest Form, EPA form number 8700-22,

(iv) All points of entry to and departure from each foreign country through which the hazardous waste will pass,

(v) A description of the mode of transportation by which each shipment of hazardous waste will be transported, such as air, highway, rail, or water, and the type of vessel in which the hazardous waste is contained, such as a drum, box, or tank,

(vi) A description of the manner in which the hazardous waste will be treated, stored, or disposed of in the receiving country, such as land or ocean incineration, other land disposal, ocean dumping, or recycling,

(vii) The name and site address of the consignee and any alternate consignee, and

(viii) The name of any transit countries through which the hazardous waste will be sent, and a description of the approximate length of time the hazardous waste will remain in each country and the nature of its handling while there.

(6) A primary exporter shall submit copies of the notification of intent to export to the Secretary and to the U.S. Environmental Protection Agency. The exporter shall send the copy to the U.S. EPA to the Office of Waste Programs Enforcement (OWPE), RCRA Enforcement Division (OS-520), United States Environmental Protection Agency, Washington, DC 20460 with "Attention: Notification of Intent to Export Hazardous Waste" displayed prominently on the front of the envelope.

(7) Upon request by EPA, a primary exporter shall furnish the EPA with any additional information requested by a receiving country to respond to a notification of intent to export.

B. Renotification.

(1) A primary exporter shall provide the Secretary and the EPA with a written renotification when a condition specified in the original notification of intent to export changes, unless the change concerns one of the following:

(a) The telephone number of the primary exporter;

(b) The mode of transportation or the type of containers to be used, as specified under A(5)(b)(v) of this regulation; or

981-2

## 26.13.03.07-2

**US EPA ARCHIVE DOCUMENT** 

### ENVIRONMENT

(c) A decrease in the quantity of hazardous waste expected to be exported, as specified under A(5)(b)(iii) of this regulation.

(2) Except as provided in B(3) of this regulation, a person required under B(1) of this regulation to submit a renotification of the intent to export hazardous waste may not originate an export shipment of hazardous waste until:

(a) The receiving country has consented to the changes; and

(b) The primary exporter has received an EPA Acknowledgement of Consent reflecting the receiving country's consent to the changes.

(3) The primary exporter need not comply with the requirements of B(2) of this regulation for the following changes to the original notification of intent to export:

(a) Changes to the points of entry to or departure from each foreign country in accordance with A(5)(b)(iv) of this regulation; or

(b) Changes in the identity of transit countries and the length of time the hazardous waste will remain in the countries in accordance with A(5)(b)(viii) of this regulation.

## .07-2 Exports of Hazardous Waste—Manifesting, Reporting, and Record Keeping.

A. Special Manifest Requirements. A primary exporter shall comply with the manifest requirements of Regulation .04A of this chapter, except that the primary exporter:

(1) Shall enter the name and site address of the consignee, in place of the name, address, and EPA identification number of the designated permitted facility;

(2) May enter the name and site address of any alternate consignee in place of the name, site address, and EPA identification number of an alternate permitted facility;

(3) Shall identify the point of departure from the United States in the Special Handling Instruction and Additional Information;

(4) Shall add the statement "and conforms to the terms of the Attached EPA Acknowledgement of Consent" to the first sentence of the certification in Item 16 of the Uniform Hazardous Waste Manifest Form;

(5) Shall obtain the manifest form from the primary exporter's state if that state supplies the manifest form and requires its use, or,

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.03.07-2

if the primary exporter's state does not supply the manifest form, obtain the manifest from any source;

(6) Shall require the consignee to:

(a) Confirm in writing that the hazardous waste was delivered to the consignee's facility, and

(b) Describe any significant discrepancies, as identified in COMAR 26.13.05.05C, between the manifest and the shipment;

(7) May accept a copy of the manifest signed by the consignee to satisfy the requirement of A(6) (a) of this regulation;

(8) Shall, if a shipment cannot be delivered to the designated or alternate consignee:

(a) Renotify the EPA and the Secretary of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with Regulation .07-1B of this chapter, and obtain an EPA Acknowledgement of Consent before delivery, or

(b) Instruct the transporter to either return the waste to the primary exporter in the United States or deliver the waste to another designated facility within the United States, and instruct the transporter to revise the manifest in accordance with the primary exporter's instructions;

(9) Shall do the following with the EPA Acknowledgement of Consent:

(a) If the export shipment is by rail, provide a copy to the transporter,

(b) If the export shipment is a bulk shipment by water, attach a copy to the shipping paper, or

(c) In all cases other than those described in A(9)(a) or (b) of this regulation, attach a copy to the manifest;

(10) Shall provide the transporter with an additional copy of the manifest to be delivered to the U.S. Customs official at the point of departure from the United States in accordance with COMAR 26.13.04.02A(7)(e).

B. Exception Reports. Instead of complying with the requirements of Regulation .06C of this chapter concerning exception reporting, a primary exporter shall file an exception report with the EPA and the Secretary, if:

Supp. 9

981-4

## 26.13.03.07-2

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(1) The primary exporter has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within 45 days from the date it was accepted by the initial transporter;

(2) The primary exporter has not, within 90 days from the date the waste was accepted by the initial transporter, received written confirmation from the consignee that the hazardous waste was received; or

(3) The waste is returned to the United States.

C. Annual Reports.

(1) A primary exporter of hazardous waste shall file with the EPA and the Secretary not later than March 1 of each year, a report summarizing the types, quantities, frequency of shipment, and ultimate destination of all hazardous waste exported by the primary exporter during the previous calendar year.

(2) The annual reports required by C(1) of this regulation shall include the following:

(a) The EPA identification number, name, and mailing and site address of the exporter;

(b) The calendar year covered by the report;

(c) The name and site address of each consignee;

(d) By consignee, for each hazardous waste exported:

(i) A description of the hazardous waste,

(ii) The EPA hazardous waste number from COMAR 26.13.02.10-.19,

(iii) The DOT hazard class,

(iv) The name and, if applicable, the U.S. EPA identification number for each transporter used,

(v) The total amount of waste shipped, and

(vi) The number of shipments for each notification made in accordance with Regulation .07-1A of this chapter; and

(e) A certification signed by the primary exporter which states:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the

## Controlled Hazardous Substances

information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

## (3) Waste Minimization.

(a) Except as provided in C(3)(b) of this regulation, a person who exports 1,000 kilograms or more of hazardous waste in a calendar month shall include, in even numbered years, the following information with the report required by this section:

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

(ii) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years, to the extent that the information on previous years is available.

(b) A person need not include the information required by C(3)(a) of this regulation if the information has been provided as part of the report required by Regulation .06B of this chapter.

(4) The primary exporter shall submit the report required by this section to the Secretary and to the Office of Waste Programs Enforcement (OWPE), RCRA Enforcement Division (OS-520), United States Environmental Protection Agency, Washington, DC 20460.

D. Record Keeping.

(1) A primary exporter shall keep a copy of:

(a) The notification of intent to export filed in accordance with Regulation .07-1 of this chapter for a period of 3 years from the date the hazardous waste was accepted by the initial transporter;

(b) The EPA Acknowledgement of Consent for a period of 3 years from the date the hazardous waste was accepted by the initial transporter;

(c) Each confirmation of delivery of hazardous waste from the consignee for a period of 3 years from the date the hazardous waste was accepted by the initial transporter; and

(d) The annual report required in §C of this regulation for a period of 3 years from the date the report was due.

(2) A period of retention required in D(1) of this regulation is extended automatically for any unresolved enforcement actions

## 26.13.03.07-3

## ENVIRONMENT

regarding regulated activity, or as requested by the Secretary or the U.S. Environmental Protection Agency.

## .07-3 Imports of Hazardous Waste.

A. A person who imports hazardous waste from a foreign country into the State shall comply with the requirements of this chapter and the specific requirements of this regulation.

B. When importing hazardous waste, a person shall meet all requirements of Regulation .04A of this chapter for the manifest, except that:

(1) In place of the generator's name, address, and EPA identification number, the person shall use the name and address of the foreign generator and the importer's name, address, and EPA identification number; and

(2) In place of the generator's signature on the certification statement, the U.S. importer or the U.S. importer's agent shall sign and date the certification and obtain the signature of the initial transporter.

C. A person who imports hazardous waste shall obtain the manifest form from the consignment state if that state supplies the manifest and requires its use. If the consignment state does not supply the manifest form, then the manifest form may be obtained from any source.

#### .07-4 Farmers.

EPA ARCHIVE DOCUMENT

A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards of this chapter or other standards in COMAR 26.13.05 for those wastes provided the farmer triple rinses each emptied pesticide container in accordance with COMAR 26.13.02.19C and disposes of the pesticide residues on his own farm in a manner consistent with disposal instructions on the pesticide label.

#### Administrative History

#### Effective date:

Regulations .01—.07 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642) Regulations .01; .04A, D; .05D, E; .07B amended effective January 18, 1982 (9:1 Md. R. 20) Regulations .01B; .02B; .04A, B, D; .05E; .06A—C; and .07A amended, and .01G and .04E adopted effective July 30, 1984 (11:15 Md. R. 1330)

Regulations .01E and .05E amended effective February 13, 1984 (11:3 Md. R. 202) Regulations .01F, .04D, .06C, and .07A amended effective January 31, 1983 (10:2 Md. R. 110)

Regulation .05E amended effective August 12, 1985 (12:16 Md. R. 1607)

Chapter recodified from COMAR 10.51.03 to COMAR 26.13.03 Regulation .01B, D amended effective August 28, 1995 (22:17 Md. R. 1321) Regulation .01G amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .01H and I adopted effective April 18, 1988 (15:8 Md. R. 1009) Regulation .02A amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .04 amended effective April 18, 1988 (15:8 Md. R. 1009) Regulation .04A, C amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .04A, C amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .04A, D, E amended effective May 24, 1993 (20:10 Md. R. 853) Regulation .05C amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .05E amended effective April 18, 1988 (15:8 Md. R. 1009); May 24, 1993 (20:10 Md. R. 853); September 10, 1997 (24:5 Md. R. 413)

Regulation .06A amended effective May 5, 1997 (24:9 Md. R. 659)

Regulation .06B amended effective April 18, 1988 (15:8 Md. R. 1009); December 23,

1991 (18:25 Md. R. 2759); August 28, 1995 (22:17 Md. R. 1321); May 5, 1997 (24:9 Md. R. 659)

Regulation .07A amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .07 repealed and new Regulations .07 and .07-1-.07-4 adopted effective August 28, 1995 (22:17 Md. R. 1321)

Regulation .08 repealed effective May 5, 1997 (24:9 Md. R. 659)

## (The next page is 989)

## Title 26 DEPARTMENT OF THE ENVIRONMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

# Chapter 04 Standards Applicable to Transporters of Hazardous Waste

Authority: Environment Article, Title 7. Subtitle 2, Annotated Code of Maryland

#### .01 General.

A. Scope.

(1) These regulations establish standards which apply to persons transporting hazardous waste within the State if the transportation requires a manifest under COMAR 26.13.03.

(2) These regulations do not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(3) A transporter of hazardous waste shall also comply with COMAR 26.13.03, Standards Applicable to Generators of Hazardous Waste, if he:

(a) Transports hazardous waste into the United States from abroad; or

(b) Mixes hazardous waste of different DOT shipping descriptions by placing them into a single container.

B. EPA Identification Number.

(1) A transporter may not transport hazardous wastes without having received an EPA identification number from the Secretary.

(2) A transporter who has not received an EPA identification number may obtain one by applying to the Secretary using EPA Form 8700-12. Upon receiving the request, the Secretary shall assign an EPA identification number to the transporter.

C. Certificate.

(1) Except for CHS used for residential purposes or those regulated by the Department of Agriculture, a person may not transport a CHS to a facility within the State or from a source within the State unless the person obtains a certificate from the Department.

Supp. 4
# 26.13.04.01

#### ENVIRONMENT

For the purpose of these regulations, CHS used for residential purposes means those CHS used in a household or domestic situation, and normally discarded in small quantities in refuse and other household waste collected for disposal in conventional sanitary landfills. A CHS Hauler Certificate is required of persons engaged in transporting CHS. All vehicles or articulated transports, to a facility within the State or from a source within the State, shall display prominently the vehicle certification sticker or affix the vehicle certification sticker to the outside of the left door of the cab of the controlled hazardous substance vehicle. A copy of the hauler certification shall be carried in the vehicle at all times and shall be presented upon request.

(2) As a condition to being issued and operating under a certificate, a person shall do the following:

(a) Report periodically, on a form provided by the Department, on the source, disposal destination, volume, and nature of the CHS transported;

(b) Provide a copy of the manifest supplied by the waste generator to the operator of facilities;

(c) Secure and maintain a bond of not less than \$50,000 for the purpose of indemnifying the State for abatement of pollution resulting from the improper transportation or spill of CHS;

(d) Pay a yearly fee for certification not to exceed \$50 per vehicle used for hauling CHS;

(e) Have a vehicle safety inspection performed on each vehicle (truck, truck tractor, and trailer/semitrailer) in accordance with §G of this regulation; and

(f) Submit proof of liability insurance coverage meeting the requirements of 49 CFR 387.

(3) A request for certification shall be submitted annually in writing and shall include information pertaining to the nature and quantity of the CHS to be transported, the source and destination, the method of transportation, specific information pertaining to the vehicles used to transport CHS, such as vehicle age and construction specifications, the safety inspection of the vehicle, proof of liability insurance, and the fee for certification. Failure to provide this information, the fee for certification, or other information required by the Department shall constitute grounds for denial of certification.

26.13.04.01

Sound - County

Source and the second se

(4) The State Fire Marshal, and other public safety agencies approved by him, are certified CHS transporters.

(5) Utility maintenance crews are certified CHS transporters for CHS transported during the normal execution of their duties.

(See page 991)

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.04.01

(6) This regulation does not apply to transportation within industrial plant sites such as transport of a CHS from an in-plant storage area to an in-plant waste treatment facility.

(7) Approved personnel of the Department of the Environment are certified CHS transporters.

(8) Interstate Certificates.

(a) Interstate carriers with more than 10 trucks operating in or out of the State, and servicing more than three States, may apply for Interstate Certificates if the carrier:

(i) Has 5 vehicle certificates currently issued; and

(ii) Meets the insurance requirements of 49 CFR Part 387—Minimum Levels of Financial Responsibility for Motor Carriers.

(b) Interstate certificates are transferable from one vehicle to another. The location of the certificate shall be registered with the Department.

(c) The carrier shall notify the Department 24 hours before use of the certificate. The notification will include information detailing the type of vehicle, serial number, make, model, State of registration, license destination, material transported, and other information as may be requested.

(d) The maximum number of transferable certificates issued may not exceed the number of permanent certificates issued to a carrier.

(e) Each certificate issued shall carry a fee of \$50.

D. Mixing.

(1) Except under the supervision of the Department during an emergency, a CHS hauler may not mix, as defined by this regulation, any CHS except in a CHS facility.

(2) Mixing includes any blending, mingling, combining, consolidating or putting together of CHS unless specifically excluded under D(3).

(3) Mixing does not include the blending, mingling, combining, or putting together of waste within but not among the following categories of hazardous waste from the same or different sources provided the substances are chemically and physically compatible:

(a) Acids of less than 1 molar concentrations;

#### ENVIRONMENT

(b) Bases of less than 1 molar concentrations;

(c) Cyanides (with the following EPA Hazardous Waste Numbers)—F007, F008, F009, F010, F011, F013, F014, F015, F016;

(d) Halogenated solvents—contaminated with 1 percent or less of non-halogenated;

(e) Solvents non-halogenated—contaminated with 1 percent or less of halogenated.

(4) If a person transports used oil in a truck that has been used to transport hazardous waste, the person shall either:

(a) Assure that the truck is empty according to the criteria of COMAR 26.13.02.07 before loading the used oil onto the truck; or

(b) Manage the mixture of the used oil and the previously transported hazardous waste:

(i) As hazardous waste, or

(ii) As otherwise allowed under the provisions of COMAR 26.13.10.05.

E. Stoppage.

**US EPA ARCHIVE DOCUMENT** 

(1) Except under the supervision of the Department during an emergency, a CHS hauler may not store CHS except in a CHS facility. Storage in a CHS vehicle does not include periods of stoppage, as defined by E(2), if the conditions in E(3) of this regulation are met.

(2) Stoppage is a period of time not to exceed 72 hours during which a CHS vehicle is at rest. The cumulative period of stoppage may not exceed 5 days for a particular shipment of CHS within the State. Any stoppage in excess of 12 hours shall be at a facility or other suitable site.

(3) During periods of stoppage, for instance, at truck stops or truck terminals, a CHS hauler shall comply with COMAR 26.13.05.02G and H; .03E—H; .04; .05; .09; and .10.

F. Driver Certificate.

(1) Applicability. A person may not transport any CHS from any source in the State or to any CHS facility in the State unless a driver certificate has been issued for the vehicle driver. This section does not apply to persons transporting CHS generated and disposed of on-site.

(2) The driver certificate authorizes its holder to operate a vehicle transporting CHS. The driver certificate shall be effective for 1 year.

(3) Each CHS vehicle operator shall:

(a) Pay an annual driver certificate fee of \$20 to the Department;

(b) Carry the driver certificate in the cab of the CHS vehicle at all times when transporting CHS;

(c) Submit evidence of satisfactory completion of an approved training program as described in F(4) of this regulation;

(d) Submit a copy of the operator's driver's license to the Secretary; and

(e) Submit to the Secretary a certified copy of the operator's driving record that has been issued, within 60 days before the date of application for the driver certificate, by the State in which the operator holds a motor vehicle license.

(4) Approved Training Program. At a minimum, an approved training program shall include the following:

# (See page 993)



Supp. 12

(a) Training in the requirements necessary to transport hazardous waste. Emphasis should be placed on the ability to verify proper DOT shipping names, hazard class and EPA waste codes. Special attention should be directed to the Maryland Hazardous Waste Manifest, other state manifest requirements, and the proper disbursement of manifest copies.

(b) Training in the required labeling and marking of all containers of 110 gallons or less.

(c) Training in Placarding. All drivers of vehicles transporting hazardous waste shall be able to appropriately placard their trucks according to the DOT regulations under COMAR 11.16.01 (49 CFR Part 172, Subpart F).

(d) Training in the Federal Motor Carrier Safety Administration regulations including proper maintenance of a driver's daily log.

(e) Training in emergency procedures to follow in case of an accident or spill.

(f) Training in Maryland's hazardous waste regulations and law (Disposal of CHS (COMAR 26.13))—specifically, "Standards Applicable to Transporters of Hazardous Waste" and Environment Article, §§7-249—7-253, Annotated Code of Maryland.

(5) Instructors conducting an approved training program shall, at a minimum, have successfully completed an approved instruction training program, or have 5 years experience in the trucking industry with at least 2 years involvement in safe driving activities or training.

(6) Satisfactory completion of an approved written examination may be required by the Department.

G. Inspection, Repair, and Maintenance. Before a person may receive a hazardous waste vehicle certificate and certification sticker, the person shall:

(1) Certify that the vehicle is in compliance with the requirements of 49 CFR 396;

(2) Submit, to the Secretary, a copy of the most recent inspection report prepared in accordance with 49 CFR §396.21(a) to document that the vehicle has been inspected in accordance with the requirements of 49 CFR §396.17.

#### ENVIRONMENT

.02 Compliance with the Manifest System and Record Keeping.

A. The Manifest System.

(1) A transporter:

(a) May not accept hazardous waste from a generator unless the hazardous waste is accompanied by a manifest signed by the generator in accordance with the provisions of COMAR 26.13.03;

(b) May only accept hazardous waste intended for export if:

(i) The manifest is signed in accordance with COMAR 26.13.03.04A,

(ii) A copy of the EPA Acknowledgement of Consent accompanies the shipment, and

(iii) A copy of the EPA Acknowledgement of Consent is attached to the shipping paper if the shipment is a bulk shipment by water, or is attached to the manifest if the shipment is neither by rail nor a bulk shipment by water; and

(c) May not accept hazardous waste intended for export if the transporter knows the shipment does not conform to the EPA Acknowledgement of Consent.

(2) Before transporting the hazardous waste, the transporter shall sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter shall return a signed copy to the generator before leaving the generator's property.

(3) The transporter shall ensure that the manifest accompanies the hazardous waste and, for exports, that a copy of the EPA Acknowledgement of Consent also accompanies the hazardous waste.

(4) A transporter who delivers a hazardous waste to another transporter or to the designated facility shall:

(a) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest;

(b) Retain one copy of the manifest in accordance with §C;

(c) Within 10 days of delivery of hazardous waste outside of Maryland to another transporter or to a facility, provide to the Department a completed copy of the manifest for that shipment; and

(d) Give the remaining copies of the manifest to the accepting transporter or designated facility.

994

(5) The requirements of A(3), (4), and (6) of this regulation do not apply to water (bulk shipment) transporters if:

(a) The hazardous waste is delivered by water (bulk shipment) to the designated facility;

(b) The hazardous waste is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgement of Consent;

(c) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper;

(d) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter or the manifest and forwards it to the designated facility; and

(e) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with §C.

(6) Requirements. For shipments involving rail transportation, the requirements of A(3)—(5) of this regulation do not apply. The following requirements do apply:

(a) When accepting hazardous waste from a nonrail transporter, the initial rail transporter shall:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(ii) Return a signed copy of the manifest to the nonrail transporter;

(iii) Forward at least three copies of the manifest to the next nonrail transporter, if any, the designated facility, if the shipment is delivered to that facility by rail, or the last rail transporter designated to handle the waste in the United States;

(iv) Retain one copy of the manifest and rail shipping paper in accordance with C(3) of this regulation.

(b) Rail transporters shall ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgement of Consent accompanies the hazardous waste at all times.

# 26.13.04.02

#### ENVIRONMENT

(c) Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(d) When delivering hazardous waste to the designated facility, a rail transporter shall:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) Retain a copy of the manifest or signed shipping paper in accordance with §C of this regulation.

(e) When delivering hazardous waste to a nonrail transporter, a rail transporter shall:

(i) Obtain the date of delivery and the handwritten signature of the next nonrail transporter on the manifest; and

(ii) Retain a copy of the manifest in accordance with §C.

(f) Before accepting hazardous waste from a rail transporter, a nonrail transporter shall sign and date the manifest and provide a copy to the rail transporter.

(7) Transporters who transport hazardous waste out of the State to a foreign destination shall:

(a) Indicate on the manifest the date the hazardous waste left the United States;

(b) Sign the manifest and retain one copy in accordance with \$C of this regulation;

(c) Within 10 days of delivery of hazardous waste outside of Maryland to another transporter or to a facility, provide to the Department a copy of the manifest for that shipment after the facility or accepting transporter has completed it;

(d) Return a signed copy of the manifest to the generator; and

(e) Give a copy of the manifest to a U.S. Customs official at the point of departure from the United States.

B. Compliance with the Manifest.

(1) The transporter shall deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to the:

(a) Designated facility listed on the manifest;

(b) Alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery;

(c) Next designated transporter; or

(d) Place outside the United States designated by the generator.

(2) If the hazardous waste cannot be delivered in accordance with B(1) of this regulation, the transporter shall contact the generator for further directions and shall revise the manifest according to the generator's instructions.

C. Record Keeping.

(1) A transporter of hazardous waste shall keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of 3 years from the date the hazardous waste was accepted by the initial transporter.

(2) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter shall retain a copy of a shipping paper containing all the information required in A(5)(b) of this regulation for a period of 3 years.

(3) For shipments of hazardous waste by rail within the State the following apply:

(a) The initial rail transporter shall keep a copy of the manifest and shipping paper with all the information required in A(6)(b) of this regulation for a period of 3 years from the date the hazardous waste was accepted by the initial transporter;

(b) The final rail transporter shall keep a copy of the signed manifest, or the shipping paper if signed by the designated facility instead of the manifest, for a period of 3 years from the date the hazardous waste was accepted by the initial transporter;

#### (See page 997)

Supp. 9

996-1

26.13.04.03

(c) Intermediate rail transporters are not required to keep records pursuant to these regulations.

(4) A transporter who transports hazardous waste internationally out of the State shall keep a copy of the manifest, for a period of 3 years from the date the hazardous waste was accepted by the initial transporter, indicating that the hazardous waste left the United States.

(5) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Secretary.

#### .03 Hazardous Waste Discharged.

A. Immediate Action.

(1) In the event of a discharge of hazardous waste during transportation, the transporter shall take appropriate immediate action to protect human health and the environment (for example, notify local authorities, dike the discharge area), and shall notify the Department and local authorities, if any, within 1 hour of the incident, or, if not immediately discovered, within 1 hour of discovery of the incident, by calling (410)974-3551.

(2) If a discharge of hazardous waste occurs during transportation, and an official (State or local government or a federal agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.

(3) An air, rail, highway, or water transporter who has discharged hazardous waste shall:

(a) Give notice if required by 49 CFR §171.15 to the National Response Center, (800)424-8802;

(b) Submit a report in writing as required by 49 CFR §171.16 to the Information Systems Manager, DHM-63, Research and Special Programs Administration, Department of Transportation, Washington, DC 20590; and

(c) Submit a report in writing within 30 days to the Director of the Waste Management Administration, Department of the Environment, 2500 Broening Highway, Baltimore, Maryland 21224.

Supp. 10

#### 26.13.04.04

#### ENVIRONMENT

(4) A water (bulk shipment) transporter who has discharged hazardous waste shall give notice by 33 CFR §153.203 to the National Response Center, (800)424-8802, or in the District of Columbia, (202)426-2675, and to the State, (410)974-3551.

B. Discharge Cleanup. A transporter shall clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by federal, State, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

C. All references to 49 CFR in this regulation mean 49 CFR as it has been adopted as of July 1, 1990.

#### .04 Bonding.

A. The Department as a condition to the issuance of a CHS Hauler Certificate shall require a person to secure a bond of not less than \$50,000 for the purpose of indemnifying the State for abatement of pollution from the improper transportation or spill of CHS. The bond shall be executed by the permittee and corporate surety licensed to do business in the State.

B. Alternative Financial Guarantees. Instead of a corporate surety, one of the following shall be acceptable:

(1) Deposits of cash or negotiable bonds of the United States Government. The cash deposit or market value of the securities shall be equal at least to the required sum of the bond. The Department, on receipt of any deposit of cash or securities, immediately shall forward it to the State Treasurer, who shall receive and hold the bond in the name of the State, in trust, for the purposes for which the deposit is made. The State Treasurer at all times is responsible for the custody and safekeeping of these deposits. The person making the deposit may demand and receive from the State Treasurer the whole or any portion of any securities so deposited, on depositing with the State Treasurer other negotiable securities of the classes specified in this section having a market value at least equal to the sum of the bond.

(2) A certificate of deposit, if it is equivalent to the required bond, issued by a bank within the State, and accompanied by written agreement of the bank to pay on demand to the State upon a finding of forfeit by the Secretary.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.04.04

(3) An instrument or other financial guarantee, such as an irrevocable letter of credit, which in the discretionary judgment of the Secretary adequately indemnifies the State.

C. Upon expiration of the time limitations specified in the certification, the Department shall release the bond, provided that all provisions of the certificate and Environment Article, §§7-201—7-268, inclusive, Annotated Code of Maryland, have been satisfactorily met. Failure to fully comply with the provisions set forth above, or revocation of the certificate, shall constitute grounds for the Department to initiate forfeiture proceedings.

D. Forfeiture Proceedings. The Department shall notify the permittee by registered mail of its intent to initiate forfeiture proceedings. The permittee has 30 days to show cause why the bond or cash deposit should not be forfeited.

#### Administrative History

#### Effective date:

EPA ARCHIVE DOCUMENT

Regulations .01—.03 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642)

Regulations .01A—C, .02A, C amended, and .03C adopted effective July 30, 1984 (11:15 Md. R. 1330)

Regulation .01C adopted effective January 18, 1982 (9:1 Md. R. 20)

Regulations .01C and .02A and C amended effective January 31, 1983 (10:2 Md. R. 110)

Regulations .01C, .02A, .04A and C amended, and .01D—F adopted effective February 13, 1984 (11:3 Md. R. 202)

Regulations .02C and .03A amended effective January 18, 1982 (9:1 Md. R. 20) Regulation .04 adopted effective January 18, 1982 (9:1 Md. R. 20)

Chapter recodified from COMAR 10.51.04 to COMAR 26.13.04

Regulation .01C amended and G adopted effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .01D amended effective September 7, 1998 (25:18 Md. R. 1438)

Regulation .01F amended effective December 23, 1991 (18:25 Md. R. 2759); November 9, 1992 (19:22 Md. R. 1991)

Regulation .02A amended effective April 18, 1988 (15:8 Md. R. 1009); August 28, 1995 (22:17 Md. R. 1321)

Regulation .03A and C amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .04 amended effective April 18, 1988 (15:8 Md. R. 1009)

# Title 26 DEPARTMENT OF THE ENVIRONMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

# Chapter 05 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

Authority: Environment Article, Title 7. Subtitle 2. Annotated Code of Maryland

#### .01 General.

A. Purpose, Scope, and Applicability.

(1) The purpose of this regulation is to establish minimum State standards which define the acceptable management of hazardous waste.

(2) The standards in this chapter apply to owners and operators of facilities which treat, store, or dispose of hazardous waste. These standards apply to all treatment, storage, or disposal of hazardous waste at these facilities or at inactive facilities after the effective date of these regulations, except as specifically provided otherwise in this chapter or COMAR 26.13.02. These standards apply to inactive disposal facilities when the Department determines that a substantial present or potential hazard to human health or the environment exists.

(3) The requirements of this chapter do not apply to:

(a) A person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act and complying with the following regulations:

(i) .02B, and

(ii) .05B, C, D(1) and (2)(a), F and G;

(b) The owner or operator of a facility permitted, licensed, or registered by the State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this chapter by COMAR 26.13.02.05;

#### Environment

(c) The owner or operator of a facility managing recyclable materials described in COMAR 26.13.02.06A(2) and (3), except to the extent required in this chapter;

(d) A generator accumulating waste on-site in compliance with COMAR 26.13.03.05E, except to the extent that COMAR 26.13.03.05E requires the generator to comply with the requirements in this chapter;

(e) A farmer disposing of waste pesticides from his own use in compliance with COMAR 26.13.03.07-4;

(f) The owner or operator of a totally enclosed treatment facility as defined in COMAR 26.13.01.03B(81);

(g) The owner or operator of an elementary neutralization unit or a wastewater treatment unit, unless the unit is used to treat waste from off-site;

(h) Persons with respect to those activities which are carried out to immediately contain or treat a spill of hazardous waste or material which, when spilled, becomes a hazardous waste, except that, with respect to these activities, the appropriate requirements of Regulations .03 and .04 of this chapter are applicable to owners and operators of treatment, storage, and disposal facilities otherwise subject to this part (Comment. This paragraph only applies to activities taken in response to a spill. After the immediate response activities are completed, the applicable regulations of this chapter apply fully to the management of any spill residue or debris which is a hazardous waste under COMAR 26.13.02.);

(i) The owner or operator of a publicly owned treatment works (POTW) complying with the following regulations in this chapter:

(i) Regulation .02B, and

(ii) Regulation .05B, C, D(1) and (2)(a), F, and G.

B. Imminent Hazard Action. Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to Environment Article, §7-206, Annotated Code of Maryland.

C. Incorporation by Reference.

(1) 40 CFR §§264.140-264.151, promulgated as of July 1, 1995, are incorporated by reference.

(2) 40 CFR 265, promulgated as of July 1, 1995, is incorporated by reference.

1002

#### .02 General Facility Standards.

A. Applicability. This regulation applies to owners and operators of all hazardous waste facilities, except as Regulation .01A provides otherwise.

B. Identification Number. Every facility owner or operator shall apply to the State for an EPA identification number.

C. Required Notices.

(1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the Secretary in writing at least 4 weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(2) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure period, the owner or operator shall notify the new owner or operator in writing of the requirements of this chapter and COMAR 26.13.07.

(3) The owner or operator of a facility that receives hazardous waste from an off-site source (except if the owner or operator is also the generator) shall inform the generator in writing that he has the appropriate permit or permits for, and will accept, the waste the generator is shipping. The owner or operator shall keep a copy of this written notice as part of the operating record.

D. General Waste Analysis.

**US EPA ARCHIVE DOCUMENT** 

(1) Chemical and Physical Analysis.

(a) Before an owner or operator treats, stores, or disposes of any hazardous waste, he shall obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis shall contain all the information which shall be known, to treat, store, or dispose of the waste in accordance with the requirements of this chapter or with the conditions of a permit issued pursuant to COMAR 26.13.07.

(b) The analysis may include data developed under COMAR 26.13.02, existing published or documented data on the hazardous waste or on waste generated from similar processes.

(c) The analysis shall be repeated to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated:

# 26.13.05.02D

#### ENVIRONMENT

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(ii) For off-site facilities, when the results of the inspection required in D(1)(d), below, indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(d) The owner or operator of an off-site facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(2) Written Analysis.

(a) The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which the owner or operator will carry out to comply with D(1), above. The owner shall keep this plan at the facility. At a minimum, the plan shall specify:

(i) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters, that is, how analysis for these parameters will provide sufficient information on the waste's properties to comply with D(1), above.

(ii) The test methods which will be used to test for these parameters.

(iii) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(aa) One of the sampling methods described in COMAR 26.13.02.20; or

(bb) An equivalent sampling method.

(iv) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date.

(v) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply.

(vi) When applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §H of this regulation and Regulations .14N and .15 of this chapter.

1004

26.13.05.02E

(b) For off-site facilities, the waste analysis plan required in D(2)(a), above, shall also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan shall describe:

(i) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(ii) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

E. Security.

(1) The owner or operator shall prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless it can be demonstrated to the Secretary that:

(a) Physical contact with the waste, structures, or equipment within the active portion of the facility does not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(b) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, does not cause a violation of the requirements of this chapter.

(2) Unless exempt under E(1)(a) and (b), above, a facility shall have:

(a) A 24-hour surveillance system (for example, television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(b) An artificial or natural barrier (for example, a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(c) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (for example, an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

(3) Unless exempt under E(1)(a) and (b), above, a sign with the legend "Danger—Unauthorized Personnel Keep Out", shall be posted at

**US EPA ARCHIVE DOCUMENT** 

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

every entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend shall be written in English and in any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

F. General Inspection Requirements.

(1) The owner or operator shall inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing, or may lead to, a release of hazardous waste constituents to the environment or may be causing, or may lead to, a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2) Development of Written Schedule.

(a) The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(b) The owner shall keep this schedule at the facility.

(c) The schedule shall identify the types of problems (for example, malfunctions or deterioration) which are to be looked for during the inspection (for example, inoperative sump pump, leaking fitting, eroding dike, etc.).

(d) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. At a minimum, the inspection schedule shall include the items and frequencies called for in Regulations .09E, .10D, .10-4G, .11F, .12E, .13D, .14C, .15D, .16I, .16-1C, .17D, and .18D of this chapter.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.02G

(3) The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. When a hazard is imminent or has already occurred, remedial action shall be taken immediately.

(4) The owner or operator shall record inspections in an inspection log or summary. He shall keep these records for at least 3 years from the date of inspection. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

G. Personnel Training.

**US EPA ARCHIVE DOCUMENT** 

(1) Program of Instruction or Training.

(a) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this chapter. The owner or operator shall ensure that this program includes all the elements described in the document required under G(4)(c), below.

(b) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(c) At a minimum the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, when applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cutoff systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to ground water contamination incidents; and

(vi) Shutdown of operations.

(2) Facility personnel shall successfully complete the program required in G(1), above, within 6 months after the effective date of

#### 26.13.05.02H

#### ENVIRONMENT

these regulations or 6 months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations may not work in unsupervised positions until they have completed the training requirements of G(1), above.

(3) Facility personnel shall take part in an annual review of the initial training required in G(1), above.

(4) The owner or operator shall maintain the following documents and records at the facility:

(a) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job.

(b) A written job description for each position listed under G(4)(a), above. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but shall include the requisite skill, education, or other qualifications, and duties of employees assigned to each position.

(c) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under G(4)(a), above.

(d) Records that document that the training or job experience required under G(1), (2), and (3) has been given to, and completed by, facility personnel.

(5) Training records on current personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least 3 years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

H. General Requirements for Ignitable, Reactive, or Incompatible Wastes.

(1) The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from the sources of ignition or reaction including, but not limited to open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (for example, from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.02J

is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) When specifically required by this subtitle, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, shall be conducted so that it does not:

(a) Generate extreme heat or pressure, fire or explosion, or violent reaction;

(b) Produce uncontrolled toxic mists, fumes, dusts, or gasses in sufficient quantities to threaten human health or the environment;

(c) Produce uncontrolled flammable fumes or gasses in sufficient quantities to pose a risk of fire or explosions;

(d) Damage the structural integrity of the device or facility containing the waste; or

(e) Through other like means threaten human health or the environment.

(3) When required to comply with \$H(1) or (2), the owner or operator shall document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (for example, bench scale or pilot scale tests), waste analysis according to \$D of this regulation, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

I. Aisle Space.

(1) The facility owner or operator shall provide sufficient aisle space to allow for:

(a) Inspections by the Department;

(b) Inspections under §F of this regulation; and

(c) Compliance with Regulation .03F.

(2) At a minimum, the aisle space shall be no less than 2 feet in width.

J. Transportation Certification.

(1) Unless J(2), below, applies, a facility shall only accept CHS from a certified hauler who has the following:

#### ENVIRONMENT

(a) The CHS hauler certification;

(b) His or her CHS driver certification; and

(c) The vehicle certification.

(2) A facility shall only accept CHS from a hauler without a certification upon approval from the Department.

#### .03 Preparedness and Prevention.

A. Applicability. This regulation applies to owners and operators of all hazardous waste facilities, except as Regulation .01A otherwise provides.

B. Design and Operation of Facility. Facilities shall be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

C. Required Equipment. All facilities shall be equipped with the following, unless it can be demonstrated to the Secretary that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(4) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

D. Testing and Maintenance of Equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

26.13.05.03

#### E. Access to Communications or Alarm System.

(1) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communications device, either directly or through visual or voice contact with another employee, unless the Secretary has ruled that such a device is not required under §C of this regulation.

(2) If there is ever just one employee on the premises while the facility is operating, he shall have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless the Secretary has ruled that such a device is not required under §C of this regulation.

F. Required Aisle Space. The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Secretary that aisle space is not needed for any of these purposes.

G. Special Handling for Ignitable or Reactive Waste. The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (for example, from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

H. Arrangements With Local Authorities.

(1) The owner or operator shall attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility and possible evacuation routes;

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

(b) When more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority. Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(c) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(2) When State or local authorities decline to enter into these arrangements, the owner or operator shall document the refusal in the operating record.

#### .04 Contingency Plan and Emergency Procedures.

A. Applicability. This regulation applies to owners and operators of all hazardous waste facilities, except as Regulation .01 otherwise provides.

B. Purpose and Implementation of Contingency Plan.

(1) Every owner or operator shall have a contingency plan for his facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(2) The provisions of the plan shall be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

C. Content of Contingency Plan.

(1) The contingency plan shall describe the actions facility personnel shall take to comply with §§B and G in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(2) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112 or Part 1510, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.

(3) The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to Regulation .03H.

(4) The plan shall list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see §F), and this list shall be kept up to date. When more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates. For new facilities, this information shall be supplied to the Secretary at the time of certification, rather than at the time of permit application.

(5) The plan shall include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes (when the primary routes could be blocked by releases of hazardous waste or fires).

D. Copies of Contingency Plan. A copy of the contingency plan and all revisions to the plan shall be:

(1) Maintained at the facility; and

(2) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

E. Amendments of Contingency Plan. The contingency plan shall be reviewed, and immediately amended, if necessary, whenever the:

(1) Facility permit is revised;

(2) Plan fails in an emergency;

(3) Facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the

#### ENVIRONMENT

potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(4) List of emergency coordinators changes; or

(5) List of emergency equipment changes.

F. Emergency Coordinator. At all times, there shall be at least one employee either on the facility premises or on call (that is, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

G. Emergency Procedures.

(1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) shall immediately:

(a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(b) Notify appropriate State or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire, or explosion, the emergency coordinator shall immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire, or explosion (for example, the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, or, if the release is of a quantity

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.04

which would exceed the Reportable Quantities listed in 40 CFR 302, as promulgated effective July 1, 1990, the emergency coordinator shall report his findings as follows:

(a) If the assessment indicates that evacuation of local areas may be advisable, the emergency coordinator shall immediately notify appropriate local authorities and be available to help appropriate officials decide whether local areas should be evacuated.

(b) The emergency coordinator shall immediately notify either the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under 40 CFR 1510) or the National Response Center using their 24-hour toll-free number (800)424-8802, and the Maryland Department of the Environment, Emergency Response Program (410)974-3551. The report shall include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (for example, release, fire);

(iv) Name and quantity of materials involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(5) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(8) The emergency coordinator shall ensure that, in the affected areas of the facility:

#### ENVIRONMENT

(a) Waste that may be incompatible with the released material is not treated, stored, or disposed of until cleanup procedures are completed; and

(b) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The owner or operator shall notify the Secretary, and appropriate other State and local authorities, that the facility is in compliance with G(8) before operations are resumed in the affected areas of the facility.

(10) The owner or operator shall note in the operating record the time, date, and details of any incident that required implementing the contingency plan. Within 15 days after the incident, he shall submit a written report on the incident to the Secretary. The report shall include:

(a) Name, address, and telephone number of the owner or operator;

(b) Name, address, and telephone number of the facility;

(c) Date, time, and type of incident (for example, fire, explosion);

(d) Name and quantity of materials involved;

(e) The extent of injuries, if any;

(f) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(g) Estimated quantity and disposition of recovered material that resulted from the incident.

#### .05 Manifest System, Record Keeping, and Reporting.

A. Applicability.

(1) This regulation applies to owners and operators of both onsite and off-site facilities, except as Regulation .01 of this chapter otherwise provides.

(2) Sections B, C, and G of this regulation do not apply to owners and operators of on-site facilities that do not receive hazardous waste from off-site sources.

(3) Section D(2)(i) of this regulation only applies to owners or operators who treat, store, or dispose of hazardous wastes on-site where these wastes were generated.

26.13.05.05

B. Use of Manifest System.

(1) If a facility rèceives hazardous waste accompanied by a manifest, the owner or operator, or his agent, shall:

(a) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(b) Note any significant discrepancies in the manifest as defined in C(1) on each copy of the manifest;

(c) Immediately give the transporter at least one copy of the signed manifest;

(d) Within 30 days after the delivery, send a copy of the manifest to the generator;

(e) Send a completed copy of the manifest to the Department within 10 days after receipt of the hazardous waste; and

(f) Retain at the facility a copy of each manifest for at least 3 years from the date of delivery.

(2) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, shall:

(a) Sign and date each copy of the shipping paper to certify that the hazardous waste covered by the shipping paper was received;

(b) Note any significant discrepancies in the shipping paper (as defined in \$B(1)) on each copy of the shipping paper;

(c) Immediately give the rail or water (bulk shipment) transporter at least one copy of the shipping paper;

(d) Within 30 days after the delivery, send a copy of the shipping paper to the generator; however, if the manifest is received within 30 days after the delivery, the owner or operator, or his agent, shall sign and date the manifest and return it to the generator instead of the shipping paper; and

(e) Retain at the facility a copy of each shipping paper and manifest for at least 3 years from the date of delivery.

(3) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility shall comply with the requirements of COMAR 26.13.03.

Supp. 5

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

C. Manifest Discrepancies.

(1) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are:

(a) For bulk waste, variations greater than 10 percent in weight; and

(b) For batch waste, any variation in piece count, such as discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(2) Upon discovering a significant discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter (for example, with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator shall immediately submit to the Secretary a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

D. Operating Record.

(1) The owner or operator shall keep a written operating record at his facility.

(2) The following information shall be recorded as it becomes available, and maintained in the operating record until closure of the facility:

(a) A description and the quantity of each hazardous waste received, and the methods and dates of its treatment, storage, or disposal at the facility as required by Regulation .20.

(b) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste shall be recorded on a map or diagram of each cell or disposal area. For all facilities, this information shall include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.

(c) Records and results of waste analysis performed as specified in Regulations .02D and H, .14N, and .15C of this chapter.

26.13.05.05

(d) Summary reports and details of all incidents that require implementing the contingency plan as specified in Regulation .04G(10) of this chapter.

(e) Records and results of inspections as required by Regulation .02F(4) of this chapter (except these data need be kept only 3 years).

(f) For off-site facilities, notices to generators as specified in Regulation .02C(3) of this chapter.

(g) All closure cost estimates under Regulation .08 of this chapter and for disposal facilities all post-closure cost estimates under Regulation .08 of this chapter.

(h) Monitoring, testing, or analytical data, and corrective action when required by Regulations .06-.06-7, .10D, .10-2, .10-4, .11F, .12E, .13G, I, K, .14C, I, .16I, and .16-1C of this chapter.

(i) A certification by the owner or operator at least annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

E. Availability, Retention, and Disposition of Records.

(1) All records, including plans, required under this chapter shall be furnished upon request, and made available at all reasonable times for inspection by any officer, employee, or representative of the Department who is duly designated by the Secretary.

(2) The retention period for all records required under this chapter is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Secretary.

(3) A copy of records of waste disposal locations and quantities under D(2)(b) of this regulation shall be submitted to the Secretary and local land authority upon closure of the facility.

F. Annual or Biennial Reporting. An owner or operator shall:

(1) Periodically, submit reports to the Secretary concerning hazardous waste generated during the preceding calendar year on EPA or State Form 8700-13A, or on an alternate form provided by the Secretary;

#### ENVIRONMENT

(2) Submit the reports required by F(1) of this regulation with the following frequency:

(a) Annually, for reporting periods through December 31, 1995, and

(b) Biennially, for reporting periods beginning January 1, 1997;

(3) Submit the reports required by F(1) of this regulation not later than:

(a) March 1 of the following year for reporting periods through December 31, 1995, and

(b) March 1 of each even numbered year for the preceding calendar year for reporting periods beginning January 1, 1997; and

(4) Assure that the reports required by F(1) of this regulation contain, at a minimum, the following information:

(a) The EPA identification number, name, and address of the facility,

(b) The calendar year covered by the report,

(c) For off-site facilities within the United States, the EPA identification number of each hazardous waste generator from whom the facility received a hazardous waste during the year,

(d) For imported shipments, the name and address of the foreign generator,

(e) A description and the quantity of each hazardous waste the facility received during the year,

(f) For off-site facilities within the United States, a listing of the information required by F(4)(e) of this regulation under the EPA identification number of each generator from whom the facility received hazardous waste,

(g) The method of treatment, storage, or disposal for each hazardous waste,

(h) The certification signed by the owner or operator of the facility or the owner's or operator's authorized representative,

(i) The most recent closure cost estimate under Regulation .08 of this chapter and, for disposal facilities, the most recent post-closure cost estimate under Regulation .08 of this chapter,

(j) For generators who treat, store, or dispose of hazardous waste on site, a description of the efforts undertaken during the year to reduce the volume and toxicity of the waste generated, and

1020

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.05

(k) For generators who treat, store, or dispose of hazardous waste on site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent that information is available.

G. Unmanifested Waste Report. If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in COMAR 26.13.04.02A(5)(b), and if the waste is not excluded from the manifest requirement by COMAR 26.13.02.05, then the owner or operator shall prepare and submit a single copy of a report to the Secretary within 15 days after receiving the waste. The report form and instructions in Regulation .21 shall be used for this report. The report shall include the following information:

(1) The EPA identification number, name, and address of the facility;

(2) The date the facility received the waste;

(3) The EPA identification number, name, and address of the generator and the transporter, if available;

(4) A description and the quantity of each unmanifested hazardous waste the facility received;

(5) The method of treatment, storage, or disposal for each hazardous waste;

(6) The certification signed by the owner or operator of the facility or his authorized representative; and

(7) A brief explanation of why the waste was unmanifested, if known.

H. Additional Reports. In addition to submitting the annual report or biennial report, and unmanifested waste reports described in §§F and G of this regulation, the owner or operator shall also report to the Secretary:

(1) Releases, fires, and explosions as specified in Regulation .04G(10) of this chapter;

(2) Ground water contamination and monitoring data as specified in Regulation .06-1B and C of this chapter;

(3) Facility closure as specified in Regulation .07F; and

(4) As otherwise required by Regulations .06—.06-7 and .11—.14 of this chapter.

#### ENVIRONMENT

# .06 Ground Water Protection—General; Incorporation by Reference.

#### A. Applicability.

(1) Except as provided in A(3) of this regulation, Regulations .06—.06-7 of this chapter apply to owners or operators of facilities that treat, store, or dispose of hazardous waste. The owner or operator shall satisfy the requirements identified in A(2) of this regulation for all wastes or their constituents, contained in solid waste management units at the facility, regardless of the time at which waste was placed in those units.

(2) Owners or operators shall ensure that:

(a) Solid waste management units comply with the requirements of Regulation .06-7 of this chapter;

(b) A surface impoundment, waste pile, and land treatment unit or landfill that receives a hazardous waste after July 26, 1982, referred to after this as a "regulated unit", complies with the requirements of §B of this regulation and Regulations .06-1—.06-6 of this chapter instead of Regulation .06-7 of this chapter for purposes of

(See page 1022)

1021-1

#### ENVIRONMENT

detecting, characterizing, and responding to releases to the uppermost aquifer;

(c) Regulated units are operated in compliance with the financial responsibility requirements of Regulation .06-7 of this chapter .

(3) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this regulation if one of the following apply:

(a) The owner or operator is exempted under Regulation .01 of this chapter.

(b) The owner or operator operates a unit which the Secretary finds:

(i) Is an engineered structure;

(ii) Does not receive or contain liquid waste or waste containing free liquids;

(iii) Is designed and operated to exclude liquid, precipitation, and other run-on and run-off;

(iv) Has both inner and outer layers of containment enclosing the waste;

(v) Has a leak detection system built into each containment layer;

(vi) Will have continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods; and

(vii) To a reasonable degree of certainty, does not allow hazardous constituents to migrate beyond the outer containment layer before the end of the post-closure care period.

(c) The Secretary finds, under Regulation .13K of this chapter, that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of Regulation .13I of this chapter has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this regulation during the post-closure care period.
#### CONTROLLED HAZARDOUS SUBSTANCES 26

(d) The owner or operator demonstrates to the Secretary's satisfaction that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit, including the closure period, and the post-closure care specified under Regulation .07G of this chapter. The owner or operator shall have this demonstration certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator shall base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(e) The owner or operator designs and operates a waste pile in compliance with Regulation .12A of this chapter.

(4) Requirements for Disposal Units that Received Last Volume of Waste before July 26, 1982.

(a) Except as modified by A(4)(b)—(c) of this regulation, the Department adopts as its requirements for all hazardous waste landfills, land treatment facilities, surface impoundments, and waste piles that received the last volume of hazardous waste before July 26, 1982, the federal regulations at 40 CFR 265.90-265.94, 265.110-265.120, 265.220-265.230, 265.250-265.257, and 265.300-265.325, adopted as of July 1, 1993, which are incorporated by reference.

(b) The federal regulations incorporated by reference in A(4)(a) of this regulation are modified as follows:

(i) Substitute "Secretary" for "Regional Administrator"; and

(ii) Substitute "Department" for "Environmental Protection Agency" or "Agency".

(c) The Department may add additional requirements under this regulation if the Secretary determines that these requirements are necessary to protect public health and the environment.

(5) This regulation and Regulations .06-1-.06-7 of this chapter may apply to miscellaneous units when necessary to comply with Regulation .16-1B-D of this chapter.

(6) This regulation and Regulations .06-1-.06-7 of this chapter apply during the:

(a) Active life of the regulated unit, including the closure period;

## 26.13.05.06

## ENVIRONMENT

(b) Post-closure care period under Regulation .07G of this chapter if the owner or operator is conducting a detection monitoring program under Regulation .06-4 of this chapter; and

(c) Compliance period under Regulation .06-1E of this chapter if the owner or operator is conducting a compliance monitoring program under Regulation .06-5 of this chapter or a corrective action program under Regulation .06-6 of this chapter.

(7) This regulation and Regulations .06-1—.06-7 of this chapter do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure.

B. Required Program.

(1) Compliance Monitoring, Corrective Action, and Detection Monitoring.

(a) Compliance Monitoring.

(i) The owner or operator shall institute a compliance monitoring program approved by the Secretary under Regulation .06-5 of this chapter whenever hazardous constituents from a regulated unit are detected at the compliance point.

(ii) The hazardous constituents to which B(1)(a)(i) of this regulation applies are determined under Regulation .06-1B of this chapter.

(iii) The compliance point is set under Regulation .06-1D of this chapter.

(iv) Hazardous constituents are considered to have been detected if there is statistically significant evidence of contamination as described in Regulation .06-4G of this chapter.

(b) Corrective Action.

(i) The owner or operator shall institute a corrective action program approved by the Secretary under Regulation .06-6 of this chapter whenever the ground water protection standard under Regulation .06-1A of this chapter is exceeded. The ground water protection standard is considered to have been exceeded if there is statistically significant evidence of contamination as described in Regulation .06-5A(5) of this chapter.

(ii) The owner or operator shall institute a corrective action program approved by the Secretary under Regulation .06-6 of this chapter whenever hazardous constituents from a regulated unit

exceed concentration limits in ground water between the compliance point and the down gradient property boundary. The compliance point is set under Regulation .06-1D of this chapter. Concentration limits are established under Regulation .06-1C of this chapter. The hazardous constituents to which this requirement applies are established under Regulation .06-1B of this chapter.

(c) Detection Monitoring. In all cases other than those covered by B(1)(a) or (b) of this regulation, the owner or operator shall institute a detection monitoring program approved by the Secretary under Regulation .06-4 of this chapter.

(2) Monitoring and Response Program.

(a) The owner or operator of a facility subject to this regulation shall comply with the specific elements of the monitoring and response program specified by the Secretary in the facility permit.

(b) The Secretary may include one or more of the programs identified in B(1) of this regulation in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Secretary shall consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

#### .06-1 Ground Water Protection—Program Elements.

A. Ground Water Protection Standard.

(1) During the compliance period established under §E of this regulation, the owner or operator shall comply with conditions specified in the facility permit to ensure that, in the uppermost aquifer underlying the waste management area beyond the point of compliance, hazardous constituents detected in the ground water from a regulated unit do not exceed the concentration limits established under §C of this regulation. The hazardous constituents to which this applies are determined under §B of this regulation. The point of compliance is set under §D of this regulation.

(2) The Secretary shall establish this ground water protection standard in the facility permit when hazardous constituents have been detected in the ground water.

#### Environment

B. Hazardous Constituents.

(1) The facility permit shall specify the hazardous constituents to which the ground water protection standard of A of this regulation applies.

(2) For the purposes of this regulation, "hazardous constituents" means constituents identified in COMAR 26.13.02.24 that have been detected in ground water in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Secretary has excluded them under B(3) of this regulation.

(3) The Secretary may exclude a constituent identified in COMAR 26.13.02.24 from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment based on the following considerations:

(a) Potential adverse effects on ground water quality considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration,

(ii) The hydrogeological characteristics of the facility and surrounding land,

(iii) The quantity of ground water and the direction of ground water flow,

(iv) The proximity and withdrawal rates of ground water users,

(v) The current and future uses of ground water in the area,

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water quality,

(vii) The potential for health risks caused by human exposure to waste constituents,

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents,

(ix) The persistence and permanence of the potential adverse effects; and

(b) Potential adverse effects on hydraulically connected surface water quality, considering:

1026

(i) The volume and physical and chemical characteristics of the waste in the regulated unit,

(ii) The hydrogeological characteristics of the facility and surrounding land,

(iii) The quantity and quality of ground water, and the direction of ground water flow,

(iv) The patterns of rainfall in the region,

(v) The proximity of the regulated unit to surface waters,

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters,

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality,

(viii) The potential for health risks caused by human exposure to waste constituents,

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(x) The persistence and permanence of the potential adverse effects.

(4) In making any determination under B(3) of this regulation about the use of ground water in the area around the facility, the Secretary shall consider any identification of underground sources of drinking water and exempted aquifers made by the Approving Authority for the State's Underground Injection Control Program.

C. Concentration Limits.

(1) The facility permit shall specify concentration limits in the ground water for hazardous constituents established under §B of this regulation. The concentration of a hazardous constituent:

(a) May not exceed the background level of that constituent in the ground water at the time that limit is specified in the permit;

(b) For any of the constituents listed in Table 1, may not exceed the respective value given in that table if the background level of the constituent is below the value given in Table 1; or

(c) May not exceed an alternate limit established by the Secretary under C(2) of this regulation.

# ENVIRONMENT

(2) The Secretary may establish an alternate concentration limit for a hazardous constituent if the Secretary finds that the constituent does not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. Establishment of alternate concentration limits is based on consideration of the following factors:

(a) Potential adverse effects on ground water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration,

(ii) The hydrogeological characteristics of the facility and surrounding land,

(iii) The quantity of ground water and the direction of ground water flow,

(iv) The proximity and withdrawal rates of ground water users,

(v) The current and future uses of ground water in the areas,

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water quality,

(vii) The potential for health risks caused by human exposure to waste constituents,

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents,

(ix) The persistence and permanence of the potential adverse effects; and

(b) Potential adverse effects on hydraulically connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit,

(ii) The hydrogeological characteristics of the facility and surrounding land,

(iii) The quantity and quality of ground water, and the direction of ground water flow,

(iv) The patterns of rainfall in the region,

(v) The proximity of the regulated unit to surface waters,

1028

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters,

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality,

(viii) The potential for health risks caused by human exposure to waste constituents,

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(x) The persistence and permanence of the potential adverse effects.

(3) In making any determination under C(2) of this regulation about the use of ground water in the area around the facility, the Secretary shall consider any identification of underground sources of drinking water and exempted aquifers made by the Approving Authority for the State's Underground Injection Control Program.

#### Table 1

# Maximum Concentration of Constituents for Ground Water Protection

Constituent	Maximum Concentration (Milligrams per liter)
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.01
Silver	0.05
Endrin (1,2,3,4,10-hexachloro-1,7-1 epoxy-1,4,4a,5, 6,7,8,9a-octahydro-1,4-endo-5,8-dimethano naph- thalene)	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-trichloro-2,2-bis(p-methoxy-	0.1

1029

#### ENVIRONMENT

Constituent	Maximum Concentration (Milligrams per liter)
Toxaphene ( $C_{10}H_{10}C_8$ , technical chlorinated camphene, 67—69 percent chlorine)	0.005
2,4-D (2,4-dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-trichlorophenoxypropionic acid)	0.01

#### D. Point of Compliance.

(1) The Secretary shall specify in the facility permit the point of compliance at which the ground water protection standard of §A of this regulation applies and at which monitoring shall be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(2) Waste Management Area.

(a) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(b) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(c) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

E. Compliance Period.

(1) The Secretary shall specify in the facility permit the compliance period during which the ground water protection standard of §A of this regulation applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity before permitting, and the closure period), unless extended by order of the Secretary.

(2) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of Regulation .06-5 of this chapter.

(3) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in E(1) of this reg-

ulation, the compliance period is extended until the owner or operator can demonstrate that the ground water protection standard of §A of this regulation has not been exceeded for a period of 3 consecutive years.

#### .06-2 General Ground Water Monitoring Requirements.

For any ground water monitoring program developed to satisfy Regulation .06-4, .06-5, or .06-6 of this chapter, the owner or operator shall:

A. Obtain approval of the Secretary before installation;

B. Ensure that the ground water monitoring system:

(1) Consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from the uppermost aquifer that represent the quality of background ground water that has not been affected by leakage from a regulated unit; and

(2) Satisfies the following conditions if the determination of background water quality includes sampling of wells that are not hydraulically upgradient of the waste management area:

(a) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient, and

(b) Sampling at other wells will provide an indication of background ground water quality that is as representative as, or more representative than, that provided by the upgradient wells;

C. Ensure that the ground water monitoring system:

(1) Represents the quality of ground water passing the point of compliance; and

(2) Allows for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer;

D. Ensure that separate ground water monitoring systems are provided for each regulated unit unless other provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer;

E. Ensure that installation of the ground water monitoring system is:

# ENVIRONMENT

(1) Approved by an individual who has:

(a) A bachelor's degree in geology or a related field of earth science from an accredited college or university, and

(b) At least 3 years experience in the design and installation of these systems; and

(2) Conducted in accordance with the requirements of COMAR 26.04.04;

F. Ensure that each monitoring well meets all of the following requirements:

(1) The well is cased in a manner that maintains the integrity of the monitoring well bore hole;

(2) The casing is screened or perforated and packed with gravel or sand, when necessary, to enable collection of ground water samples; and

(3) The annular space, that is, the space between the bore hole and well casing, above the sampling depth, is sealed to prevent contamination of samples and the ground water;

G. Ensure that the ground water monitoring program includes consistent sampling and analysis procedures that are designed to provide a reliable indication of ground water quality below the waste management area by including, at a minimum, procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control;

H. Ensure that the ground water monitoring program includes sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents in ground water samples;

I. Ensure that the ground water monitoring program includes a determination of the ground water surface elevation each time ground water is sampled;

J. Satisfy the following conditions in implementing the detection monitoring program as required by Regulation .06-4 of this chapter or in implementing the compliance monitoring program as required by Regulation .06-5 of this chapter:

(1) Collect data on each hazardous constituent specified in the permit to be collected from background wells and wells at the compliance point or points;

(2) Ensure that the number and kinds of samples collected by the owner or operator to establish the background are appropriate for the form of statistical test employed, following generally accepted statistical principles;

(3) Ensure that the sample size is as large as necessary to assure with reasonable confidence that a contaminant release to ground water from a facility will be detected; and

(4) Determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit for specification in the permit upon approval by the Secretary;

K. Ensure that the sampling procedure required by §J of this regulation consists of either:

(1) A sequence of at least four samples taken by the owner or operator at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, considering the:

(a) Uppermost aquifer's effective porosity,

(b) Hydraulic conductivity of the uppermost aquifer,

(c) Hydraulic gradient in the uppermost aquifer, and

(d) Fate and transport characteristics of the potential contaminants; or

(2) An alternate sampling procedure proposed by the owner or operator and approved by the Secretary.

L. Maintain, as part of the facility operating record, ground water monitoring data collected in accordance with §§J and K of this regulation;

M. Submit ground water monitoring data collected in accordance with Regulation .06B of this chapter to the Secretary for the Secretary's review on a schedule as specified in the facility CHS permit.

.06-3 Statistical Methods for Evaluating Ground Water Monitoring Data.

A. General.

(1) The owner or operator shall specify, subject to §B of this regulation, a statistical method to be used in evaluating ground water

#### ENVIRONMENT

monitoring data for each hazardous constituent identified in accordance with Regulation .06-1B of this chapter.

(2) Once a choice of statistical method is approved by the Secretary, the owner or operator shall use the statistical method as a condition of the owner's or operator's CHS facility permit.

(3) The owner or operator shall conduct the chosen statistical test separately for each hazardous constituent identified in accordance with Regulation .06-1B of this chapter in each well.

(4) If a practical quantification limit (pql) is to be used in a statistical method specified under this section to comply with the performance standards of §C of this regulation, the owner or operator shall propose the pql to the Secretary for approval.

(5) The owner or operator shall ensure that a statistical method specified under this section:

(a) Is protective of human health and the environment; and

(b) Complies with the performance standards outlined in §C of this regulation.

B. Statistical Methods. In satisfying the requirement of A(1) of this regulation, the owner or operator shall specify one of the following statistical methods:

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination, if the method includes estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent;

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination, if the method includes estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent;

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit;

(4) A control chart approach that gives control limits for each constituent; or

(5) Another statistical test method submitted by the owner or operator and approved by the Secretary.

# CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.06-3

C. Performance Standards.

(1) The owner or operator shall comply with the following requirements for any statistical method chosen under §§A and B of this regulation for specification in the facility permit.

(2) The owner or operator shall ensure that the statistical method used to evaluate ground water monitoring data is appropriate for the distribution of the chemical parameters or hazardous constituents.

(3) If the distribution of a chemical parameter or hazardous constituent for which data are collected under the ground water monitoring program is inappropriate for a normal theory test, then the owner or operator shall transform the data into an appropriate form or use a distribution-free theory test.

(4) If the statistical distributions for the constituents for which data are collected differ, the owner or operator may use more than one statistical method.

(5) In tests other than those using tolerance intervals, prediction intervals, or control charts, in comparing an individual compliance well constituent concentration with background constituent concentrations or a ground water protection standard, the owner or operator shall ensure that:

(a) If an individual well comparison is used, the Type I error level is not less than 0.01 for each testing period; and

(b) If a multiple comparisons procedure is used, the Type I overall experimental error rate for each testing period is not less than 0.05, and the Type I error of not less than 0.01 for individual well comparisons is maintained.

(6) If a control chart approach is used to evaluate ground water monitoring data, the owner or operator shall propose the specific type of control chart and its associated parameter values for approval by the Secretary, contingent upon the approach being protective of human health and the environment.

(7) Tolerance Intervals.

(a) If a tolerance interval or a prediction interval is used by the owner or operator to evaluate ground water monitoring data, the owner or operator shall propose the following for approval by the Secretary, contingent on values for these parameters being protective of human health and the environment:

EPA ARCHIVE DOCUMENT

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(i) Levels of confidence; and

(ii) For tolerance intervals, the percentage of the population that the interval is to contain.

(b) The Secretary shall consider the following in reviewing the parameters proposed under C(7)(a) of this regulation:

(i) The number of samples in the background data base;

(ii) The data distribution for each constituent of concern; and

(iii) The range of the concentration values for each constituent of concern.

(8) The owner or operator shall ensure that the statistical method accounts for data below the limit of detection with one or more statistical procedures.

(9) In proposing a practical quantification limit (pql) for use in a statistical procedure to account for data below the limit of detection, the owner or operator shall select the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(10) The owner or operator shall ensure that the statistical method includes procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data, as required.

### .06-4 Detection Monitoring Program.

An owner or operator required to establish a detection monitoring program under this regulation shall, at a minimum, discharge the following responsibilities:

A. The owner or operator shall monitor for waste constituents, reaction products, or indicator parameters, such as specific conductance, total organic carbon, or total organic halogen, that provide a reliable indication of the presence of hazardous constituents in ground water, as specified by the Secretary in the facility permit after considering the following factors:

(1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

# CONTROLLED HAZARDOUS SUBSTANCES

(3) The detectability of indicator parameters, waste constituents, and reaction products in ground water; and

(4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the ground water background;

B. The owner or operator shall install a ground water monitoring system at the compliance point, as specified under Regulation .06-1D of this chapter, that is in compliance with Regulation .06-2C(1), D, and F of this chapter;

C. The owner or operator shall ensure that a detection monitoring program satisfies the following requirements:

(1) The program includes each chemical parameter and hazardous constituent specified in the permit under §A of this regulation in accordance with Regulation .06-2J and K of this chapter; and

(2) The owner or operator maintains a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under Regulation .06-3A and B of this chapter;

D. The owner or operator shall, at frequencies specified by the Secretary, collect samples and conduct statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under §A of this regulation in accordance with Regulations .06-2J and K, and .06-3A of this chapter;

E. In complying with the requirements of §D of this regulation, during detection monitoring, the owner or operator shall, at a minimum, collect at least semiannually a sequence of at least four samples from each background and compliance well;

F. The owner or operator shall determine the ground water flow rate and direction in the uppermost aquifer at least annually;

G. The owner or operator shall determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in the facility CHS permit under §A of this regulation by:

(1) Making the determination at a frequency specified under §D of this regulation;

(2) Using the method or methods specified in the permit under Regulation .06-3A of this chapter to compare data collected at the

Supp. 6

## Environment

compliance point or points to the background ground water quality data; and

(3) Determining whether there is statistically significant evidence of contamination at each monitoring well at the compliance point within a reasonable period of time after completion of sampling, as specified by the Secretary in the permit based on:

(a) The complexity of the statistical test; and

(b) The availability of laboratory facilities to perform the analysis of ground water samples;

H. The owner or operator shall comply with the following requirements if the owner or operator determines, in accordance with §G of this regulation, that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified under §A of this regulation at any monitoring well at the compliance point:

(1) Notify the Secretary of this finding in writing within 7 days, indicating what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(2) Immediately sample the ground water in all monitoring wells and determine the concentration of all constituents identified in 40 CFR 264, Appendix IX, that are present in ground water;

(3) Except as provided in H(6) of this regulation, determine the constituents that will form the basis for compliance monitoring by either:

(a) Resampling ground water within 1 month of the time that constituents identified in 40 CFR 264, Appendix IX, are detected under H(2) of this regulation, repeating the analysis to determine constituent concentrations, and if the results of the second analysis confirm the presence of compounds detected in the first analysis, using those constituents as the basis for compliance monitoring; or

(b) Using the hazardous constituents found during the initial analysis conducted under H(2) of this regulation as the basis for compliance monitoring;

(4) Within 90 days, submit to the Secretary an application for a permit modification to establish a compliance monitoring program meeting the requirements of Regulation .06-5 of this chapter, including in the application the following information:

(a) For each monitoring well at the compliance point, the concentration of any constituent listed in 40 CFR 264, Appendix IX, that was found in the ground water;

(b) Any proposed changes to the ground water monitoring system at the facility necessary to meet the requirements of Regulation .06-5 of this chapter;

(c) Any proposed changes to the monitoring frequency, sampling, and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of Regulation .06-5 of this chapter;

(d) For each hazardous constituent found at the compliance point, a proposed concentration limit under Regulation .06-1C(1)(a) or (b) of this chapter, or a notice of intent to seek an alternative concentration limit under Regulation .06-1C(2) of this chapter;

(5) Within 180 days, submit to the Secretary:

(a) All data necessary to justify an alternate concentration limit sought under Regulation .06-1C(2) of this chapter; and

(b) An engineering feasibility plan for a corrective action program necessary to meet the requirements of Regulation .06-6 of this chapter, unless:

(i) All hazardous constituents identified under H(2) of this regulation are listed in Table 1 of Regulation .06-1C(3) of this chapter and their concentrations do not exceed the respective values given in that table, or

(ii) The owner or operator has sought an alternate concentration limit under Regulation .06-1C(2) of this chapter for each hazardous constituent identified under H(2) of this regulation;

(6) If the resampling conducted under H(3)(a) of this regulation does not confirm the initial results, then the owner or operator may remain in detection monitoring, and need not make the submissions required by H(4) and (5) of this regulation;

I. If the owner or operator determines under §G of this regulation that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified under §A of this regulation at any monitoring well at the compliance point, the owner or operator may attempt to demonstrate that:

(1) A source other than a regulated unit caused the contamination; or

1039

## ENVIRONMENT

(2) The finding of statistically significant evidence of contamination resulted from error in sampling, analysis, or statistical evaluation, or from natural variation in ground water;

J. The owner or operator shall submit an application for a permit modification within the time specified in H(4) of this regulation unless a demonstration made under I of this regulation successfully shows that:

(1) A source other than a regulated unit caused the contamination; or

(2) The finding of statistically significant evidence of contamination resulted from error in sampling, analysis, or statistical evaluation, or from natural variation in ground water;

K. In making a demonstration under §I of this regulation, the owner or operator shall:

(1) Notify the Secretary in writing, within 7 days of determining that there is statistically significant evidence of contamination at the compliance point, of the intention to make a demonstration under §I of this regulation;

(2) Within 90 days, submit a report to the Secretary which demonstrates that a source other than a regulated unit caused the contamination, or that the finding of statistically significant evidence of contamination resulted from error in sampling, analysis, or evaluation, or from natural variation in the ground water;

(3) Within 90 days, submit to the Secretary an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility; and

(4) Continue to monitor in accordance with the detection monitoring program established under this regulation;

L. If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this regulation, the owner or operator shall, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

#### .06-5 Compliance Monitoring.

A. Compliance Monitoring Program. An owner or operator required to establish a compliance monitoring program under this regulation shall, at a minimum, discharge the following responsibilities:

(1) Monitor the ground water to determine whether regulated units are in compliance with the ground water protection standard under Regulation .06-1A of this chapter;

(2) Comply with the ground water protection standard specified by the Secretary in the facility permit, including the:

(a) List of the hazardous constituents identified in accordance with Regulation .06-1B of this chapter;

(b) Concentration limits specified in accordance with Regulation .06-1C of this chapter for each of the hazardous constituents in A(2)(a) of this regulation;

(c) Compliance point specified in accordance with Regulation .06-1D of this chapter; and

(d) Compliance period specified in accordance with Regulation .06-1E of this chapter;

(3) Install a ground water monitoring system at the compliance point as specified under Regulation .06-1D of this chapter that complies with the requirements of Regulation .06-2B—D and F of this chapter;

(4) Use sampling procedures and statistical methods appropriate for the constituents and the facility, in accordance with Regulations .06-2J and K and .06-3A and B of this chapter, as follows:

(a) Implement a sampling program as specified by the Secretary in the facility CHS permit;

(b) Conduct a sampling program for each chemical parameter or hazardous constituent in accordance with Regulation .06-2J and K of this chapter; and

(c) Record ground water analytical data as measured and in a form necessary for the determination of statistical significance under Regulation .06-3A and B of this chapter for the compliance period of the facility;

(5) Make a determination as to whether there is evidence of increased contamination in accordance with the following:

(a) Determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the CHS facility permit under A(1)and (2) of this regulation at a frequency specified under A(7) and (8) of this regulation;

#### ENVIRONMENT

(b) Use the methods specified in the CHS facility permit under Regulation .06-3A and B of this chapter to make the determination under A(5)(a) of this regulation;

(c) Ensure that the methods under A(5)(b) of this regulation compare data collected at the compliance point or points to a concentration limit developed under Regulation .06-1C of this chapter;

(d) Make the determination of whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after the completion of sampling, as specified by the Secretary in the facility's CHS permit after consideration of the following:

(i) The complexity of the statistical test, and

(ii) The availability of the laboratory facilities to perform the analysis of ground water samples;

(6) Determine the ground water flow rate and direction in the uppermost aquifer at least annually;

(7) Ensure that the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with Regulation .06-2J and K of this chapter are in accordance with the requirements specified by the Secretary in the facility's CHS permit;

(8) Collect a sequence of at least four samples from each well, including background and compliance wells, at least semiannually during the compliance period of the facility;

(9) Analyze samples from all monitoring wells at the compliance point for all constituents listed in 40 CFR 264, Appendix IX, at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, in accordance with procedures under Regulation .06-4G of this chapter;

(10) If constituents listed in 40 CFR 264, Appendix IX, are found in the ground water under A(9) of this regulation, and some of these constituents have not already been identified in the facility's CHS permit as monitoring constituents, the owner or operator shall either:

(a) Report the concentrations of the newly identified constituents to the Secretary within 7 days after the initial analysis and add them to the facility's monitoring list; or

# CONTROLLED HAZARDOUS SUBSTANCES 26,13.05.06-5

(b) Resample within 1 month and repeat the analysis for constituents listed in 40 CFR 264, Appendix IX, and comply with the following requirements:

(i) Report the results of the analysis to the Secretary within 7 days of the completion of the second analysis, and

(ii) If the results of the resampling confirm the initial testing results, add the constituents to the list of constituents monitored under the facility's permit;

(11) Comply with the following requirements if the owner or operator determines, under A(5) of this regulation, that any concentration limit under Regulation .06-1C of this chapter is being exceeded at any monitoring well at the point of compliance:

(a) Notify the Secretary of this finding in writing within 7 days, indicating in the notification the concentration limits that have been exceeded;

(b) Submit to the Secretary an application for a permit modification to establish a corrective action program meeting the requirements of Regulation .06-6 of this chapter within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Secretary under Regulation .06-4H(5) of this chapter, unless the facility permit already includes that corrective action program;

(c) Include at a minimum, in the application submitted in accordance with A(11)(b) of this regulation, the following information:

(i) A detailed description of corrective actions that will achieve compliance with the ground water protection standard specified in the permit under A(1) and (2) of this regulation, and

(ii) A plan for a ground water monitoring program that will demonstrate the effectiveness of the corrective action, and that may be based on a compliance monitoring program developed to meet the requirements of this regulation.

B. Demonstration of Alternate Cause of Exceedence.

(1) If the owner or operator determines, in accordance with A(5) of this regulation, that any ground water concentration limits under this regulation are being exceeded at any monitoring well at the point of compliance, the owner or operator may attempt to demonstrate that a source other than a regulated unit caused the contamination or

#### ENVIRONMENT

that the detection is an artifact from either an error in sampling, analysis, or statistical evaluation, or from natural variation in the ground water.

(2) In making a demonstration under this section, the owner or operator shall:

(a) Notify the Secretary in writing, within 7 days of determining that a ground water concentration limit has been exceeded, of the intention to make a demonstration under this section;

(b) Within 90 days, submit a report to the Secretary which demonstrates that a source other than a regulated unit caused the standards to be exceeded or that the apparent noncompliance with the standards resulted from an error in sampling, analysis, or evaluation, or from natural variation in the ground water;

(c) Within 90 days, submit to the Secretary an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(d) Continue to monitor in accordance with the compliance monitoring program established under this regulation.

C. If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this regulation, the owner or operator shall, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

#### .06-6 Corrective Action Program.

A. Corrective Action Program Content. An owner or operator required to establish a corrective action program under this regulation shall, at a minimum, discharge the following responsibilities:

(1) Take corrective action measures to ensure that regulated units are in compliance with the ground water protection standards under Regulation .06-1A of this chapter specified by the Secretary in the facility permit, including:

(a) A list of the hazardous constituents identified under Regulation .06-1B of this chapter;

(b) The concentration limits under Regulation .06-1C of this chapter for each of those hazardous constituents in A(1)(a) of this regulation;

(c) The compliance point under Regulation .06-1D of this chapter; and

(d) The compliance period under Regulation .06-1E of this chapter;

(2) Implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place, in accordance with the measures specified in the facility permit;

(3) Begin corrective action within a reasonable time period after the ground water protection standard is exceeded, as specified by the Secretary in the facility permit;

(4) In conjunction with the corrective action program, establish and implement a ground water monitoring program to demonstrate the effectiveness of the corrective action program;

(5) Ensure that the ground water monitoring program, under A(4) of this regulation, which may be based on the requirements for a compliance monitoring program under Regulation .06-5 of this chapter, is as effective as the compliance monitoring program in determining:

(a) Compliance with the ground water protection standard under Regulation .06-1A of this chapter; and

(b) The success of a corrective action program under A(6) of this regulation, when appropriate;

(6) Comply with the following requirements for the corrective action program:

(a) In addition to the other requirements of this chapter, conduct a corrective action program to remove or treat in place any hazardous constituents under Regulation .06-1B of this chapter that exceed concentration limits under Regulation .06-1C of this chapter in ground water:

(i) Between the compliance point under Regulation .06-1D of this chapter and the downgradient facility property boundary, and

(ii) Beyond the facility boundary when necessary to protect human health and the environment, except as provided in A(6)(b) of this regulation;

(b) Instead of the requirements of A(6)(a)(i) of this regulation to conduct a corrective action program beyond the facility boundary,

1043-2

#### ENVIRONMENT

implement on-site measures as determined by the Secretary on a case-by-case basis to address any release that has migrated beyond the facility boundary, if the owner or operator is able to demonstrate to the Secretary's satisfaction that, despite best efforts, the owner or operator was unable to obtain the necessary permission to undertake a corrective action program beyond the facility boundary;

(c) Initiate and complete corrective action measures under this regulation within a reasonable period of time, considering the extent of contamination;

(d) Continue implementing corrective action measures under this regulation at least until the concentrations of hazardous constituents under Regulation .06-1B of this chapter are reduced to levels below their respective concentration limits under Regulation .06-1C of this chapter.

B. Program Duration, Reporting Requirements, and Modification. An owner or operator required to conduct a corrective action program under the requirements of this regulation shall:

(1) Comply with the following requirements concerning the duration of corrective action measures:

(a) Continue corrective action measures during the compliance period to the extent necessary to ensure that the ground water protection standard is not exceeded,

(b) If the owner or operator is conducting corrective action at the end of the compliance period, continue the corrective action for as long as necessary to achieve compliance with the ground water protection standard,

(c) Continue corrective action measures taken beyond the period equal to the active life of the waste management area, including the closure period, at least until the owner or operator can demonstrate, based on data from the ground water monitoring program under A(4) and (5) of this regulation, that the ground water protection standard of Regulation .06-1A of this chapter has not been exceeded for a period of 3 consecutive years;

(2) Report in writing to the Secretary on the effectiveness of the corrective action program through reports submitted semiannually;

(3) Within 90 days of determining that the corrective action program no longer satisfies the requirements of this regulation, submit an application for a permit modification to make any appropriate changes to the program.

1043-3

# CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.07

# .06-7 Corrective Action for Solid Waste Management Units.

A. The owner or operator of a facility seeking a permit for the treatment, storage, or disposal of hazardous waste shall institute corrective action as necessary to protect human health and the environment from all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit.

B. Corrective action shall be specified in the permit. If the corrective action cannot be completed before issuance of the permit, the permit shall contain schedules of compliance for the corrective action and assurances of financial responsibility for completing the corrective action.

C. Except as provided in §D of this regulation, in complying with the requirements of §A of this regulation, the owner or operator shall implement corrective actions beyond the facility property boundary when necessary to protect human health and the environment.

D. The owner or operator is not subject to the requirement of §C of this regulation to implement corrective actions beyond the facility property boundary if the owner or operator is able to demonstrate to the Secretary's satisfaction that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake the corrective actions. Instead, the owner or operator shall implement on-site measures as determined by the Secretary on a case-by-case basis to address any release that has migrated beyond the facility boundary, and provide assurances of financial responsibility for the corrective action.

# .07 Closure and Post-Closure.

A. Applicability. Except as Regulation .01 of this chapter otherwise provides:

(1) Sections B-F of this regulation (which concern closure) apply to the owners and operators of all hazardous waste facilities; and

(2) Sections G—J of this regulation (which concern post-closure care) apply to the owners and operators of:

(a) All hazardous waste disposal facilities;

(b) Waste piles and surface impoundments from which the owner or operator intends to remove the waste at closure, to the

Supp. 6

# 1043-4

#### ENVIRONMENT

extent that §§G—J of this regulation are made applicable to the facilities in Regulation .11G or .12I of this chapter; and

(c) Tank systems that are required under Regulation .10-7 of this chapter to meet the requirements for landfills.

B. Closure Performance Standard. The owner or operator shall close his facility in a manner that minimizes the need for further maintenance, and controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or waste decomposition products to the ground water, or surface waters, or to the atmosphere, and complies with the closure requirements including, but not limited to, Regulations .09I, .10-7, .11G, .12I, .13K, .14J, .15E, .16L, .16-1B-D, .17E, and .18E of this chapter.

C. Closure Plan; Amendment of Plan.

(1) Written Plan.

(a) The owner or operator of a hazardous waste management facility shall have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by Regulations .11G(3)(a) and .12I(3)(a) to have contingent closure plans. The plan shall be submitted with the permit application, and approved by the Secretary as part of the permit issuance procedures under COMAR 26.13.07. The approved closure plan will become a condition of any CHS facility permit.

(b) The Secretary's approval of the plan shall ensure that the approved closure plan is consistent with §§B—F of this regulation and the applicable requirements of Regulations .06—.06-7, .09I, .10-7, .11G, .12I, .13K, .14J, .15E, .16L, .16-1B, .17E, and .18E of this chapter. Until final closure is certified in accordance with §F, a copy of the approved plan and all approved revisions shall be furnished to the Secretary upon request, including request by mail.

(2) Content of the Plan. The plan shall identify steps necessary to perform partial or final closure of the facility at any point during its active life. The closure plan shall include, at least:

(a) A description of how each hazardous waste management unit at the facility will be closed in accordance with §B.

(b) A description of how final closure of the facility will be conducted in accordance with §B. The description shall identify the maxi-

1043-5

# CONTROLLED HAZARDOUS SUBSTANCES

mum extent of the operations which will be unclosed during the active life of the facility.

(c) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type or types of the off-site hazardous waste management units to be used, if applicable.

(d) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard.

(e) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including but not limited to ground water monitoring, leachate collection, and run-on and runoff control.

(See page 1044)

1043-6

# 26.13.05.07C

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(f) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule shall include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover shall be included.)

(g) For facilities that use trust funds to establish financial assurance under Regulation .08 and that are expected to close before the expiration of the permit, an estimate of the expected year of final closure.

(3) Amendment of the Plan.

(a) The owner or operator shall submit a written request for a permit modification to authorize a change in operating plans, facility . design, or the approved closure plan in accordance with the procedures in COMAR 26.13.07. The written request shall include a copy of the amended closure plan for approval by the Secretary.

(b) The owner or operator may submit a written request to the Secretary for a permit modification to amend the closure plan at any time before the notification of partial or final closure of the facility.

(c) The owner or operator shall submit a written request for a permit modification to authorize a change in the approved closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan;

(ii) There is a change in the expected year of closure, if applicable; or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

(d) The owner or operator shall submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days before the proposed change in facility design or operation, or not later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator shall request a permit modification not later than 30 days after the unexpected event. An owner or operator of a surface impoundment or

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.07C

waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under Regulation .11G(3)(a) or .12I(3)(a), shall submit an amended closure plan to the Secretary not later than 60 days from the date that the owner or operator or Secretary determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of Regulation .14J, or not later than 30 days from that date if the determination is made during partial or final closure. The Secretary will approve, disapprove, or modify this amended plan in accordance with the procedures in COMAR 26.13.07. The approved closure plan will become a condition of any CHS facility permit issued.

(e) The Secretary may request modifications to the plan under the conditions described in C(3)(c). The owner or operator shall submit the modified plan within 60 days of the Secretary's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Secretary will be approved in accordance with the procedures in COMAR 26.13.07.

(4) Notification of Partial Closure and Final Closure.

(a) The owner or operator shall notify the Secretary in writing at least:

(i) 60 days before the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit;

(ii) 45 days before the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed.

(b) The date when the owner or operator expects to begin closure shall be either not later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous waste or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous waste, not later than 1 year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Secretary that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Secretary may approve an extension to this 1-year limit.

#### 26.13.05.07D

# ENVIRONMENT

(c) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under Environment Article, Title 7, Annotated Code of Maryland, to cease receiving hazardous wastes or to close, then the requirements of this subsection do not apply. However, the owner or operator shall close the facility in accordance with the deadlines established in §D.

(5) Removal of Wastes and Decontamination or Dismantling of Equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

D. Closure; Time Allowed for Closure.

(1) Within 90 days after receiving the final volume of hazardous wastes at a hazardous waste management unit or facility, the owner or operator shall treat, remove from the unit or facility, or dispose of onsite, all hazardous wastes in accordance with the approved closure plan. The Secretary may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that the owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, and either:

(a) The activities required to comply with this subsection either will, of necessity, take longer than 90 days to complete; or

(b) The following conditions are met:

(i) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes,

(ii) There is a reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within 1 year,

(iii) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site.

(2) The owner or operator shall complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes at the hazardous waste management unit or facility. The Secretary may approve an extension to the closure period if the owner or operator complies

with all applicable requirements for requesting a modification to the permit and demonstrates that:

(a) Either:

(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete, or

(ii) The hazardous waste management unit or facility has the capacity to receive additional hazardous waste, there is reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within 1 year, and closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(b) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.

(3) The demonstrations referred to in D(1) and (2) of this chapter shall be made as follows:

(a) The demonstration in D(1) shall be made at least 30 days before the expiration of the 90-day period in D(1); and

(b) The demonstration in D(2) shall be made at least 30 days before the expiration of the 180-day period in D(2).

E. Disposal or Decontamination of Equipment, Structures, and Soils. During the partial and final closure periods, all contaminated equipment, structures, and soils shall be properly disposed of or decontaminated unless otherwise specified in Regulations .10-7C, .11G, .12I, .13K, .14J, or .16-1B and D of this chapter. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and shall handle that waste in accordance with all applicable requirements of COMAR 26.13.03.

F. Certification of Closure.

(1) Within 60 days of completion of closure of each hazardous surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator shall submit to the Secretary, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved

### 26.13.05.07G

#### ENVIRONMENT

closure plan. The certification shall be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification shall be furnished to the Secretary upon request until the Secretary releases the owner or operator from the financial assurance requirements for closure under Regulation .08 of this chapter.

(2) Survey Plat. Not later than at the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Secretary, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable requirements of Regulations .07 and .11-.14 of this chapter.

G. Post-Closure Care and Use of Property.

(1) Post-closure care for each hazardous waste management unit subject to the requirements of G-J shall begin after completion of closure of the unit and continue for 30 years after that date and shall consist of at least the following:

(a) Monitoring and reporting in accordance with the requirements of Regulations .06-.06-7, .11-.14, and .16-1 of this chapter; and

(b) Maintenance and monitoring of waste containment systems in accordance with the requirements of Regulations .06-.06-7, .11-.14, and .16-1 of this chapter.

(2) At any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or at any time during the post-closure period for a particular unit, the Secretary may, in accordance with the permit modification procedures in COMAR 26.13.07:

(a) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment, such as when leachate or ground water monitoring results, characteristics of the hazardous

1048

# CONTROLLED HAZARDOUS SUBSTANCES 26.13

26.13.05.07G

la serie de la s

and the second s

Statistics of the

Province of

wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure; or

(See page 1049)

1048-1

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.07H

(b) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment, such as when leachate or ground water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment.

(3) The Secretary may require, at partial and final closure, continuation of any of the security requirements of Regulation .02E during part or all of the post-closure period when:

(a) Hazardous wastes may remain exposed after completion of partial or final closure; or

(b) Access by the public or domestic livestock may pose a hazard to human health.

(4) Post-closure use of property on or in which hazardous wastes remain after partial or final closure may not disturb the integrity of the final cover, liner or liners, or any other components of the containment system, or the function of the facility's monitoring systems, unless the Secretary finds that the disturbance:

(a) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(b) Is necessary to reduce a threat to human health or the environment.

(5) All post-closure care activities shall be in accordance with the provisions of the approved post-closure plan as specified in §H.

H. Post-Closure Plan; Amendment of Plan.

(1) Written Plan. The owner or operator of a hazardous waste disposal unit shall have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by Regulations .11G(3)(b) and .12I(3)(b) to have contingency post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under Regulations .11G(3)(b) and .12I(3)(b) shall submit a post-closure plan to the Secretary within 90 days from the date that the owner or operator or Secretary determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of \$

# 26.13.05.07H

#### ENVIRONMENT

permit application in accordance with COMAR 26.13.07.02—.19 and approved by the Secretary as part of the permit issuance procedures under COMAR 26.13.07.20. In accordance with COMAR 26.13.07.05, the approved post-closure plan will become a condition of any permit issued.

(2) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan shall identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(b) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Regulations .06-..06-7, .11-...14, and .16-1 of this chapter, and

(ii) The function of the monitoring equipment in accordance with the requirements of Regulations .06-.06-7, .11-.14, and .16-1 of this chapter; and

(c) The name, address, and telephone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

(3) Until final closure of the facility, a copy of the approved postclosure plan shall be furnished to the Secretary upon request, including request by mail. After final closure has been certified, the person or office specified in H(2)(c) shall keep the approved post-closure plan during the remainder of the post-closure period.

(4) Amendment of Plan.

(a) The owner or operator shall request a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements of COMAR 26.13.07. The written request shall include a copy of the amended post-closure plan for approval by the Secretary.

(b) The owner or operator may submit a written request to the Secretary for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.

1050

# Controlled Hazardous Substances

(c) The owner or operator shall submit a written request for a permit modification to authorize a change in the approved postclosure plan whenever:

(i) Changes in operating plans or facility design affect the approved post-closure plan;

(ii) There is a change in the expected year of final closure, if applicable; or

(iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan.

(d) The owner or operator shall submit a written request for a permit modification at least 60 days before the proposed change in facility design or operation, or not later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under Regulations .11G(3)(b) and .12I(3)(b) shall submit a post-closure plan to the Secretary not later than 90 days after the date that the owner or operator or Secretary determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of Regulation .14J. The Secretary will approve, disapprove, or modify this plan in accordance with the procedures in COMAR 26.13.07. In accordance with COMAR 26.13.07.05, the approved post-closure plan will become a permit condition.

(e) The Secretary may request modifications to the plan under the conditions described in H(4)(c), above. The owner or operator shall submit the modified plan not later than 60 days after the Secretary's request, or not later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the Secretary will be approved, disapproved, or modified in accordance with the procedures in COMAR 26.13.07.

I. Post-Closure Notices.

(1) Not later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Secretary, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other dis-
and

#### ENVIRONMENT

posal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator shall identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(2) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator shall:

(a) Record a notation on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes,

(ii) Its use is restricted under COMAR 26.13.05.06—.06-7,

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§F and I(1) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Secretary;

(b) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in I(2)(a), above, including a copy of the document in which the notation has been placed, to the Secretary.

(3) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he shall request a modification to the post-closure permit in accordance with the applicable requirements in COMAR 26.13.07. The owner or operator shall demonstrate that the removal of hazardous wastes will satisfy the criteria of G(4). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and shall manage it in accordance with all applicable requirements of COMAR 26.13.03. If he is granted a permit modification or otherwise granted approval to conduct the removal activities, the owner or operator may request that the Secretary approve either:

(a) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

J. Certification of Completion of Post-Closure Care. No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator shall submit to the Secretary, by registered mail, a certification that the postclosure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification shall be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification shall be furnished to the Secretary upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under 40 CFR §264.145(i).

#### .08 Financial Requirements.

A. Except as provided in §B, the Department adopts as its regulations the federal regulations at 40 CFR §§264.140—264.148 and 264.151, which are incorporated by reference in Regulation .01C(1) of this chapter.

B. For purposes of this regulation:

(1) Substitute "Secretary" for "Regional Administrator";

(2) Substitute "Department" for "Environmental Protection Agency" or "Agency";

(3) In establishing the financial assurance for closure required by 40 CFR §264.143, a person may not use the financial test or corporate guarantee described in 40 CFR §264.143(f); and

(4) In establishing the financial assurance for post-closure care required by 40 CFR §264.145, a person may not use the financial test or corporate guarantee described in 40 CFR §264.145(f) which is incorporated by reference.

#### .09 Use and Management of Containers.

A. Applicability. This regulation applies to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as Regulation .01 of this chapter otherwise provides.

B. Condition of Containers. If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator

#### ENVIRONMENT

shall transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this chapter.

C. Compatibility of Waste with Container. The owner or operator shall use a container made of or lined with materials which do not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

D. Management of Containers. A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste, and the container may not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

E. Inspections. The owner or operator shall inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration of containers and the containment system caused by corrosion or other factors.

F. Special Requirements for Ignitable or Reactive Waste. Containers holding ignitable or reactive waste shall be located at least 15 meters (50 feet) from the facility's property line.

G. Special Requirements for Incompatible Wastes.

(1) Incompatible wastes, or incompatible wastes and materials, (see Regulation .24 for examples) may not be placed in the same container, unless Regulation .02H(2) is complied with.

(2) Hazardous waste may not be placed in an unwashed container that previously held an incompatible waste or material (see Regulation .24 for examples).

(3) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

H. Containment.

(1) Container storage areas shall have a containment system that is capable of collecting and holding spills, leaks, and precipitation. The containment system shall:

(a) Have a base underlying the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills,

# CONTROLLED HAZARDOUS SUBSTANCES

and accumulated rainfall until the collected material is detected and removed;

(b) Be designed for efficient drainage so that standing liquid does not remain on the base longer than 1 hour after a leakage or precipitation event unless the containers are elevated, or in some other manner are protected from contact with accumulated liquids; and

(c) Have sufficient capacity to contain 10 percent of the volume of containers or the volume of the largest container, whichever is greater.

(2) Run-on into the containment system shall be prevented, unless the Secretary waives this requirement in the permit after determining that the collection system has sufficient excess capacity in addition to that required in H(1)(c), above, to accommodate any run-on which might enter the system.

(3) Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(4) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system as described in H(1), above, except as provided by H(5), or provided that:

(a) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation; or

(b) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(5) Storage areas that store containers holding the wastes F020, F021, F022, F023, F026, and F027 that do not contain free liquids shall have a containment system defined by H(1).

I. Closure. At closure, all hazardous waste and hazardous waste residues shall be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed according to closure plans which are to remain onsite for Departmental review.

Supp. 5

EPA ARCHIVE DOCUMENT

1055

# 26.13.05.10

#### ENVIRONMENT

.10 General Requirements for Hazardous Waste Management in Tank Systems.

A. Applicability.

(1) Owners and operators of facilities that use tank systems to treat or store hazardous waste shall comply with the requirements of this regulation and Regulations .10-1 - .10-7 of this chapter, except as otherwise provided in §A(2), (3), and (5) of this regulation or in Regulation .01 of this chapter.

(2) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements of Regulation .10-4 of this chapter. To determine whether a waste contains free liquids, a person shall use EPA Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Publication SW-846), which is incorporated by reference in COMAR 26.13.01.05A(4).

(3) Tank systems, including sumps as defined in COMAR 26.13.01.02B, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes, are exempted from the requirements of Regulation .10-4A of this chapter.

(4) For the purposes of classifying a tank system as either new or existing, installation of the tank system is considered to have begun if the following criteria are met:

(a) The owner or operator has obtained all federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and

(b) A continuous on-site physical construction or installation program has begun, or the owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for either completion of physical construction of the site or installation of the tank system within a reasonable time.

(5) Tanks, sumps, and other collection devices or systems used in conjunction with drip pads as defined in COMAR 26.13.01.03B and regulated under Regulations .17-1—.17-4 of this chapter are subject to the requirements of this regulation and Regulations .10-1—.10-7 of this chapter.

B. Waste Analysis and Trial Tests. In addition to the waste analysis required by Regulation .02D of this chapter, whenever a tank is to be used to chemically treat or store a hazardous waste which is substan-

1056

# Controlled Hazardous Substances

26.13.05.10

the summer

Constanting of the second

tially different from waste previously treated or stored in that tank, or chemically treat hazardous waste with a substantially different process than any previously used in that tank, the owner or operator shall, before treating or storing the different waste or using the different process:

(See page 1057)

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.10

(1) Conduct waste analysis and trial treatment or storage tests, such as bench scale or pilot plant scale tests; or

(2) Obtain written, documented information on similar storage or treatment of similar waste under similar operating conditions, to show that this proposed treatment or storage will meet the requirements of C(1) of this regulation.

C. General Operating Requirements.

(1) A person may not place hazardous wastes or treatment reagents in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, corrode, leak, or otherwise fail.

(2) Overfilling. The owner or operator shall use appropriate controls and practices to prevent spills and overflows from tank or containment systems, and, at a minimum, shall employ the following controls and practices to comply with this requirement:

(a) Controls to prevent overfilling, such as level sensing devices, high level alarms, automatic feed cutoff, or by-pass to a standby tank;

(b) For uncovered tanks, maintenance of sufficient freeboard to prevent overtopping by wave or wind action or by precipitation; and

(c) Spill prevention controls, such as check valves or dry disconnect couplings.

(3) The owner or operator shall comply with the requirements of Regulation .10-6 of this chapter if a leak or spill occurs in the tank system.

D. Inspections, The owner or operator shall:

(1) Develop and follow a schedule and procedure for inspecting overfill controls;

(2) Inspect at least once each operating day:

(a) Data gathered from monitoring and leak detection equipment, such as pressure and temperature gauges and monitoring wells, to ensure that the tank system is being operated according to its design,

(b) For uncovered tanks, the level of waste in the tank to ensure compliance with C(2)(b) of this regulation,

(c) Above-ground portions of the tank system to detect corrosion or releases of waste, and

.

Supp. 5

1057

# 26.13.05.10

**US EPA ARCHIVE DOCUMENT** 

# ENVIRONMENT

(d) The construction materials of, and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous wastes, such as wet spots or dead vegetation;

(3) Inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(a) Confirm proper operation of the cathodic protection system within 6 months after initial installation and annually after that, and

(b) Inspect or test, or both, as appropriate, all sources of impressed current at least every 2 months;

(4) Develop, as part of the inspection schedule required in Regulation .02F of this chapter, and in addition to the specific requirements of D(1)—(3) of this regulation, a schedule and procedures for assessing the condition of the tank which meet the following requirements:

(a) The schedule and procedures shall be adequate to detect cracks, leaks, corrosion, or erosion which may prevent compliance with C(1) of this regulation,

(b) The inspection procedure shall include procedures for emptying a tank to allow entry and inspection of the interior when tank entry is necessary to detect corrosion or erosion of the tank sides and bottom, and

(c) The scheduled frequency of assessments shall be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during the previous inspections, and the characteristics of the waste being treated or stored;

(5) Document, in the operating record of the facility, inspections of the items required to be made in D(1)—(4) of this regulation.

E. Air Emissions. The owner or operator shall provide all tanks with the treatment process controls, emission controls, and safety or emergency procedures that are necessary to protect human health and the environment from toxic or otherwise harmful fumes, mists, or gases resulting from:

(1) Volatilization of wastes stored or treated in the tank;

(2) Chemical reactions in the tank, either routine or resulting from process upsets; or

1058

#### 26.13.05.10-2 CONTROLLED HAZARDOUS SUBSTANCES

(3) Physical agitation or other forms of treatment conducted in the tank.

# .10-1 Special Requirements for Hazardous Waste Management in Tank Systems.

#### A. Special Requirements for Ignitable or Reactive Wastes.

(1) An owner or operator may not place ignitable or reactive waste in a tank system unless one of the following conditions is met:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under COMAR 26.13.02.11 or .13, and

(ii) Regulation .02H(2) of this chapter is complied with;

(b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(c) The tank system is used solely for emergencies.

(2) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon, as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1990), which is incorporated by reference in COMAR 26.13.01.05A(3).

B. Special Requirements for Incompatible Wastes. An owner or operator may not place:

(1) Incompatible wastes, or incompatible wastes and materials, in the same tank system, unless Regulation .02H(2) of this chapter is complied with;

(2) Hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless Regulation .02H(2) of this chapter is complied with.

#### .10-2 Assessment of Existing Tank System's Integrity.

A. Applicability. The requirements of this regulation apply to owners and operators of existing hazardous waste tank systems that do

**US EPA ARCHIVE DOCUMENT** 

# ENVIRONMENT

not have secondary containment meeting the requirements of Regulation .10-4 of this chapter.

B. For each existing tank system that does not have secondary containment meeting the requirements of Regulation .10-4 of this chapter, the owner or operator shall:

(1) Develop, and keep on file at the facility, a written assessment of whether the tank system:

(a) Is leaking or otherwise unfit for use;

(b) Will collapse, rupture, or fail based on an analysis of the tank system design, structural strength, and compatibility with the waste or wastes to be stored or treated;

(2) Have the assessment required by B(1) of this regulation certified by an independent, qualified registered professional engineer, in accordance with COMAR 26.13.07.03D;

(3) Assure that the assessment required by B(1) of this regulation considers, at a minimum, the following:

(a) Design standards, if available, according to which the tank and ancillary equipment were constructed;

(b) Hazardous characteristics of the waste or wastes that have been and will be handled;

(c) Existing corrosion protection measures;

(d) Documented age of the tank system, if available, or, if not, an estimate of the age;

(e) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For nonenterable underground tanks, the assessment includes a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,

(ii) For other than nonenterable underground tanks and for ancillary equipment, the assessment includes either a leak test which satisfies the requirements of B(3)(e)(i) of this regulation, or other integrity examination, that is certified by an independent, qualified, registered professional engineer in accordance with COMAR 26.13.07.03D, that addresses cracks, leaks, corrosion, and erosion;

(4) Develop the written assessment required by B(1) of this regulation as follows:

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.10-3

(a) For existing tanks that cannot be entered for inspection, by July 1, 1993;

(b) For all other existing tank systems other than tanks that cannot be entered for inspection, by July 1, 1994, except that, for tank systems that store or treat materials that become regulated as hazardous wastes after July 1, 1993, the owner or operator shall conduct this assessment within 12 months after the date that the waste becomes regulated as a hazardous waste;

(5) Comply with the requirements of Regulation .10-6 of this chapter if, as a result of the assessment required by B(1) of this regulation, a tank system is found to be leaking or unfit for use.

# .10-3 Design and Installation of New Tank Systems and Components.

A. The owner or operator of a new tank system may not manage hazardous waste in the tank system unless the written assessment required by B(1) of this regulation demonstrates to the Secretary's satisfaction that the foundation, structural support, seams, connections, and pressure controls, if applicable, are adequately designed, and that the tank system has sufficient structural strength, compatibility with the waste or wastes to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail.

B. Owners or operators of new tank systems or components shall:

(1) Demonstrate, through a written assessment reviewed and certified by an independent, qualified, registered professional engineer, in accordance with COMAR 26.13.07.03D, that the tank system has sufficient structural integrity and is acceptable for the management of hazardous waste;

(2) Include, at a minimum, in the assessment required by B(1) of this regulation, the following information:

(a) Design standard or standards according to which the tank system and ancillary equipment will be constructed;

(b) Hazardous characteristics of the waste or wastes to be managed;

(c) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

Supp. 5

**JS EPA ARCHIVE DOCUMENT** 

# ENVIRONMENT

(i) Factors affecting the potential for corrosion, including but not limited to soil moisture content, soil pH, soil sulfides level, soil resistivity, structure to soil potential, influence of nearby underground metal structures such as piping, existence of stray electric current, existing corrosion protection measures such as coating or cathodic protection, and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the system during the use of the system or component, consisting of corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, corrosion-resistant coating such as epoxy or fiberglass, with cathodic protection such as impressed current or sacrificial anodes, or electrical isolation devices such as insulating joints or flanges;

(d) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(e) Design considerations to ensure that tank:

(i) Foundations will maintain the load of a full tank,

(ii) Systems will be anchored to prevent flotation or dislodging where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of 40 CFR §264.18(a), and

(iii) Systems will withstand the effects of frost heave;

(3) Submit to the Secretary the written assessment required by B(1) of this regulation as part of the owner's or operator's application for a Controlled Hazardous Substances facility permit or permit modification;

(4) Comply with the following requirements for installation of new tank systems:

(a) Ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation;

(b) Before covering, enclosing, or placing a new tank system or component in use, have the tank system inspected by an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, for the presence of any of the following items:

1059-3

# CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.10-3

(i) Weld breaks,

(ii) Punctures,

(iii) Scrapes of protective coatings,

(iv) Cracks,

(v) Corrosion, and

(vi) Other structural damage or inadequate construction or installation;

(c) Remedy all discrepancies detected in the inspection required by B(4)(b) of this regulation before the tank system is covered, closed, or placed in use;

(5) Use a backfill material that is a noncorrosive, porous, homogeneous substance for new tank systems or components that are placed underground and that are backfilled, and install the backfill material so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported;

(6) Test all new tanks and ancillary equipment for tightness before covering, enclosing, or placing in use;

(7) Perform all repairs necessary to remedy any leaks in the tank system before covering, enclosing, or placing the system into use;

(8) Ensure that ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction;

(9) Provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under the requirements of B(2)(c) of this regulation, or other corrosion protection if the Secretary believes other corrosion protection is necessary to ensure the integrity of the tank system during its use;

(10) Ensure that the installation of a corrosion protection system that is field-fabricated is supervised by an independent corrosion expert to ensure proper installation;

(11) Obtain and keep on file at the facility written statements by the persons required to certify the design of the tank system in accordance with B(1) and (2) of this regulation and the persons required to supervise the installation of the tank system in accordance with the requirements of B(4)—(10) of this regulation that attest that the

Supp. 5

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

tank system was properly designed and installed, and that repairs required by B(4)(c) and (7) of this regulation were performed;

(12) Include, in the written statements required by B(11) of this regulation, the certification statement as required in COMAR 26.13.07.03D.

# .10-4 Containment and Detection of Releases.

A. Except as allowed for in §F of this regulation and Regulation .10-5 of this chapter, an owner or operator shall provide secondary containment that meets the requirements of this regulation by the following deadlines:

(1) For all new tank systems or components, before their being put into service;

(2) For all existing tank systems used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 that are:

(a) Underground tanks that cannot be entered for inspection, by July 1, 1993,

(b) Underground tanks that can be entered for inspection, within 2 years after July 1, 1993, or

(c) Not underground tanks, within 2 years after July 1, 1993;

(3) Existing underground tank systems that cannot be entered for inspection and that are a known and documented age, by July 1, 1993, or when the tank system becomes 15 years old, whichever comes later;

(4) Existing tank systems of a known and documented age that are not underground or are underground tanks that can be entered for inspection, within 2 years after July 1, 1993, or when the tank system becomes 15 years old, whichever comes later;

(5) Existing underground tank systems that cannot be entered for inspection, and for which the age cannot be documented:

(a) Within 8 years of January 12, 1987, if the age of the facility is 7 years or less, or

(b) If the age of the facility is greater than 7 years, by July 1, 1993, or the time the facility becomes 15 years old, whichever comes later;

(6) Existing tank systems that are not underground tanks, or are underground tanks that can be entered for inspection, and for which the age cannot be documented:

(a) Within 8 years of July 1, 1993, if the age of the facility is 7 years or less, or

(b) If the age of the facility is greater than 7 years, within 2 years after July 1, 1993, or the time the facility becomes 15 years old, whichever comes later;

(7) Tank systems that are used to store or treat materials that become regulated as hazardous wastes after July 1, 1993, within the time intervals required in A(1)—(6) of this regulation, except that the date that a material becomes a hazardous waste is substituted for January 12, 1987 or July 1, 1993, whichever is applicable.

B. The owner or operator shall ensure that secondary containment systems provided in accordance with §A of this regulation:

(1) Are designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system;

(2) Are capable of detecting and collecting releases and accumulated liquids until the collected material is removed;

(3) Are constructed of or lined with materials that are compatible with the waste or wastes to be placed in the tank system;

(4) Have sufficient strength and thickness to prevent failure owing to pressure gradients, including static head and external hydrological forces, physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation, including stresses from nearby vehicular traffic;

(5) Are placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(6) Are provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Secretary that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and

Supp. 5

# ENVIRONMENT

(7) Are sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation.

C. The owner or operator shall remove spilled or leaked waste and accumulated precipitation from the secondary containment system within 24 hours, or, if the owner or operator can demonstrate to the Secretary that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours, in as timely a manner as is possible to prevent harm to human health and the environment.

D. The owner or operator shall use one or more of the following devices in providing for secondary containment for tanks:

(1) A liner, external to the tank;

(2) A vault;

EPA ARCHIVE DOCUMENT

(3) A double-walled tank; or

(4) An equivalent device as approved by the Secretary.

E. The owner or operator shall ensure that:

(1) External liner systems are:

(a) Designed or operated to contain 100 percent of the capacity of the largest tank within the boundary of the liner system,

(b) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration and the additional capacity is sufficient to contain precipitation from a 25-year, 24-hour rainfall event,

(c) Free of cracks or gaps, and

(d) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank or tanks (that is, capable of preventing lateral as well as vertical migration of the waste);

(2) Vault systems are:

(a) Designed or operated to contain 100 percent of the capacity of the largest tank within the boundary of the vault system,

(b) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration, and the additional capacity is sufficient to contain precipitation from a 25-year, 24-hour rainfall event,

# Controlled Hazardous Substances 26.13.05.10-4

(c) Constructed with chemical-resistant water stops in place at any joints,

(d) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the material of construction of the vault.

(e) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated meets the definition of ignitable waste under COMAR 26.13.02.11, or meets the definition of reactive waste under COMAR 26.13.02.13, and may form an ignitable or explosive vapor, and

(f) Provided with an exterior moisture barrier or are otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure;

(3) Double-walled tanks are:

(a) Designed as an integral structure, with an inner tank completely enveloped within an outer shell, so that any release from the inner tank is contained by the outer shell,

(b) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell, and

(c) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Secretary, and the Secretary concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

F. The owner or operator shall provide ancillary equipment with secondary containment such as a trench, jacketing, or double-walled piping that meets the requirements of §B of this regulation except for:

(1) Above-ground piping, exclusive of flanges, joints, valves, and other connections, that is visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(3) Seal-less or magnetic coupling pumps and seal-less valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized above-ground piping systems with automatic shut-off devices, such as excess flow check valves, flow metering shut-

# ENVIRONMENT

down devices, or shut-off devices actuated by loss of pressure, that are visually inspected for leaks on a daily basis.

G. The owner or operator of a tank system, until such time as secondary containment that meets the requirements of this regulation is provided, shall comply with the following:

(1) For nonenterable underground tanks, conduct at least annually a leak test that meets the requirements of Regulation .10-2B(3)(e)(i) of this chapter, or other tank integrity method as approved or required by the Secretary;

(2) For other than nonenterable underground tanks, either conduct a leak test as in G(1) of this regulation, or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified, registered professional engineer;

(3) Ensure that assessments of the overall condition of the tank system performed instead of a leak test satisfy the following requirements:

(a) The schedule and procedure for the assessment is adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks,

(b) Stored waste is removed from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed, and

(c) The frequency of the assessment is based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated;

(4) For ancillary equipment, conduct at least annually a leak test or other integrity assessment as approved by the Secretary;

(5) Maintain on file at the facility a record of the results of the assessments conducted in accordance with G(1)—(4) of this regulation; and

(6) Comply with the requirements of Regulation .10-6 of this chapter if a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment performed in accordance with G(1)—(4) of this regulation.

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.10-5

# .10-5 Variances from Secondary Containment Requirements for Tank Systems.

A. The owner or operator may obtain a variance from the requirements of Regulation .10-4 of this chapter if the Secretary finds, as a result of a demonstration by the owner or operator, that:

(1) Alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the ground water and surface water at least as effectively as secondary containment during the active life of the tank system; or

(2) A substantial present or potential hazard will not be posed to human health or the environment in the event of a release that does migrate to ground water or surface water.

B. Requirements Applicable to New Tank Systems.

(1) New underground tank systems are not eligible for exemption from the secondary containment requirements of Regulation .10-4 of this chapter through a demonstration of no substantial present or potential hazard using the criteria of §E of this regulation.

(2) For the purposes of this section, a new underground tank system is an underground tank which:

(a) Cannot be entered for inspection for which construction began after July 14, 1986; or

(b) Can be entered for inspection for which construction began after July 1, 1993.

C. If the Secretary grants a variance under this regulation, the owner or operator shall construct and operate the tank system in the manner that was demonstrated to meet the requirements of D or E of this regulation in obtaining the variance.

D. In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Secretary shall consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water; and

Supp. 5

**JS EPA ARCHIVE DOCUMENT** 

# ENVIRONMENT

(4) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

E. In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, as provided for in A(2) of this regulation, the Secretary shall consider the potential adverse effects:

(1) On ground water, surface water, and land quality, taking into account:

(a) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(b) The hydrogeological characteristics of the facility and surrounding land,

(c) The potential for health risks caused by human exposure to waste constituents,

(d) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(e) The persistence and permanence of the potential adverse effects;

(2) Of a release on ground water quality, taking into account the:

(a) Quantity and quality of ground water and the direction of ground water flow,

(b) Proximity and withdrawal rates of ground water users,

(c) Current and future uses of ground water in the area, and

(d) Existing quality of ground water, including other sources of contamination and the cumulative impact of other sources of contamination on the ground water quality;

(3) Of a release on surface water quality, taking into account the:

(a) Quantity and quality of ground water and the direction of ground water flow,

(b) Patterns of rainfall in the region,

(c) Proximity of the tank system to surface waters,

(d) Current and future uses of surface waters in the area and water quality standards established for those surface waters, and

# Controlled Hazardous Substances 26.13.05.10-6

(e) Existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and

(4) Of a release on the land surrounding the tank system, taking into account the:

(a) Patterns of rainfall in the region, and

(b) Current and future uses of the surrounding land.

F. Procedures for Requesting a Variance. If requesting a variance from the requirements for secondary containment, the owner or operator shall:

(1) Notify the Secretary in writing of the intent to conduct and submit a demonstration for a variance from secondary containment as allowed in §§A—E of this regulation according to the following schedule:

(a) For existing tank systems, at least 24 months before the date that secondary containment shall be provided in accordance with Regulation .10-4A of this chapter, or

(b) For new tank systems, at least 30 days before entering into a contract for installation;

(2) As part of the notification required by F(1) of this regulation, submit to the Secretary a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps;

(3) Address in the demonstration for a variance each of the factors listed in §D or E of this regulation, as appropriate; and

(4) Complete the demonstration for a variance within 180 days after notifying the Secretary of intent to conduct the demonstration.

.10-6 Leaks, Spills, and Disposition of Leaking or Unfit-for-Use Tank Systems.

A. The owner or operator of a tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, shall:

(1) Immediately remove the tank system from service;

(2) Immediately stop the flow of hazardous waste into the tank system or secondary containment system;

(3) Inspect the system to determine the cause of the release;

S EPA ARCHIVE DOCUMENT

**US EPA ARCHIVE DOCUMENT** 

# ENVIRONMENT

(4) Remove waste from the tank system or secondary containment system in accordance with the following:

(a) If the release was from the tank system, remove all waste within 24 hours after detection of the leak or, if the owner or operator demonstrates that doing so is not possible, remove at the earliest practicable time as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system; and

(b) If the material was released to a secondary containment system, remove all released materials within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment;

(5) Contain visible releases to the environment by immediately conducting a visual inspection of the release and, based upon the inspection:

(a) Act to prevent further migration of the leak or spill to soils or surface water; and

(b) Remove, and properly dispose of, any visible contamination of the soil or surface water;

(6) Unless the quantity of the leak or spill is 1 pound or less and the leak or spill is immediately contained and cleaned up, file notifications and reports of the incident in accordance with the following:

(a) Report to the Secretary any release to the environment within 24 hours of the release's detection; and

(b) Submit to the Secretary within 30 days of detection of a release to the environment, a report containing the following information:

(i) Likely route of migration of the release,

(ii) Characteristics of the surrounding soil, such as soil composition, geology, and hydrogeology,

(iii) Results of any monitoring or sampling conducted in connection with the release, except that if sampling or monitoring data relating to the release are not available within 30 days, the owner or operator shall submit these data to the Secretary as soon as they become available,

(iv) Proximity to downgradient drinking water, surface water, and populated areas, and

# Controlled Hazardous Substances 26.13.05.10-6

(v) A description of response actions taken or planned;

(7) Close, repair, or provide secondary containment for the tank system in accordance with the following:

(a) Close the tank system in accordance with Regulation .10-7 of this chapter unless the owner or operator satisfies the requirements of A(7)(b)—(d) of this regulation;

(b) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed, and repairs, if necessary, have been made;

(c) If the cause of the release was a leak from the primary tank system into the secondary containment system, the owner or operator shall repair the tank system before returning it to service;

(d) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator:

(i) Shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Regulation .10-4 of this chapter before it is returned to service, unless the source of the leak is an above-ground portion of a tank system that can be inspected visually,

(ii) May, if the source is an above-ground component that can be inspected visually, return the component to service without secondary containment as long as the component is repaired and the requirements of A(8) and (9) of this regulation are satisfied,

(iii) Shall ensure that, if a component is replaced to comply with the requirements of A(7) of this regulation, the component satisfies the requirements for new tank systems or components in Regulations .10-3 and .10-4 of this chapter, and

(iv) Shall, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection, such as the bottom of an in-ground or on-ground tank, provide the entire component with secondary containment in accordance with Regulation .10-4 of this chapter before returning the tank system to use;

(8) Before returning to service a tank system that has been repaired in accordance with A(7) of this regulation and for which the repair has been extensive, such as installation of an internal liner or

1059-14

**US EPA ARCHIVE DOCUMENT** 

# ENVIRONMENT

repair of a ruptured primary containment or secondary containment vessel, obtain a certification by an independent, qualified, registered professional engineer in accordance with COMAR 26.13.07.03D that the repaired system is capable of handling hazardous wastes without release for the intended life of the system;

(9) Submit the certification required in A(8) of this regulation to the Secretary not later than 5 days before the tank system is returned to use.

B. The owner or operator of a tank system for which a variance from secondary containment has been granted in accordance with Regulation .10-5D of this chapter, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control, as established in the variance, shall:

(1) Comply, except for A(6)(b) of this regulation, with the other requirements of A of this regulation;

(2) Decontaminate or remove contaminated soil to the extent necessary to:

(a) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had before the release, and

(b) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(3) Comply with the requirements of Regulation .10-7C of this chapter if contaminated soil cannot be removed or decontaminated in accordance with B(2) of this regulation.

C. The owner or operator of a tank system for which a variance from secondary containment has been granted in accordance with the requirements of Regulation .10-5D of this chapter, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control, as established in the variance, shall:

(1) Comply with the requirements of A(1)—(6) of this regulation;

(2) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil;

# Controlled Hazardous Substances 26.13.05.10-7

(3) Comply with the requirements of Regulation .10-7C of this chapter if contaminated soil cannot be decontaminated or removed or if ground water has been contaminated; and

(4) Provide, if repairing, replacing, or reinstalling the tank system, secondary containment in accordance with the requirements of Regulation .10-4A—F of this chapter, or reapply for a variance from secondary containment and meet the requirements for new tank systems in Regulation .10-3 of this chapter if the tank system is replaced, even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.

# .10-7 Closure and Post-Closure Care of Tank Systems.

A. At the closure of a tank system, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless COMAR 26.13.02.03D applies.

B. An owner or operator shall ensure that the closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems meet all of the requirements specified in Regulations .07 and .08 of this chapter.

C. If an owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in §A of this regulation, then the owner or operator shall close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements of Regulation .14J of this chapter which apply to landfills. In addition, for the purposes of closure, post-closure, and financial responsibility, the tank system is then considered to be landfill, and the owner or operator shall meet all of the requirements for landfills specified in Regulations .07 and .08 of this chapter.

D. If an owner or operator has a tank system that does not have secondary containment that meets the requirements of Regulations .10-4B—F of this chapter, and has not been granted a variance from the secondary containment requirements in accordance with Regulation .10-5 of this chapter, then the owner or operator shall:

- (1) Include in the closure plan for the tank system a:
  - (a) Plan for complying with §A of this regulation; and
  - (b) Contingent plan for complying with §C of this regulation;

Supp. 5

# Environment

(2) Prepare and submit as part of the permit application a contingent post-closure plan for complying with §C of this regulation;

(3) Reflect, in the cost estimates calculated for closure and postclosure care, the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under A of this regulation;

(4) Base financial assurance on the cost estimates developed in accordance with §D(3) of this regulation; and

(5) Ensure that the contingent closure and post-closure plans meet all of the closure, post-closure, and financial responsibility requirements for landfills under Regulations .07 and .08 of this chapter.

(See page 1060)

# 26.13.05.11A

**US EPA ARCHIVE DOCUMENT** 

# Environment

#### .11 Surface Impoundments.

A. Applicability. This regulation applies to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as Regulation .01 otherwise provides.

B. General Design Requirements.

(1) A surface impoundment shall be designed to provide:

(a) At least 60 centimeters (2 feet) of freeboard; or

(b) An amount of freeboard other than 60 centimeters based on documentation acceptable to the Secretary that the specified amount of the freeboard will prevent overtopping. The amount of freeboard approved by the Secretary shall be specified in the permit.

(2) A surface impoundment shall be designed so that any flow of waste into the impoundment can be immediately shut off in the event of overtopping or liner failure.

(3) A surface impoundment shall be designed to prevent discharge into the land and ground water, and to surface water (except discharges authorized by a State discharge permit) during the life of the impoundment by use of a containment system which complies with §D. The Secretary shall include the design of the containment system as a term and condition of the permit.

(4) Dikes shall be designed with sufficient structural integrity to prevent massive failure without dependence on any liner system included in the surface impoundment design.

(5) For a surface impoundment, except for an existing portion of a surface impoundment, a leachate detection, collection, and removal system shall be designed so that liquid will flow freely from the collection system to prevent the creation of pressure head within the collection system in excess of that necessary to cause the liquid to flow freely.

(6) The owner or operator would be exempted from the requirements of B(3) if the Secretary finds, based on a demonstration by the owner or operator, the alternate design and operating practices, together with location characteristics, will prevent the migration of the hazardous constituents (see COMAR 26.13.05.06-1B) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Secretary will consider:

(a) The nature and quantity of the wastes;

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.11C

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and ground water or surface water; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(7) Any facility or facility unit subject to this regulation shall be constructed and installed as designed.

C. General Operating Requirements.

(1) A surface impoundment shall be operated to prevent any overtopping due to wind and wave action, overfilling precipitation, or normal or abnormal operations, malfunction of level controllers, alarms, and other equipment, or human error.

(2) A surface impoundment shall maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, malfunctions of level controllers, alarms, and other equipment, human error, or a storm. There shall be at least 60 centimeters (2 feet) of freeboard.

(3) A surface impoundment shall be operated to maintain at least the amount of freeboard specified by the Secretary in the permit.

(4) For a surface impoundment, except for an existing portion of a surface impoundment, a leachate detection, collection, and removal system installed to comply with §D shall be operated so that leachate flows freely from the collection system and is removed as it accumulates or with sufficient frequency to prevent backwater within the collection system.

(5) Earthen dikes shall be kept free of:

(a) Perennial woody plants with root systems which could displace the earthen materials upon which the structural integrity of the dike is dependent; and

(b) Burrowing mammals which could remove earthen materials upon which the structural integrity of the dike is dependent or create leaks through burrows in the dike.

(6) Run-on shall be diverted away from a surface impoundment.

# 26.13.05.11D

#### ENVIRONMENT

D. Containment Systems.

(1) Earthen dikes shall have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve the structural integrity of the dike.

(2) For a surface impoundment, except for an existing portion of a surface impoundment, a liner system designed to prevent discharge into the land during the life of the surface impoundment shall be constructed:

(a) With a highly impermeable liner system in contact with the waste which will prevent discharge of the waste or leachate into the liner or liners during the life of the surface impoundment based on the liner or liners' thickness, the saturated permeability of the liner or liners and the pressure head of waste or leachate to which the liner or liners will be exposed, and a leachate detection, collection, and removal system beneath the liner or liners in contact with the waste to detect, contain, collect, and remove any discharge from the liner system in contact with the waste; and

(b) Above the water table to ensure the detection of any discharge of waste or leachate through the liner system in contact with the waste, prevent the discharge of ground water to the leachate detection, collection, and removal system, and to preserve the structural integrity of the liner or liners. (The ground water table may be controlled to comply with this requirement.)

(3) A highly impermeable liner beneath the drainage layer (for example, the bottom liner) is a necessary part of a leachate detection, collection, and removal system.

(4) The owner or operator of each new surface impoundment, each new surface impoundment unit at an existing facility, each replacement of an existing surface impoundment unit, and each lateral expansion of an existing surface impoundment unit, shall install two or more liners and a leachate collection system between the liners. The liners and leachate collection system shall protect human health and the environment. The requirements of this section shall apply with respect to all waste received after the issuance of the permit. The requirement for the installation of two or more liners in this subsection may be satisfied by the installation of a top liner designed, operated, and constructed of materials to prevent the migration of any constituent into the liner during the period the facility remains in operation, including any post-closure monitoring period, and a lower liner designed, oper-

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.11D

ated, and constructed to prevent the migration of any constituent through the liner during this period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy this requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a hydraulic conductivity of no more than 1  $\times 10^{-7}$  centimeter per second.

(5) Section D(4) of this regulation does not apply if the owner or operator demonstrates to the Secretary and the Secretary finds for the surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection systems.

(6) The double liner requirement set forth in D(4) of this regulation may be waived by the Secretary for any monofill, if the monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and the wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in COMAR 26.13.02, and one of the following applies:

(a) All of the following:

(i) The monofill has at least one liner, as defined in D(7) of this regulation, for which there is no evidence that the liner is leaking;

(ii) The monofill is located more than  $\frac{1}{4}$  mile from an underground source of drinking water as that term is defined in 40 CFR §144.3;

(iii) The monofill is in compliance with generally applicable ground water monitoring requirements for facilities with permits under COMAR 26.13.07;

(b) The owner or operator demonstrates that the monofill is located, designed, and operated to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(7) For the purposes of this section, the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during active life of the facility.

### 26.13.05.11D

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(8) In the case of any surface impoundment which has been exempted from the requirements of D(4) of this regulation on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of the impoundment, the owner or operator shall remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of the impoundment shall comply with appropriate post-closure requirements, including but not limited to ground water monitoring and corrective action.

(9) A containment system shall have a containment life equal to or greater than the life of the surface impoundment. (See "Landfill and Surface Impoundment Performance Evaluation", EPA, SW/869, September 1980 for methods to evaluate the containment life and effectiveness of a containment system.)

(10) Liner systems shall be:

(a) Constructed of materials which have appropriate chemical properties and strength and of sufficient thickness to prevent failure due to pressure head, physical contact with the waste or leachate to which they are exposed, climatic conditions, and the stress of the installation and daily operations;

(b) Constructed on a foundation capable of providing support to the liner or liners and resistance to the pressure head above the liner or liners to prevent failure of the liner or liners due to settlement, compression, or uplift (see "Lining of Water Impoundment and Disposal Facilities", EPA/870, September 1980 for data and discussion of liner system materials, design, construction, operation, and maintenance);

(c) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(11) The sides and bottom of the impoundment shall be constructed of a material which prohibits the discharge of contaminants to ground water unless specifically authorized by a State discharge permit.

E. Waste Analysis and Trial Test. In addition to the waste analyses required by Regulation .02D, whenever a surface impoundment is to be used to chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment, or chemically treat hazardous waste with a substantially different

1064

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.11D

process than any previously used in that impoundment, the owner or operator shall, before treating the different waste or using the different process:

(1) Conduct waste analyses and trial treatment tests (for example, bench scale or pilot plant scale tests); or

(See page 1065)



(2) Obtain written documented information on similar treatment of similar waste under similar operation conditions to show that this treatment will comply with Regulation .02H(2).

F. Inspections and Testing.

(1) Liners.

(a) During construction or installation, for purposes of this section, liners (except for existing portions of surface impoundments exempt from liner installation) shall include all cover systems, membranes, sheets, and/or coatings.

(b) During construction or installation, liner systems shall be inspected for uniformity, damage, and imperfections (for example, holes, cracks, thin spots, and foreign materials).

(c) Earth material liner systems shall be tested for compaction density, moisture content, and permeability after placement.

(d) Manufactured liner materials (for example, membranes, sheets, and coatings) shall be inspected to ensure tight seams and joints and the absence of tears or blisters.

(2) The owner or operator shall inspect:

(a) A surface impoundment which contains free liquids at least once each operating day to ensure compliance with C(1) and to detect any leaks or other failures of the impoundment.

(b) Each surface impoundment including dikes, berms, and vegetation surrounding the dike, at least once a week and after storms to detect any evidence of or potential for leaks from the impoundment erosion of dikes, and to ensure compliance with C(4).

(3) The structural integrity of any dike, including that portion of that dike which provides any freeboard, shall be certified against massive failure by a qualified engineer before the issuance or reissuance of a permit, or if the impoundment is not in service before being placed in service and after construction or before being returned to service. In certifying the structural integrity of the dike it shall be established that the dike will withstand the following:

(a) The stress of the pressure head of liquids placed into the impoundment;

(b) The weakening effect of earth materials being scoured due to leakage from the impoundment through and under the dike without relying on any liner system; and

# 26.13.05.11G

# ENVIRONMENT

(c) The weakening effect of earth materials being scoured due to leakage from the impoundment through and under the dike assuming leaks develop in the liner system.

(4) The requirements of F(3) shall be followed, at a minimum, at 6-month intervals after the initial certification.

G. Closure and Post-Closure Care.

(1) At closure, the owner or operator shall:

(a) Remove or decontaminate all waste residues, contaminated containment system components (liner, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless COMAR 26.13.02.03D applies, or he shall do G(1)(b)—(e) if all hazardous waste is not removed or decontaminated;

(b) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(c) Stabilize remaining wastes to a bearing capacity sufficient to support final cover;

(d) Cover the surface impoundment with a final cover designed and constructed to at a minimum:

(i) Provide long-term minimization of the migration of liquids through the closed impoundment,

(ii) Function with minimum maintenance,

(iii) Promote drainage and minimize erosion or abrasion of the final cover,

(iv) Accommodate settling and subsidence so that the cover's integrity is maintained, and

(v) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present; and any other requirements established by the Secretary; and

(e) Apply for a permit pursuant to Regulation .14 and COMAR 26.13.07.

(2) If some waste residues or contaminated materials are left in place at final closure, the owner or operator shall comply with all postclosure requirements contained in Regulation .07 including maintenance and monitoring throughout the post-closure care period. The owner or operator shall:

#### Controlled Hazardous Substances 26.13.05.11H

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Maintain and monitor the leak detection system, where such a system is present between double liner systems;

(c) Maintain and monitor the ground water monitoring system and comply with all applicable requirements of Regulations .06-.06-7 of this chapter;

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(3) If an owner or operator plans to close a surface impoundment in accordance with G(1)(a), and the impoundment does not comply with the liner requirements of D(2)—(5), then:

(a) The closure plan for the impoundment under Regulation .07C shall include both a plan for complying with G(1)(a) and a contingency plan for complying with G(1)(b)—(e) if not all contaminated subsoils can be practicably removed at closure.

(b) The owner or operator shall prepare a contingency postclosure plan under Regulation .07H for complying with G(2) if not all contaminated subsoils can be practicably removed at closure.

(c) The cost estimates calculated under Regulation .08 for closure and post-closure care of an impoundment subject to this paragraph shall include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under G(1)(a).

H. Containment System Repairs; Contingency Plans.

(1) Whenever there is any indication of a possible failure of the containment system, the system shall be inspected in accordance with the provisions of the containment system evaluation and repair plan required by this section. Indications of possible failure of the containment system include at least an unplanned and non-sudden drop in the liquid level in the impoundment, liquid detected in the leachate detection system, evidence of leakage or the potential for leakage in the dike, erosion of the dike, apparent or potential deterioration of the

1067

# 26.13.05.11H

# ENVIRONMENT

liner or liners based on observation or test samples of the liner materials, any mishandling of wastes placed in the impoundment, and foreign objects in the impoundment.

(2) Whenever there is a positive indication of failure of the containment system, the impoundment shall be removed from service. Indications of positive failure of the containment system include an unplanned sudden drop in the liquid level in the impoundment, waste detected in the leachate detection system, active leakage through the dike, or a breach (for example, a hole, tear, crack, or separation) in the liner system.

(3) If the surface impoundment must be removed from service as required by H(2), the owner or operator shall:

(a) Immediately shut off flow of or stop the addition of wastes into the impoundment;

(b) Immediately contain any leakage which occurred or is occurring;

(c) Immediately cause the leak to be stopped;

(d) If the leak cannot be stopped by any other means, empty the impoundment;

(e) Take any other necessary steps to stop or prevent catastrophic failure; and

(f) Notify the Secretary of the problems within 24 hours after detecting the problem.

(4) As part of the contingency plan required in Regulation .04, the owner or operator shall specify:

(a) A procedure for complying with the requirements of H(3);

(b) A containment system evaluation and repair plan describing testing and monitoring techniques, procedures to be followed to evaluate the integrity of the containment system in the event of possible failure, a schedule of actions to be taken in the event of a possible failure, and a description of the repair techniques to be used in the event of leakage due to containment system failure or deterioration which does not require the impoundment to be removed from service.

(5) A surface impoundment that has been removed from service in accordance with the requirements of this section may not be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:
## CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.11K

(a) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity shall be recertified in accordance with F(3);

(b) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(i) For any existing portion of the impoundment, a liner shall be installed in compliance with D(5),

(ii) For any other portion of the impoundment, the repaired liner system shall be certified by a qualified engineer as meeting the design specifications approved in the permit.

(6) A surface impoundment that has been removed from service in accordance with H(2) and that is not being repaired shall be closed in accordance with G.

I. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive waste may not be placed in a surface impoundment, unless the:

(1) Waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive wastes under COMAR 26.13.02.11, .13, and Regulation .02H(2) is complied with; or

(2) Surface impoundment is used solely for emergencies.

J. Special Requirements for Incompatible Waste. Incompatible wastes, or incompatible wastes and materials (see Regulation .24 for examples), may not be placed in the same surface impoundment, unless Regulation .02H(2) is complied with.

K. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027.

(1) Hazardous Wastes F020, F021, F022, F023, F026, and F027 may not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the Secretary under the standards set out in this section, and in accordance with all other applicable requirements of this chapter. The factors to be considered are:

(a) The volume, physical, and chemical characteristics of the wastes including their potential to migrate through soil or to volatilize or escape into the atmosphere;

# 26.13.05.12

## ENVIRONMENT

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials co-disposed with these wastes; and

(d) The effectiveness of additional treatment, design, or monitoring techniques.

(2) The Secretary may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

#### .12 Waste Piles.

**US EPA ARCHIVE DOCUMENT** 

A. Applicability.

(1) These regulations apply to owners and operators of facilities that store or treat hazardous waste in piles, except as Regulation .01 provides otherwise.

(2) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to regulation under §§B and D of this regulation and Regulations .06—.06-7 of this chapter if:

(a) Liquids or materials containing free liquids are not placed in the pile;

(b) The pile is protected from surface water run-on by the structure or in some other manner;

(c) The pile is designed and operated to control dispersal of the waste by wind, when necessary, by means other than wetting; and

(d) The pile does not generate leachate through decomposition or other reactions.

B. Design and Operating Requirements.

(1) A waste pile except for an existing portion of a waste pile, shall have:

(a) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the waste pile. The liner

1070

Supp. 6

#### CONTROLLED HAZARDOUS SUBSTANCES

may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility. The liner shall be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. The Secretary will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (1 foot). The leachate collection and removal system shall be:

(i) Constructed of materials that are chemically resistant to the waste managed in the pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and

(ii) Designed and operated to function without clogging through the scheduled closure of the waste pile.

(c) A containment system which complies with §D.

(2) The owner or operator will be exempted from the requirements of B(1) if the Secretary finds, based on a demonstration by the owner or operator, that alternate design and operating practices together with location characteristics, will prevent the migration of any hazardous constituents (see Regulation .06-1B of this chapter) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Secretary shall consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

1071

Supp. 6

# 26.13.05.12C

# ENVIRONMENT

(c) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and ground water or surface water; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(3) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(4) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(5) Collection and holding facilities (for example, tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(6) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the pile to control wind dispersal.

(7) The Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

C. Waste Analysis. In addition to the waste analysis required by Regulation .02D, the owner or operator shall analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless the only wastes the facility receives which are amenable to piling are compatible with each other, or the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted shall be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis shall include a visual comparison of color and texture.

D. Containment Systems.

(1) A containment system shall be designed, constructed, maintained, and operated to prevent discharge into the land, surface water,

EPA ARCHIVE DOCUMENT

or ground water during the life of the waste pile. This includes the following:

(a) The system shall consist of a leachate and run-off collection and control system, and either:

(i) A base underlying and in contact with the waste pile that is made of a liner or liners which will prevent discharge into the land, surface water, or ground water during the life of the pile based on the liner or liners' thickness, the permeability of the liner or liners and the characteristics of the waste or leachate to which the liner or liners will be exposed. The liner or liners shall be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage from equipment used to place waste in or on the pile, or to clean and expose the liner surface for inspection.

(ii) A base as in D(1)(a)(i), except that the liner or liners need not be of sufficient strength and thickness to prevent failure due to physical damage from equipment used to clean and expose the liner surface for inspection, and a leachate detection, collection, and removal system beneath the base to detect, contain, collect, and remove any discharge from the base. The leachate detection, collection, and removal system shall be placed above the water table to ensure the detection of any discharge through the base, to prevent any discharge of ground water into the leachate detection, collection, and removal system, and to protect the structural integrity of the base.

(b) A highly impermeable liner beneath the drainage layer is a necessary part of the leachate detection, collection, and removal system. The ground water table may be controlled to comply with this requirement.

(2) A waste pile base shall be constructed:

(a) Of materials that have appropriate chemical properties and strength and are of sufficient thickness to prevent failure due to the pressure of and physical contact with the waste to which they are exposed, climatic conditions, and the stress of installation; and

(b) On a foundation capable of providing support to the liner or liners and to loads placed or moving above the liner or liners to prevent failure of the liner or liners due to settlement or compression.

(3) A containment system shall be protected from plant growth which could puncture any component of the system.

## 26.13.05.12E

# ENVIRONMENT

(4) A containment system shall have a containment life equal to or greater than the life of the pile.

E. Inspections and Testing.

(1) During construction or installation of the waste pile base, except in the case of an existing portion of a waste pile exempt from the requirements of B(1), and immediately after installation:

(a) Liner systems and covers shall be inspected for uniformity, damage, and imperfections (for example, holes, cracks, thin spots, and foreign materials);

(b) Manufactured liner materials and covers (for example, membranes, sheets, and coatings) shall be inspected to ensure tight seams and joints and the absence of tears or blisters; and

(c) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) Except as otherwise provided in SE(3), the owner or operator of a waste pile shall include in the inspection plan required under Regulation .02 a schedule of inspection of the devices controlling wind dispersal (if required) and run-on, and the waste pile containment system under D. The inspection schedule shall include periodic removal of the waste pile and testing of the underlying base to ensure that is has not deteriorated to the point where it is no longer capable of containment, is already leaking, or is otherwise in disrepair.

(3) If it is impractical to remove the waste pile and test the underlying base periodically because of the size of the pile or the type of base used (for example, a synthetic membrane which could be damaged during waste removal), the owner or operator may omit the pile base inspection from his inspection plan, provided that the pile has a leachate detection, collection, and removal system as specified in D(1)(a)(i).

(4) While a waste pile is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of runon and run-off control systems;

(b) The presence of liquids in leak detection systems, if installed;

(c) Proper functioning of wind dispersal control systems, if present; and

# CONTROLLED HAZARDOUS SUBSTANCES 2

(d) The presence of leachate in and proper functioning of leachate collection and removal systems, if present.

F. Containment System Repairs, Contingency Plans.

(1) Whenever there is an indication of a possible failure of the containment system, the system shall be inspected in accordance with the provisions of the containment system evaluation and repair plan required by F(4). Indications of possible failure of the containment system include liquid detected in the leachate detection system (when applicable), evidence of leakage or the potential for leakage in the base, erosion of the base, or apparent or potential deterioration of the liner and liners based on observation or test samples of the liner materials.

(2) Whenever there is a positive indication of a failure of the containment system, the waste pile shall be removed from service. Indications of positive failure of containment system include waste detected in the leachate detection system (when applicable), or a breach (for example, a hole, tear, crack, or separation) in the base.

(3) If the waste pile must be removed from service as required by F(2), the owner or operator shall:

(a) Immediately stop adding wastes to the pile;

(b) Immediately contain any leakage which has or is occurring;

(c) Immediately cause the leak to be stopped; and

(d) If the leak cannot be stopped by another means, remove the waste from the base.

(4) As a part of the contingency plan required in Regulation .04, the owner or operator shall specify:

(a) A procedure for complying with the requirements of F(3); and

(b) A containment system evaluation and repair plan describing:

(i) Testing and monitoring techniques,

(ii) Procedures to be followed to evaluate the integrity of the containment system in the event of a possible failure,

(iii) A schedule of actions to be taken in the event of a possible failure, and

(iv) A description of the repair techniques to be used in the event of leakage due to containment system failure or deterioration which does not require the waste pile to be removed from service.

# 26.13.05.12G

#### ENVIRONMENT

(5) A waste pile that has been removed from service in accordance with F(2) may not be restored to service unless the containment system has been:

(a) Repaired; and

(b) Certified by a qualified engineer as meeting the design specifications approved in the permit.

(6) A waste pile that has been removed from service in accordance with F(2) and that is not being repaired shall be closed in accordance with I.

G. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive waste may not be placed in a pile unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the pile so that:

(a) The resulting waste, mixture, or dissolution of materials no longer meets the definition of ignitable or reactive waste under COMAR 26.13.02.11 and .13, and

(b) Regulation .02H of this chapter is complied with; or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

H. Special Requirements for Incompatible Wastes.

(1) Incompatible wastes, or incompatible wastes and materials, (see Regulation .24 for examples) may not be placed in the same pile, unless Regulation .02H(2) is complied with.

(2) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(3) Hazardous waste may not be piled on the same area where incompatible wastes or materials were previously piled, unless the area has been decontaminated sufficiently to ensure compliance with Regulation .02H(2).

I. Closure and Post-Closure Care.

(1) At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless COMAR 26.13.02.03D applies.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.12J

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in I(1), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he shall close the facility and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills.

(3) The owner or operator of a waste pile that does not comply with the liner requirements of B(1)(a) and is not exempt from them in accordance with A(2) or B(2) shall:

(a) Include in the closure plan for the pile under Regulation .07C both a plan for complying with I(1) and a contingency plan for complying with I(2) if not all contaminated subsoils can be practicably removed at closure; and

(b) Prepare a contingency post-closure plan under Regulation .07H for complying with I(2) if not all contaminated subsoils can be practicably removed at closure.

(4) The cost estimates calculated under Regulation .08 for closure and post-closure care of a pile subject to I(3) shall include the cost of complying with the contingent closure plan and the contingency postclosure plan, but are not required to include the cost of expected closure under I(1).

J. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027.

(1) Hazardous Waste F020, F021, F022, F023, F026, and F027 may not be placed in waste piles that are not enclosed as defined in A(2)unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the Secretary under the standards set out in this section, and in accord with all other applicable requirements of this chapter. The factors to be considered are:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials co-disposed with these wastes; and

#### 26.13.05.13A

# ENVIRONMENT

(d) The effectiveness of additional treatment, design, or monitoring techniques.

(2) The Secretary may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

#### .13 Land Treatment.

A. Applicability. This regulation applies to owners and operators of facilities that treat or dispose of hazardous waste in land treatment units, except as Regulation .01 provides otherwise.

B. Treatment Program.

(1) An owner or operator subject to this regulation shall establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The Secretary will specify in the facility permit the elements of the treatment program, including:

(a) The wastes that are capable of being treated at the unit based on a demonstration under §C;

(b) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with D(1); and

(c) Unsaturated zone monitoring provisions meeting the requirements of §I.

(2) The Secretary will specify in the facility permit the hazardous constituents that shall be degraded, transformed, or immobilized under this regulation. Hazardous constituents are constituents identified in COMAR 26.13.02.24 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) The Secretary will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone shall be:

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.13C

(a) Not more than 1.5 meters (5 feet) from the initial soil surface; and

(b) More than 1 meter (3 feet) above the seasonal high water table.

C. Treatment Demonstration.

(1) For each waste that will be applied to the treatment zone, the owner or operator shall demonstrate, before application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(2) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under C(1), he shall obtain a treatment or disposal permit under COMAR 26.13.07.02—.19. The Secretary will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and clean-up activities) necessary to meet the requirements in C(3).

(3) Any field test or laboratory analysis conducted in order to make a demonstration under C(1) shall:

(a) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including the:

(i) Characteristics of the waste (including the presence of constituents in COMAR 26.13.02.24),

(ii) Climate in the area,

(iii) Topography of the surrounding area,

(iv) Characteristics of the soil in the treatment zone (including depth), and

(v) Operating practices to be used at the unit;

(b) Be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(c) Be conducted in a manner that protects human health and the environment considering:

(i) The characteristics of the waste to be tested,

## 26.13.05.13D

### ENVIRONMENT

(ii) The operating and monitoring measures taken during the course of the test,

(iii) The duration of the test,

(iv) The volume of waste used in the test,

(v) In the case of field tests, the potential for migration of hazardous constituents to ground water or surface water.

D. Design and Operating Requirements.

(1) The Secretary will specify in the facility permit how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this section.

(2) The owner and operator shall design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator shall design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under §C. At a minimum, the Secretary will specify the following in the facility permit:

(a) The rate and method of waste application to the treatment zone;

(b) Measures to control soil pH;

(c) Measures to enhance microbial or chemical reactions (for example, fertilization, tilling); and

(d) Measures to control the moisture content of the treatment zone.

(3) The owner or operator shall design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.

(4) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.

(5) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(6) Collection and holding facilities (for example, tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.13G

(7) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator shall manage the unit to control wind dispersal.

(8) The owner or operator shall inspect the unit weekly and after storms to detect evidence of:

(a) Deterioration, malfunctions, or improper operation of runon and run-off control systems; and

(b) Improper functioning of wind dispersal control measures.

E.-F. (Reserved)

G. Food-Chain Crops.

(1) The Secretary may allow the growth of food-chain crops in or on the treatment zone only if the owner or operator satisfies the condition of this section. The Secretary will specify in the facility permit the specific food-chain crops which may be grown.

(2) The owner or operator shall demonstrate that there is no substantial risk to human health caused by the growth of these crops in or on the treatment zone by demonstrating, before the planting of the crops, that hazardous constituents other than cadmium will not:

(a) Be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (for example, by grazing); or

(b) Occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(3) The owner or operator shall make the demonstration required under G(2) before the planting of crops at the facility for all constituents identified in COMAR 26.13.02.24 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(4) In making a demonstration under G(2), the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and shall:

(a) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (for example, pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

# 26.13.05.13G

#### ENVIRONMENT

(b) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(5) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under G(2), he shall obtain a permit for conducting these activities.

(6) The owner or operator shall comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(a) The pH of the waste and soil mixture shall be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(b) The annual application of cadmium from waste may not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption; for other food-chain crops, the annual cadmium application rate may not exceed:

		Annual Cd Application Rate
•	Time Period	(kg/ha)
esent to J	June 30, 1984	

(c) The cumulative application of cadmium from waste may not exceed 5 kg/ha if the waste and soil mixture has a pH of less than 6.5; and

(d) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste may not exceed:

(i) 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meg/100g,

(ii) 10 kg/ha if soil CEC is 5-15 meg/100g, and

(iii) 20 kg/ha if soil CEC is greater than 15 meg/100g; or

(e) Animal feed shall be the only food-chain crop produced:

(i) The pH of the waste and soil mixture shall be 6.5 or greater at the time of waste application or at the time the crop is

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.13I

planted, whichever occurs later, and this pH level shall be maintained whenever food-chain crops are grown.

(ii) There shall be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan shall describe the measures to be taken to safeguard against possible health hazards from cadmium entering the foodchain, which may result from alternative land uses.

(iii) Future property owners shall be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food-chain crops may not be grown except in compliance with G(5)(e).

H. (Reserved)

I. Unsaturated Zone Monitoring. An owner or operator subject to this regulation shall establish an unsaturated zone monitoring program to discharge the following responsibilities:

(1) Monitoring.

(a) The owner or operator shall monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(b) The Secretary will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under  $\B(2)$ .

(c) The Secretary may require monitoring for principal hazardous constituents (PHCs) instead of the constituents specified under B(2). PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Secretary will establish PHCs if he finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PHCs will assure treatment at, at least, equivalent levels for the other hazardous constituents in the wastes.

(2) Installation of System. The owner or operator shall install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system shall consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

## 26.13.05.13I

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(a) Represent the quality of background soil-pore liquid quality and the chemical make-up of soil that has not been affected by leakage from the treatment zone; and

(b) Indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.

(3) Establishment of Background Value.

(a) The owner or operator shall establish a background value for each hazardous constituent to be monitored under I(1). The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(b) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(c) Background soil-pore liquid values shall be based on at least quarterly sampling for 1 year at a background plot having characteristics similar to those of the treatment zone.

(d) The owner or operator shall express all background values in a form necessary for the determination of statistically significant increases under I(6).

(e) In taking samples used in the determination of all background values, the owner or operator shall use an unsaturated zone monitoring system that complies with I(2)(a).

(4) The owner or operator shall conduct soil monitoring and soilpore liquid monitoring immediately below the treatment zone. The Secretary will specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator shall express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under I(6).

(5) The owner or operator shall use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator shall implement procedures and techniques for:

(a) Sample collection;

(b) Sample preservation and shipment;

26.13.05.13I

(c) Analytical procedures; and

(d) Chain of custody control.

(6) Statistically Significant Increases.

(a) The owner or operator shall determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under I(1) below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under I(4).

(b) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of each constituent, as determined under I(4), to the background value for that constituent according to the statistical procedure specified in the facility permit under this paragraph.

(c) The owner or operator shall determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The Secretary will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(d) The owner or operator shall determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The Secretary will specify a statistical procedure in the facility permit that he finds:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(7) If the owner or operator determines, pursuant to I(6), that there is a statistically significant increase of hazardous constituents below the treatment zone, he shall:

(a) Notify the Secretary of this finding in writing within 7 days. The notification shall indicate what constituents have shown statistically significant increases.

(b) Within 90 days, submit to the Secretary an application for a permit modification to modify the operating practices at the facility in

#### 26.13.05.13J

#### ENVIRONMENT

order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(8) If the owner or operator determines, pursuant to  $\S I(6)$ , that there is a statistically significant increase of hazardous constituents' below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this subsection in addition to, or instead of, submitting a permit modification application under \$ I(7)(b), he is not relieved of the requirement to submit a permit modification application within the time specified in \$ I(7)(b) unless the demonstration made under this subsection successfully shows that a source other than the regulated units caused the increase or that the increase resulted from an error in sampling, analysis. or evaluation. In making a demonstration under this subsection, the owner or operator shall:

(a) Notify the Secretary in writing within 7 days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this subsection;

(b) Within 90 days, submit a report to the Secretary demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(c) Within 90 days, submit to the Secretary an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(d) Continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

J. Recordkeeping. The owner or operator shall include hazardous waste application dates and rates in the operating record required under Regulation .05D.

K. Closure and Post-Closure Care.

(1) During the closure period the owner or operator shall:

(a) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under D(2), except to the extent these measures are inconsistent with K(1)(h);

(b) Continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under D(3);

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.13K

(c) Maintain the run-on control system required under D(4);

(d) Maintain the run-off management system required under D(5);

(e) Control wind dispersal of hazardous waste required under D(7);

(f) Continue to comply with any prohibition or conditions concerning growth of food-chain crops under §G;

(g) Continue unsaturated zone monitoring in compliance with §I, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone; and

(h) Establish a vegetative cover on the portion of the facility being closed at such time that the cover does not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover shall be capable of maintaining growth without extensive maintenance.

(2) For the purpose of complying with Regulation .07F, when closure is completed the owner or operator may submit to the Secretary certification by an independent qualified soil scientist, instead of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(3) During the post-closure care period the owner or operator shall:

(a) Continue all operations, including pH control, necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that these measures are consistent with other post-closure care activities;

(b) Maintain a vegetative cover over closed portions of the facil- . ity;

(c) Maintain the run-on control system required under D(4);

(d) Maintain the run-off management system required under D(5);

(e) Control wind dispersal of hazardous waste if required under D(7);

(f) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under §G; and

#### 26.13.05.13K

#### ENVIRONMENT

(g) Continue unsaturated zone monitoring in compliance with §I except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.

(4) The owner or operator is not subject to regulation under K(1)(h) and (3) if the Secretary finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in K(4)(c). The owner or operator may submit a demonstration to the Secretary at any time during the closure or post-closure periods. For the purposes of this subsection:

(a) The owner or operator shall establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under B(2). This includes the following:

(i) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone;

(ii) The owner or operator shall express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under K(4)(c).

(b) In taking samples used in the determination of background and treatment zone values, the owner or operator shall take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(c) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator shall use a statistical procedure that:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

### Controlled Hazardous Substances 26.13.05.13L

(5) The owner or operator is not subject to regulation under Regulations .06—.06-7 of this chapter if the Secretary finds that the owner or operator satisfied K(4) of this regulation and if unsaturated zone monitoring under §I of this regulation indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

L. Special Requirements for Ignitable or Reactive Waste. The owner or operator may not apply ignitable or reactive waste to the treatment zone unless the waste is:

(1) Immediately incorporated into the soil so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under COMAR 26.13.02.11 or .13, and

(b) Regulation .02H(2) is complied with; or

(2) Managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

M. Special Requirements for Incompatible Wastes. The owner or operator may not place incompatible wastes, or incompatible wastes and materials (see Regulation .24 for examples), in or on the same treatment zone, unless Regulation .02H(2) is complied with.

N. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027.

(1) Hazardous Wastes F020, F021, F022, F023, F026, and F027 may not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the Secretary under the standards set out in this section, and in accord with all other applicable requirements of this chapter. The factors to be considered are:

(a) The volume, physical, and chemical characteristics of the wastes including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials co-disposed with these wastes; and

(d) The effectiveness of additional treatment, design, or monitoring techniques.

Supp. 6

## 26.13.05.14A

## ENVIRONMENT

(2) The Secretary may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

#### .14 Landfills.

A. Applicability. These regulations apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as Regulation .01 provides otherwise.

B. Design and Operating Requirements.

(1) Any landfill not covered by B(3) shall have a liner system for all portions of the landfill, except for existing portions of the landfill. The liner system shall:

(a) Have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at any time during the active life, including the closure period, of the landfill. The liner shall be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner shall be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head external hydrogeologic forces, physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift;

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(iv) Located entirely above natural seasonal high water table. Minimal distance will be specified by the Secretary in the permit.

(b) Have a leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Secretary will specify design and operating conditions in the permit to ensure that

# Controlled Hazardous Substances 26.13.05.14B

the leachate depth over the liner does not exceed 30 cm (1 foot). The leachate collection and removal system shall be:

(i) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(c) Be located in a geohydrologic setting which is compatible with hazardous waste land disposal as determined by the Secretary. Compatability criteria shall include but not be limited to the:

(i) Attenuative capacity of the in-situ soils;

(ii) Hydraulic conductivity of the in-situ soils;

(iii) Thickness and classification of in-situ soils; and

(iv) Water table surface or potentiometric surface of each aquifer within 50 feet of the facility boundaries.

(2) The owner or operator will be exempted from the requirements of B(1) of this regulation if the Secretary finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see Regulation .06-1B of this chapter) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Secretary shall consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface waters; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(3) The owner or operator of each new landfill, each new landfill unit at an existing facility, each replacement of an existing landfill unit, and each lateral expansion of an existing landfill unit, shall install two or more liners and a leachate collection system above and between the liners. The liners and leachate collection systems shall protect

Supp. 6

# 26.13.05.14B

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

human health and the environment. The requirement for the installation of two or more liners in this subsection may be satisfied by the installation of a top liner designed, operated, and constructed of materials to prevent the migration of any constituent into the liner during the period the facility remains in operation, including any postclosure monitoring period, and a lower liner designed, operated, and constructed to prevent the migration of any constituent through the liner during this period. For the purposes of the preceding sentence, a lower liner shall be considered to satisfy this requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a hydraulic conductivity of no more than  $1 \times 10^{-7}$ centimeter per second.

(4) Section B(3) will not apply if the owner or operator demonstrates to the Secretary and the Secretary finds for the landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection systems.

(5) The double liner requirement set forth in B(3) of this regulation may be waived by the Secretary for any monofill, if:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and these wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in COMAR 26.13.02; and

(b) One of the following applies:

(i) The monofill has at least one liner for which there is no evidence that the liner is leaking, the monofill is located more than  $\frac{1}{4}$ mile from an underground source of drinking water, and the monofill is in compliance with generally applicable ground water monitoring requirements for facilities with permits under COMAR 26.13.07; or

(ii) The owner or operator demonstrates that the monofill is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(6) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

1092

Supp. 4

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.14C

(7) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(8) Collection and holding facilities (for example, tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(9) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the landfill to control wind dispersal.

(10) The Secretary will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

C. Monitoring and Inspection

(1) During construction or installation, liners, except in the case of existing portions of liners exempt from §B, and cover systems (for example, membranes, sheets, or coatings) shall be inspected for uniformity, damage, and imperfections (for example, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(2) While a landfill is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of runon and run-off control systems;

(b) The presence of liquids in leak detection systems;

(c) Proper functioning of wind dispersal control system, when present; and

(d) The presence of leachate in and proper functioning of leachate collection and removal systems, when present.

# 26.13.05.14D

**JS EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

D.-H. (Reserved)

1. Surveying and Record Keeping. The owner or operator of a landfill shall maintain the following items in the operating record required under Regulation .05D:

(1) On a map, the exact location and dimensions, including depth of each cell with respect to permanently surveyed benchmarks; and

(2) The contents of each cell and the approximate location of each hazardous waste type within each cell.

J. Closure and Post-Closure Care.

(1) At final closure of the landfill or upon closure of any cell the owner or operator shall cover the landfill or cell with a final cover designed and constructed to:

(a) Provide long-term minimization of migration of liquids through the closed landfill;

(b) Function with minimum maintenance;

(c) Promote drainage and minimize erosion or abrasion of the cover;

(d) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(e) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) After final closure, the owner or operator shall comply with all post-closure requirements, contained in Regulation .07G—J of this chapter, including maintenance and monitoring throughout the post-closure care period. The owner or operator shall:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Continue to operate the leachate collection and removal system:

(i) During post-closure period, or

(ii) Until leachate is no longer detected;

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

1094

Supp. 6

# Controlled Hazardous Substances 26.13.05.14

(e) Protect and maintain surveyed benchmarks used in complying with §I of this regulation.

K. Reserved.

L. Special Requirements for Ignitable or Reactive Waste. Except as provided in L(2) of this regulation, ignitable or reactive waste may not be placed in a landfill, unless the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under COMAR 26.13.02.11 or .13; and

(2) Regulation .02H(2) of this chapter is complied with.

M. Special Requirements for Incompatible Wastes. Incompatible wastes, or incompatible wastes and materials (see Regulation .24 of this chapter for example), may not be placed in the same landfill cell, unless Regulation .02H(2) is complied with.

N. Special Requirements for Liquid Waste.

(1) Bulk or noncontainerized liquid waste or waste containing free liquids may not be placed in a landfill.

(2) To demonstrate the absence or presence of free liquids, a person shall use Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in COMAR 26.13.01.05A(4).

O. Special Requirements for Containers. Unless the containers are very small (such as ampules), the containers shall be crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

P. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027.

(1) Hazardous Wastes F020, F021, F022, F023, F026, and F027 may not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Secretary under the standards set out in this section, and in accord with all other applicable requirements of this chapter. The factors to be considered are:

Supp. 11

# 26.13.05.14P

# ENVIRONMENT

(a) The volume, physical, and chemical characteristics of the wastes including their potential to migrate through the soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials co-disposed with these wastes; and

(See page 1096)

Sector Sector

ALC: NO.

#### 26.13.05.15

## ENVIRONMENT

(d) The effectiveness of additional treatment, design, or monitoring requirements.

(2) The Secretary may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

#### .15 Incinerators.

A. Applicability.

(1) This regulation applies to owners and operators of existing facilities that treat hazardous waste in incinerators, except as Regulation .01 otherwise provides. All facilities subject to this regulation shall submit a permit application within 6 months of promulgation of Regulation .16. Upon issuance of a permit pursuant to Regulation .16, applicability with this regulation ceases.

(2) Owners or operators of facilities subject to this regulation may not burn EPA Hazardous Waste F020, F021, F022, F023, F026, and F027.

B. General Operating Requirements. Before adding hazardous waste, the owner or operator shall bring his incinerator to steady state (normal) conditions of operation, including steady state operating temperature and air flow, using auxiliary fuel or other means.

C. Waste Analysis. In addition to the waste analyses required by Regulation .02D, the owner or operator shall sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine:

(1) Heating value of the waste;

(2) Halogen content and sulfur content in the waste; and

(3) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that shows that the element is not present.

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.16A

D. Monitoring and Inspections. The owner or operator shall conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(1) Existing instruments which relate to combustion and emission control shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions shall be made immediately either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(2) The stack plume (emissions) shall be observed visually at least hourly for normal appearance (color and opacity). The operator shall immediately make any indicated operating corrections necessary to return visible emissions to their normal appearance.

(3) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) shall be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms shall be checked to assure proper operation.

E. Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator.

## .16 Thermal Destruction of Hazardous Waste.

A. Definitions.

(1) As used in this regulation and in COMAR 26.13.07.22, the following terms have the meanings indicated.

(2) "Acute hazardous waste" means hazardous waste that is classified pursuant to COMAR 26.13.02.19 as acute hazardous waste, except for quantities that satisfy the small quantity exclusion in COMAR 26.13.02.05C.

(3) "Electric generating station" means a fuel burning facility constructed or operated by an electric company that provides electric energy for public consumption and whose activities are controlled by the Public Service Commission under Article 78, Annotated Code of Maryland.

(4) "Installation" means any article, machine, equipment, or other contrivance, including, but not limited to, emission control equipment, processing equipment, manufacturing equipment, fuel burning equip-

# 26.13.05.16B

## Environment

ment, incinerators, or any equipment or construction, capable of generating, causing, or reducing emissions, as defined in COMAR 26.11.01.01B(19).

(5) "Installation that has an air quality permit to operate" means an installation subject to COMAR 26.11.02.13 for which an air quality permit to operate has been issued.

(6) "Small quantity hazardous waste" means hazardous waste that satisfies the small quantity exclusion at COMAR 26.13.02.05C, except for polychlorinated biphenyls (PCBs).

B. Applicability.

**US EPA ARCHIVE DOCUMENT** 

(1) This regulation applies to owners and operators of installations used to thermally destroy hazardous waste, except as Regulation .01 of this chapter provides otherwise. The following facility owners and operators are examples of persons considered to thermally destroy hazardous waste:

(a) Owners or operators of hazardous waste incinerators as defined by COMAR 26.13.01.03; or

(b) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy the wastes.

(2) After consideration of the waste analysis included with the permit application, the Department, in establishing the permit conditions, will exempt the applicant from all requirements of this regulation except §§C, D, F(3), (4) and (5), H, and L if the:

(a) Department finds that the waste to be burned is:

(i) Listed as a hazardous waste in COMAR 26.13.02.15—.19 solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both,

(ii) Listed as a hazardous waste in COMAR 26.13.02.15—.19 solely because it is reactive (Hazard Code R) for characteristics other than those listed in COMAR 26.13.02.13A(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone,

(iii) A hazardous waste solely because it possesses the characteristics of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under COMAR 26.13.02.11—.13, or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by COMAR 26.13.02.13A(1)-(3)

and (6)-(8), and will not be burned when other hazardous wastes are present in the combustion zone; and

(b) Waste analysis shows that the waste contains none of the hazardous constituents listed in COMAR 26.13.02.24, which would reasonably be expected to be in the waste.

(3) If the waste to be burned is one which is described by B(2)(a)(i), (ii), (iii), or (iv) and contains insignificant concentration of the hazardous constituents listed in COMAR 26.13.02.24, then the Department may, in establishing permit conditions, exempt the applicant from all requirements of this regulation except §§C, D, F(3)-(5), H, and L, after consideration of the waste analysis included with the permit application, unless the Department finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(4) The owner or operator of a hazardous waste incinerator may conduct trial burns subject only to the requirements of COMAR 26.13.07.17.

C. General Requirements.

(1) Notwithstanding any other provision of this subtitle, a person who thermally destroys hazardous waste is subject to the requirements of this regulation. A person shall thermally destroy hazardous waste in accordance with the provisions of C(2)-(4), below.

(2) Except for small quantity hazardous waste, the following hazardous waste, if thermally destroyed, shall be thermally destroyed only in a hazardous waste incinerator that has been permitted under COMAR 26.13.07.02—.20 to thermally destroy hazardous waste:

(a) Acute hazardous waste.

(b) Hazardous waste, with a heating value of less than 6,000 BTU/lb.

(c) Hazardous waste with a heating value of 6,000 BTU/lb. or greater, not used as a fuel for heat energy recovery, and containing material listed in COMAR 26.13.02.24.

(d) Hazardous waste with a heating value of 6,000 BTU/lb. or greater containing a constituent or constituents having a heating value of less than 6,000 BTU/lb. unless the:

(i) Applicant demonstrates to the satisfaction of the Department that it is unnecessarily costly to separate the waste; and

# 26.13.05.16D

#### ENVIRONMENT

(ii) Hazardous waste with a heating value of 6,000 BTU/lb. or greater does not contain more than 1 percent by volume of the constituent or constituents having a heating value of less than 6,000 BTU/lb. except that if the constituents having a heating value of less than 6,000 BTU/lb. is primarily water the volume may be greater than 1 percent. However, the Department reserves the right to limit the amount of water present in the hazardous waste to be thermally destroyed such that the flame temperature is not reduced to a level where incomplete combustion of the hazardous waste may be expected.

(e) Hazardous waste or hazardous waste mixtures that the Department determines will create a public health or environmental hazard.

(3) All other hazardous waste, if thermally destroyed, may be thermally destroyed in:

(a) A hazardous waste incinerator permitted under COMAR 26.13.07.02—.20; or

(b) Any of the following installations that have a limited facility permit under COMAR 26.13.07.22:

(i) Industrial furnaces identified in COMAR 26.13.01; and

(ii) Boilers, as defined in COMAR 26.13.01, that are identified as industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

(4) A hazardous waste may not be thermally destroyed in a manner inconsistent with the provision contained in COMAR 26.13.10.02B(3).

(5) The requirements of the Federal Toxic Substances Control Act, 15 U.S.C. 2505(e) (TOSCA), and regulations adopted under that Act, 40 CFR §761, shall take precedence over the requirements of this regulation concerning polychlorinated biphenyls (PCBs), to the extent that there is any inconsistency between them. A person may not thermally destroy PCBs except in compliance with the Toxic Substances Control Act, 15 U.S.C. 2601 (TOSCA), and COMAR 26.13.07.

D. Waste Analysis.

(1) As a portion of the trial burn plan required by COMAR 26.13.07.17B, or with the permit application, the owner or operator

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.16F

shall include an analysis of the waste feed sufficient to provide all information required by COMAR 26.13.07.02-6 and .17B. Owners or operators of new hazardous waste incinerators shall provide the information required by COMAR 26.13.07.17C to the greatest extent possible.

(2) Throughout normal operation the owner or operator shall conduct sufficient waste analysis to verify that waste feed to the hazardous waste incinerator is within the physical and chemical composition limits specified in his permit under H(2) of this regulation.

E. Principal Organic Hazardous Constituents (POHCs).

(1) Principal Organic Hazardous Constituents (POHCs) in the waste feed shall be treated to the extent required by the performance standard of §F of this regulation.

(2) One or more POHCs will be specified in the facility's permit from among those constituents listed in COMAR 26.13.02.24, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(3) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in COMAR 26.13.07.17B for obtaining trial burn permits.

F. Performance Standards. A hazardous waste incinerator burning hazardous waste shall be designed, constructed, and maintained so that when operated in accordance with operating requirements specified under \$H it will meet the following performance standards:

(1) Destruction and Removal Efficiency.

(a) Except as provided in F(1)(b) of this regulation, it shall achieve a destruction and removal efficiency (DRE) of 99.99 percent for each principal organic hazardous constituent (POHC) designated under E in its permit for each waste feed. DRE is determined for each POHC from the following equation:

 $DRE = \frac{(\text{win} - \text{wout}) \times 100 \text{ percent}}{\text{win}}$ 

Supp. 11

EPA ARCHIVE DOCUMENT

### 26.13.05.16F

#### ENVIRONMENT

where

**US EPA ARCHIVE DOCUMENT** 

 $_{\rm w}$  in = mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the hazardous waste incinerator, and

 $_{w}$  out = mass emission rate of the same POHC present in exhaust emissions before release to the atmosphere.

(b) An incinerator burning hazardous wastes F020, F021, F022, F023, F026, and F027 shall achieve a destruction and removal efficiency (DRE) of 99.9999 percent for each principal organic hazardous constituent (POHC) designated under §E of this regulation in its permit. This performance shall be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in §F(1)(a) of this regulation. In addition, the owner or operator of the incinerator shall notify the Secretary of his intent to incinerate hazardous wastes F020, F021, F022, F023, F026, and F027.

(2) When producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl), it shall control HCl emissions such that the rate of emission is not greater than the larger of either 1.8 kilograms per hour or 1 percent of the HCl in the stack gas prior to entering any pollution control equipment.

(3) It may not emit particulate matter in excess of 68.7 milligrams per dry standard cubic meter (0.030 grain per dry standard cubic foot) when corrected as provided for at COMAR 26.11.08.05.

(4) Visible Emissions Standard.

(a) A person may not cause or permit the discharge of emissions from a hazardous waste incinerator that violate the visible emissions standards in COMAR 26.11.08.04.

(b) A person may apply for an exception to the visible emission standard in F(4)(a) of this regulation using the procedures in COMAR 26.11.01.08.

(5) As provided in COMAR 26.11.08, hazardous waste incinerators are subject to all applicable substantive requirements of COMAR 26.11.02.12 for New Source Review (NSR) and Prevention of Significant Deterioration (PSD) Sources.

(6) For purposes of permit enforcement, compliance with the operating requirements specified in the permit under \$H will be regarded as compliance with this section. However, evidence that compliance

1102

Supp. 7

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.16G

with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be information justifying modification, revocation, or reissuance of a permit under COMAR 26.13.07.11 or .20.

G. Hazardous Waste Incinerator Permits.

(1) The owner or operator of a hazardous waste incinerator shall burn only wastes specified in his permit and only under operating conditions specified for those wastes under §H except:

(a) In approved trial burns under COMAR 26.13.07.17B; or

(b) Under exemptions created by §B.

EPA ARCHIVE DOCUMENT

(2) Other hazardous wastes shall be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes shall be based on either trial burn results or alternative data included with a permit application.

(3) The permit for a new hazardous waste incinerator shall establish appropriate conditions for each of the applicable requirements of this section, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of §H, sufficient to comply with the following standards:

(a) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in G(3)(b), not to exceed a duration of 720 hours operating time for incineration of hazardous waste, the operating requirements shall be those most likely to ensure compliance with the performance standards of §F, based on the Department's engineering judgment. The Department may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(b) For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the performance standards of §F and shall be in accordance with the approved trial burn plan.

(c) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the
#### 26.13.05.16H

#### ENVIRONMENT

facility permit by the Department, the operating requirements shall be those most likely to ensure compliance with the performance standards of §F based on the Department's engineering judgment.

(d) For the remaining duration of the permit, the operating requirements shall be those demonstrated, in a trial burn or by alternative data specified in the permit application, as sufficient to ensure compliance with the performance standards of §F.

H. Operating Requirements.

(1) A hazardous waste incinerator shall be operated in accordance with operating requirements specified in the permits. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in G(2) and included with a facility's permit application) to be sufficient to comply with the performance standards of §F.

(2) Each set of operating requirements will specify the composition of the waste feed, including acceptable variations in the physical or chemical properties of the waste feed which do not affect compliance with the performance requirements of §F to which the operating requirements apply. For such waste feed, the permit will specify acceptable operating limits including the following conditions:

(a) Carbon monoxide (CO) level in the stack exhaust gas;

(b) Waste feed rate;

(c) Combustion temperature;

(d) An appropriate indicator of combustion gas velocity;

(e) Allowable variations in incinerator system design or operating procedures; and

(f) Such other operating requirements as are necessary to ensure that the performance standards of §F are met.

(3) During start-up and shut-down of a hazardous waste incinerator, hazardous waste, except wastes exempted in accordance with §B, may not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit.

(4) Fugitive emissions from the combustion zone shall be controlled by:

(a) Keeping the combustion zone totally sealed against fugitive emissions;

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.16I

(b) Maintaining a combustion zone pressure lower than atmospheric pressure; or

(c) An alternate means of control demonstrated (with the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(5) A hazardous waste incinerator shall be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under H(1).

(6) A hazardous waste incinerator shall cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit.

I. Monitoring and Inspections.

 $= \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1$ 

(1) The owner or operator shall conduct, as a minimum, the following monitoring while incinerating hazardous waste:

(a) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit shall be monitored on a continuous basis;

(b) CO shall be monitored on a continuous basis at a point in the hazardous waste incinerator downstream of the combustion zone and before release to the atmosphere;

(c) Upon request by the Department, sampling and analysis of the waste and exhaust emissions shall be conducted to verify that the operating requirements established in the permit achieve the performance standards of §F.

(2) The hazardous waste incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) shall be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(3) The emergency waste feed cutoff system and associated alarms shall be tested at least weekly to verify operability, unless the applicant demonstrates to the Department that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing shall be conducted at least monthly.

(4) This monitoring and inspection data shall be recorded and the records shall be placed in the operating log required by Regulation .05D.

## 26.13.05.16-1

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

#### J.-K. (Reserved)

L. Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator site.

M. Existing Hazardous Waste Incinerators. Not later than 6 months after the effective date of this regulation, the owner or operator of any existing hazardous waste incinerator shall submit a completed permit application for that hazardous waste incinerator, as provided for in COMAR 26.13.07.02 - .19, or cease to operate the incinerator.

#### .16-1 Miscellaneous Units.

A. Applicability. The requirements in this regulation apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as Regulation .01 of this chapter provides otherwise.

**B.** Environmental Performance Standards.

(1) A miscellaneous unit shall be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment.

(2) Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate:

(a) Design and operating requirements;

(b) Detection and monitoring requirements; and

(c) Requirements for responses to releases of hazardous waste or hazardous constituents from the unit.

(3) For the purposes of B(2), above, protection of human health and the environment includes, but is not limited to, prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in:

(a) The ground water or subsurface environment, considering the:

(i) Volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures,

(ii) Hydrologic and geologic characteristics of the unit and the surrounding area,

1106

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.16-1

(iii) Existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water.

(iv) Quantity and direction of ground water flow,

(v) Proximity to and withdrawal rates of current and potential ground water users,

(vi) Patterns of land use in the region,

(vii) Potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation.

(viii) Potential for health risks caused by human exposure to waste constituents, and

(ix) Potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents:

(b) Surface water, wetlands, or on the soil surface, considering the:

(i) Volume and physical and chemical characteristics of the waste in the unit.

(ii) Effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration,

(iii) Hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit,

(iv) Patterns of precipitation in the region,

(v) Quantity, quality, and direction of ground water flow,

(vi) Proximity of the unit to surface waters,

(vii) Current and potential uses of nearby surface waters and any water quality standards established for those surface waters,

(viii) Existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils,

(ix) Patterns of land use in the region,

(x) Potential for health risks caused by human exposure to waste constituents, and

(xi) Potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

1106-1

Supp. 3

**JS EPA ARCHIVE DOCUMENT** 

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(c) The air, considering the:

(i) Volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols, and particulates,

(ii) Effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air,

(iii) Operating characteristics of the unit,

(iv) Atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area,

(v) Existing quality of the air, including other sources of contamination and their cumulative impact on the air,

(vi) Potential for health risks caused by human exposure to waste constituents, and

(vii) Potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

C. Monitoring, Analysis, Inspection, Response, Reporting, and Corrective Action. Monitoring, testing, analytical data, inspection, response, and reporting procedures and frequencies shall ensure compliance with Regulations .02F, .03D, .05F—H, .06-7, and .16-1B of this chapter, as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

D. Post-Closure Care. A miscellaneous unit that is a disposal unit shall be maintained in a manner that complies with §B of this regulation during the post-closure care period. In addition, if a treatment or storage unit has contaminated soils or ground water that cannot be completely removed or decontaminated during closure, then that unit shall also meet the requirements of §B of this regulation during postclosure care. The post-closure plan under Regulation .07H of this chapter shall specify the procedures that will be used to satisfy this requirement.

#### .17 Thermal Treatment and Open Burning.

A. Applicability. This regulation applies to owners and operators of facilities that thermally treat hazardous waste other than by thermal destruction and that cause or permit the open burning of hazardous waste. Thermal destruction of hazardous waste is subject to the requirements of Regulation .15 or .16.

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.17

B. General Operating Requirements. Before adding hazardous waste, the owner or operator shall bring his thermal treatment process to steady state (normal) conditions of operation, including steady state operating temperature, using auxiliary fuel or other means, unless the process is a noncontinuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

C. Waste Analysis. In addition to the waste analysis required by Regulation .02D, the owner or operator shall sufficiently analyze any waste which he has not previously treated in his thermal treatment process to enable him to establish steady state (normal) or other appropriate (for a noncontinuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine:

(1) Heating value of the waste;

(2) Halogen content and sulfur content in the waste; and

(3) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

(See page 1107)

Supp. 3

1106-3

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.17

D. Monitoring and Inspections. The owner or operator shall conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions shall be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, shall be observed visually at least hourly for normal appearance (color and opacity). The operator shall immediately make any indicated operating corrections necessary to return visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) shall be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms shall be checked to assure proper operation.

E. Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment.

F. Open Burning: Waste Explosives. Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometer/second at sea level). Owners or operators choosing to open burn or detonate waste explosives shall do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Supp. 10

1107

26.13.05.17-1

#### ENVIRONMENT

Pounds of Waste Explosives or Propellants

> 0—100 101—1,000 1,001—10,000 10,001—30,000

*Property of Others* 204 meters (670 feet) 380 meters (1,250 feet) 530 meters (1,730 feet) 690 meters (2,260 feet)

Minimum Distance from Open

Burning or Detonation to the

G. Prohibited Wastes. Owners or operators of thermal treatment devices subject to this regulation may not burn EPA Hazardous Wastes F020, F021, F022, F023, F026, and F027.

#### .17-1 General Requirements for Drip Pads.

A. Applicability.

(1) The requirements of this regulation and Regulations .17-2— .17-4 of this chapter apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, or surface water run-off to an associated collection system.

(a) "Existing drip pad" means a drip pad which is used to manage hazardous waste:

(i) Having a waste code of F032 which has been constructed before December 6, 1990,

(ii) Having a waste code of F032 and for which the owner or operator had a design and had entered into binding financial or other agreements for construction before December 6, 1990, or

(iii) That is not used to manage waste with waste code F032, and which either has been constructed by September 10, 1997, or the owner or operator had a design and had entered into binding financial or other agreements for construction before September 10, 1997; and

(b) "New drip pad" means a drip pad that is not an existing drip pad.

(3) Requirement for Leak Collection System. For a drip pad used to manage hazardous waste:

(a) Having waste code F032, the requirement of Regulation .17-2C(6) and (7) of this chapter to install a leak collection system applies only if:

1108

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.17-1

(i) The drip pad is constructed after December 24, 1992, except for a drip pad constructed after December 24, 1992 for which the owner or operator had a design and had entered into binding financial or other agreements for construction before December 24, 1992, and

(ii) The owner or operator has not complied with the requirements of Regulation .17-2A(2) of this chapter concerning drip pad permeability;

(b) That is not used to manage waste with waste code F032, the requirement of Regulation .17-2C(6) and (7) of this chapter to install a leak collection system applies only to a drip pad:

(i) That is constructed after September 10, 1997, except for a drip pad constructed after September 10, 1997 for which the owner or operator had a design and had entered into binding financial or other agreements for construction before September 10, 1997, and

(ii) For which the owner or operator has not complied with the requirements of Regulation .17-2A(2) of this chapter concerning drip pad permeability.

(4) The owner or operator of a drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under Regulation .17-2D(3)(a) or (b) of this chapter, as appropriate.

(5) The requirements of this regulation and Regulations .17-2-.17-4 of this chapter are not applicable to the management of infrequent and incidental drippage in storage yards if the owner or operator:

(a) Maintains and complies with a written contingency plan that describes what actions the owner or operator shall take to immediately respond to the discharge of infrequent and incidental drippage;

(b) Implements the contingency plan required by A(5)(a) of this regulation within:

(i) One consecutive working day of the occurrence of the drippage when the facility is in operation and is treating wood, or

(ii) 72 hours of the occurrence when the facility is not in operation and is not treating wood; and

(c) Assures that, at a minimum, the contingency plan required by A(5)(a) of this regulation describes how the owner or operator will:

Supp. 11

1108-1

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(i) Clean up the drippage,

(ii) Document the cleanup of the drippage,

(iii) Retain documents regarding cleanup for 3 years, and

(iv) Manage the contaminated media resulting from infrequent and incidental drippage in a manner consistent with applicable laws and regulations.

B. Assessment of Existing Drip Pad Integrity.

(1) Evaluation of Existing Drip Pad. The owner or operator shall:

(a) Evaluate each existing drip pad, as defined in A(2)(a) of this regulation, and determine whether it meets all of the requirements of this regulation and Regulations .17-2—.17-4 of this chapter, except the requirements for liners and leak detection systems of Regulation .17-2C of this chapter;

(b) Have obtained and shall keep on file at the facility a written assessment of the drip pad that documents the extent to which the drip pad meets each of the design and operating standards of Regulation .17-2 of this chapter, except for the standards for liners and leak detection systems specified in Regulation .17-2C of this chapter;

(c) Assure that the assessment required by B(1)(b) of this regulation:

(i) Has been reviewed and certified by an independent qualified registered professional engineer that attests to the results of the evaluation, and

(ii) Is reviewed, updated, and recertified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of Regulation .17-2 of this chapter are complete.

(2) Written Plan. The owner or operator of an existing drip pad, who intends to upgrade, repair, and modify the drip pad so that it meets the requirements of Regulation .17-2C of this chapter, shall:

(a) Develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of Regulation .17-2C of this chapter, and submit the plan, to the Secretary, not later than 2 years before the date that all repairs, upgrades, and modifications are scheduled to be complete;

(b) Describe in the written plan required by B(2)(a) of this regulation all changes to be made to the drip pad in sufficient detail to

document compliance with all the requirements of Regulation .17-2 of this chapter; and

(c) Have the written plan required by B(2)(a) of this regulation reviewed and certified by an independent qualified registered professional engineer.

(3) Upon completion of all upgrades, repairs, and modifications determined to be necessary as a result of the assessment required by this section, the owner or operator shall submit, to the Secretary, the as-built drawings for the drip pad and a certification by an independent qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(4) If a drip pad is found to be leaking or unfit for use, the owner or operator shall comply with the provisions of Regulation .17-2I of this chapter or close the drip pad in accordance with Regulation .17-4 of this chapter.

C. Design and Installation of New Drip Pads.

(1) Except as provided in C(2) of this regulation, the owner and operator of a new drip pad shall ensure that the pad is designed, installed, and operated in accordance with all of the requirements of Regulations .17-2-.17-4 of this chapter.

(2) The owner and operator of a new drip pad shall either:

(a) Comply with:

(i) Regulation .17-2A(2) of this chapter concerning drip pad permeability, and

(ii) Regulation .17-2B of this chapter concerning assessment of the drip pad; or

(b) Install a liner and leakage detection and collection system that meets the requirements of Regulation .17-2C of this chapter.

D. General Requirements for Existing Drip Pads. The owner or operator of an existing drip pad shall either:

(1) Comply with Regulation .17-2A(2) of this chapter concerning drip pad permeability; or

(2) Install a liner and leakage detection and collection system that meets the requirements of Regulation .17-2C of this chapter.

Supp. 11

1108-3

26.13.05.17-2

#### ENVIRONMENT

## .17-2 Design and Operating Requirements.

A. The owner or operator of a drip pad shall ensure that:

(1) The drip pad:

(a) Is constructed of non-earthen materials, excluding wood and non-structurally supported asphalt,

(b) Is sloped to efficiently drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system, and

(c) Has a curb or berm around the perimeter;

(2) For an existing drip pad which does not satisfy the requirements of C of this regulation, and for a new drip pad for which the owner or operator has elected to comply with this provision, as provided in Regulation .17-1C(2)(a) of this chapter, the surface material of the drip pad:

(a) Has a hydraulic conductivity of less than or equal to  $1\times10^{-7}$  centimeters per second by, for example, sealing, coating, or covering a concrete drip pad with a surface material with a hydraulic conductivity of less than or equal to  $1\times10^{-7}$  centimeters per second, so that the entire surface where drippage occurs or may run across is capable of containing the drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system,

(b) Is maintained free of cracks and gaps that could adversely affect its ability to contain liquids, and

(c) Is chemically compatible with the preservatives that contact the drip pad; and

(3) The drip pad is of sufficient structural strength and thickness to prevent failure due to:

(a) Physical contact,

**US EPA ARCHIVE DOCUMENT** 

(b) Climatic conditions,

(c) Stresses associated with daily operations such as vehicular traffic and movement of wood,

(d) The stress of installation, and

(e) Any other relevant factors.

#### Controlled Hazardous Substances 26.13.05.17-2

B. Written Assessment. If, as provided in Regulation .17-1C(2)(a) of this chapter, the owner or operator elects to comply with the requirements of A(2) of this regulation, the owner or operator shall also:

(1) Obtain and keep on file at the facility a written assessment of the drip pad that evaluates the extent to which the drip pad meets the design and operating standards of this regulation, except for the requirements of C of this regulation; and

(2) Have the assessment required by B(1) of this regulation:

(a) Reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation, and

(b) Updated, reviewed, and recertified annually.

C. The owner or operator of a drip pad who has chosen to install a liner and leakage detection and collection system, as provided in Regulation .17-1C(2)(b) of this chapter or Regulation .17-1D(1) of this chapter, shall ensure that the system complies with the following:

(1) A synthetic liner, which is designed, constructed, and installed to prevent leakage from the drip pad into surface water, ground water, or adjacent subsurface soil at any time during the active life and closure period of the drip pad, is installed below the drip pad;

(2) The liner required by C(1) of this regulation is constructed of materials that will prevent waste from being absorbed into the liner and that will prevent releases into surface water, ground water, or adjacent subsurface soil during the active life of the facility;

(3) The liner required by C(1) of this regulation is:

(a) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to:

(i) Pressure gradients such as static head and external hydrogeologic forces,

(ii) Physical contact with the waste or with drip pad leakage,

(iii) Climatic conditions,

(iv) The stress of installation, and

(v) The stress of daily operation, including stresses from vehicular traffic on the drip pad;

(b) Placed upon a foundation or base capable of:

Supp. 11

1108-5

26.13.05.17-2

## Environment

(i) Providing support to the liner,

(ii) Providing resistance to pressure gradients above and below the liner, and

(iii) Preventing failure of the liner due to settlement, compression, or uplift; and

(c) Installed to cover all surrounding earth that could come in contact with the waste or leakage;

(4) There is a leakage detection system immediately above the liner that is designed, constructed, maintained, and operated to detect leakage from the drip pad;

(5) The leakage detection system required by C(4) of this regulation is:

(a) Constructed of materials that are:

(i) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated, and

(ii) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad;

(b) Designed and operated to function without clogging through the scheduled closure of the drip pad; and

(c) Designed to detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time;

(6) There is a leakage collection system immediately above the liner that is designed, constructed, maintained, and operated to collect leakage from the drip pad so that it can be removed from below the drip pad; and

(7) The date, time, and quantity of any leakage collected in and removed from the leakage collection system is documented in the facility operating log.

D. General Design and Operating Requirements. The owner or operator of a drip pad shall:

(1) Maintain the drip pad so that it remains free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad;

1108-6

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.17-2

(2) Ensure that the drip pad and associated collection system are designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off;

(3) Unless the drip pad is protected by a structure, as described in Regulation .17-1A(4) of this chapter:

(a) Either:

(i) Design, construct, operate, and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm, or

(ii) Assure that the run-on control system has sufficient excess capacity to contain any surface water run-off that might enter the system; and

(b) Design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm;

(4) Remove drippage and accumulated precipitation from the associated collection system as necessary to prevent overflow onto the drip pad;

(5) Ensure that collection and holding units associated with runon and run-off control systems are emptied or otherwise managed as soon as possible after storms to maintain the design capacity of the system; and

(6) Operate and maintain drip pads in a manner that minimizes tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

E. The owner or operator shall:

(1) Evaluate the drip pad to determine whether it meets the requirements of A-D(3) of this regulation; and

(2) Obtain a statement from an independent qualified registered professional engineer certifying that the drip pad design meets the requirements of this regulation.

F. Cleaning Requirements.

(1) The owner or operator of a drip pad shall:

(a) Thoroughly clean the drip pad surface to remove accumulated residues of hazardous waste or other materials to allow weekly inspections of the entire drip pad surface without interference or hindrance from materials on the drip pad;

Supp. 11

#### 1108-7

#### ENVIRONMENT

(b) Document, in the facility's operating record, the date, time, and cleaning procedure used for each cleaning required by F(1)(a) of this regulation; and

(c) Determine if the residues resulting from each cleaning required in F(1)(a) of this regulation are regulated as hazardous under COMAR 26.13.02 and, if so, manage them in accordance with COMAR 26.13.02—26.13.10, §3010 of RCRA, and applicable federal regulations.

(2) In satisfying the cleaning requirement of F(1) of this regulation, the owner or operator may clean the drip pad less frequently than once every 7 days, if doing so does not prevent unobscured viewing the drip pad surface during inspection.

G. After treated wood from pressure and nonpressure processes has been removed from the treatment vessel, the owner or operator shall ensure that it is held on the drip pad until drippage has ceased.

H. The owner or operator of a drip pad shall maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with §G of this regulation.

I. Response to Releases and Potential Releases.

(1) Throughout the active life of the drip pad, and as specified in the facility's permit, upon detection of a release of hazardous waste, including discovery of leakage in the leak detection system, or upon detection of a condition that may have caused or has caused a release, the owner or operator shall:

(a) Enter a record of the discovery in the facility operating log;

(b) Immediately remove from service the affected portion of the drip pad;

(c) Determine the steps that shall be taken to repair the drip pad and clean up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs;

(d) Within 24 hours after discovery of the release or the condition that may have caused the release, notify the Secretary of the situation; and

(e) Within 10 working days after discovery of the release or the condition that may have caused the release, provide written notice to the Secretary with a plan describing the steps that will be taken to repair the drip pad and clean up any leakage, and a schedule for accomplishing this work.

1108-8

(2) The Secretary shall:

(a) Review the information submitted;

(b) Make a determination regarding whether the pad is to be removed from service completely or partially until repairs and clean up are complete; and

(c) Notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all the repairs and implementing the clean up specified in the plan submitted in accordance with I(1)(e) of this regulation, the owner or operator shall notify the Secretary in writing and provide a certification signed by an independent qualified registered professional engineer that the repairs and clean up have been completed according to the written plan.

J. The owner or operator shall maintain, as part of the facility operating log, documentation of past operating and waste handling practices, including:

(1) Identification of preservative formulations used in the past;

(2) A description of drippage management practices; and

(3) A description of treated wood storage and handling practices.

#### .17-3 Inspections.

EPA ARCHIVE DOCUMENT

A. During construction or installation, the owner or operator shall ensure that liners and cover systems such as membranes, sheets, or coatings are inspected for uniformity, damage, and imperfections such as holes, cracks, thin spots, or foreign materials.

B. Immediately after construction or installation, the owner or operator shall have the liners inspected and certified as meeting the requirements of Regulation .17-2 of this chapter by an independent qualified registered professional engineer.

C. The owner or operator shall maintain the certification required by §B of this regulation at the facility as part of the facility operating record.

D. After installation, the owner or operator shall:

(1) Inspect liners and covers to ensure tight seams and joints, and the absence of tears, punctures, or blisters; and

(2) Maintain a record of the results of the inspection.

Supp. 11

1108-9

26.13.05.17-4

#### ENVIRONMENT

E. Inspection During Operation.

(1) While a drip pad is in operation, the owner or operator shall inspect drip pads weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunction, or improper operation of run-on and run-off control systems;

(b) Presence of leakage within and proper functioning of leak detection systems.

(2) If deterioration or leakage is detected, the owner or operator shall comply with the requirements of Regulation .17-2I of this chapter.

## .17-4 Closure of Drip Pads.

A. At closure, the owner or operator shall:

(1) Remove or decontaminate:

(a) All waste residues,

(b) Contaminated containment system components such as the pad and the liners,

(c) Contaminated subsoils, and

(d) Structures and equipment contaminated with waste and leakage; and

(2) Manage the waste listed in A(1) of this regulation as hazardous waste.

B. The owner or operator shall close the facility and perform postclosure care in accordance with the closure and post-closure care requirements that apply to landfills in Regulation .14J of this chapter if the owner or operator:

(1) Has removed or decontaminated all residues and made all reasonable efforts to effect removal of contaminated components, subsoils, structures, and equipment as required in §A of this regulation; and

(2) Finds that not all contaminated subsoils can be practicably removed or decontaminated.

C. For permitted units required to close in accordance with §B of this regulation:

(1) The requirement to have a permit continues throughout the post-closure period; and

1108-10

(2) The drip pad is considered to be a landfill for the purpose of closure, post-closure, and financial responsibility, and the owner or operator shall meet all of the requirements for landfills specified in Regulations .07 and .08 of this chapter.

D. The owner or operator of an existing drip pad, as defined in Regulation .17-1A of this chapter, that does not comply with the liner requirements of Regulation .17-2C(1) - (3) of this chapter, shall:

(1) Include in the closure plan for the drip pad under Regulation .07C of this chapter both a plan for complying with §A of this regulation and a contingent plan for complying with §§B—C of this regulation, in case not all contaminated subsoils can be practicably removed at closure; and

(2) Prepare a contingent post-closure plan under Regulation .07H of this chapter for complying with §§B—C of this regulation, in case not all contaminated subsoils can be practicably removed at closure.

E. For cost estimates calculated under Regulations .07 and .08 of this chapter for closure and post-closure care of a drip pad subject to D of this regulation, the owner or operator:

(1) Shall include the cost of complying with the contingent closure plan and the contingent post-closure plan; and

(2) May exclude the cost of expected closure under §A of this regulation.

#### .18 Chemical, Physical, and Biological Treatment.

A. Applicability. This regulation applies to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as Regulation .01 of this chapter otherwise provides. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities shall be conducted in accordance with Regulations .10, .11, and .13, respectively.

B. General Operating Requirements.

(1) Chemical, physical, or biological treatment of hazardous waste shall comply with Regulation .02H(2) of this chapter.

(2) Hazardous wastes or treatment reagents may not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

Supp. 11

#### 1108-11

## ENVIRONMENT

(3) When hazardous waste is continuously fed into a treatment process or equipment, the process or equipment shall be equipped with a means to stop this inflow (for example, a waste feed cut-off system or by-pass system to a standby containment device).

C. Waste Analysis and Trial Tests. In addition to the waste analysis 'required by Regulation .02D, whenever a hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or a substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste, the owner or operator shall, before treating the different waste or using the different process or equipment, conduct waste analyses and trial

(See page 1109)

Supp.11

the state of the second

And a state of the state of the

State of the second second

## CONTROLLED HAZARDOUS SUBSTANCES

treatment tests (for example, bench scale or pilot plant scale tests), or obtain written, documented information on similar treatment of similar waste under similar operating conditions, to show that this proposed treatment will meet all applicable requirements of  $\SB(1)$  and (2).

D. Inspections. The owner or operator of a treatment facility shall inspect, where present:

(1) Discharge control and safety equipment (for example, waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (for example, pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (for example, dikes), at least weekly, to detect erosion or obvious signs of leakage (for example, wet spots or dead vegetation).

E. Closure. At closure, all hazardous waste and hazardous waste residues shall be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

F. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive waste may not be placed in a treatment process or equipment unless the waste is:

(1) Treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under COMAR 26.13.02.11, and Regulation .02H(2) is complied with; or

(2) Treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

G. Special Requirements for Incompatible Wastes.

(1) Incompatible wastes, or incompatible wastes and materials, (see Regulation .24 for examples) may not be placed in the same treat-

1109

#### ENVIRONMENT

ment process or equipment, unless Regulation .02H(2) is complied with.

(2) Hazardous waste may not be placed in unwashed treatment equipment which previously held an incompatible waste or material. unless Regulation .02H(2) is complied with.

#### .19 Underground Injection Control.

A person may not dispose of hazardous waste by underground injection (as the term "underground injection" is defined at COMAR 26.08.07 and 40 CFR §143.3).

#### .20 Record-Keeping Instructions.

A. The record-keeping provisions of Regulation .05D specify that an owner or operator shall keep a written operating record at his facility. This regulation provides additional instructions for keeping portions of the operating record. See Regulation .05D(2) of this chapter for additional record-keeping requirements.

B. The following information shall be recorded, as it becomes available and maintained in the operating record until closure of the facility in the following manner: records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Numbers(s) from COMAR 26,13.02 which apply to the waste. The waste description also shall include the waste's physical form, such as liquid, sludge, solid, or contained gas. If the waste is not listed in COMAR 26.13.02.05—.19, the description also shall include the process that produced it (for example, solid filter cake from production of . \_, EPA Hazardous Waste Number W051). Each hazardous waste listed in COMAR 26.13.02.15-19 and each hazardous waste characteristic defined in COMAR 26.13.02.10-.14, has a four digit EPA Hazardous Waste Number assigned to it. This number shall be used for record keeping and reporting purposes. When a hazardous waste contains more than one listed hazardous waste. or when more than one hazardous waste characteristic applies to the waste, the waste description shall include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, when applicable, in one of the units of measure specified in Table 1.

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.20

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

## Table 1

Unit of Measure	Symbol*	Density
Pounds	P	· · · · ·
Short Tons (2000 lbs)	· <b>T</b>	
Gallons (U.S.)	G	P/G
Cubic Yards	Y	T/Y
Kilograms	K	_
Tonnes (1000 kg)	Μ	
Liters	L	K/L
Cubic Meters	C	M/C

\* Single digit symbols are used here for data processing purposes.

## Table 2

#### Handling Codes for Treatment, Storage, and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. Storage

S01 Container (barrel, drum, etc.)

S02 Tank

S03 Waste pile

S04 Surface impoundment

S05 Other (specify)

#### 2. Treatment

(a) Thermal Treatment

T06 Liquid injection incinerator

T07 Rotary kiln incinerator

T08 Fluidized bed incinerator

T09 Multiple hearth incinerator

T10 Infrared furnace incinerator

T11 Molten salt destructor

T12 Pyrolysis

T13 Wet air oxidation

#### ENVIRONMENT

- T14 Calcination
- T15 Microwave discharge
- T16 Cement kiln
- T17 Lime kiln
- T18 Other (specify)
  - (b) Chemical Treatment
- T19 Absorption mound
- T20 Absorption field
- T21 Chemical fixation
- T22 Chemical oxidation
- T23 Chemical precipitation
- T24 Chemical reduction
- **T25** Chlorination
- T26 Chlorinolysis
- T27 Cyanide destruction
- T28 Degradation
- **T29** Detoxification
- T30 Ion exchange
- **T3l Neutralization**
- T32 Ozonation
- T33 Photolysis
- T34 Other (specify)

## (c) Physical Treatment

## (1) Separation of components

- T35 Centrifugation
- T36 Clarification
- T37 Coagulation
- T38 Decanting
- T39 Encapsulation
- T40 Filtration
- **T41** Flocculation
- T42 Flotation
- **T43 Foaming**
- **T44 Sedimentation**
- T45 Thickening
- T46 Ultrafiltration
- T47 Other (specify)

## (2) Removal of Specific Components

T48 Absorption molecular sieve



## CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.20

T49 Activated carbon

T50 Blending

T51 Catalysis

T52 Crystallization

T53 Dialysis

T54 Distillation

T55 Electrodialysis

T56 Electrolysis

T57 Evaporation

T58 High gradient magnetic separation

T59 Leaching

T60 Liquid ion exchange

T61 Liquid liquid extraction

T62 Reverse osmosis

T63 Solvent recovery

T64 Stripping

T65 Sand filter

T66 Other (specify)

(d) Biological Treatment

T67 Activated sludge

T68 Aerobic lagoon

T69 Aerobic tank

T70 Anaerobic lagoon

T71 Composting

T72 Septic tank

T73 Spray irrigation

T74 Thickening filter

T75 Trickling filter

T76 Waste stabilization pond

T77 Other (specify)

T78-79 (Reserved)

3. Disposal

D80 Underground injection

D81 Landfill

D82 Land treatment

D83 Ocean disposal

D84 Surface impoundment (to be closed as a landfill)

D85 Other (specify)

## 1113

Environment

.21 Repealed.

## .22 EPA Interim Primary Drinking Water Standards.

	Maximum Level		
Parameter	(milligrams/liter)		
Arsenic	0.05		
Barium	1.0		
Cadmium	0.01		
Chromium	0.05		
Fluoride	1.4-2.4		
Lead	0.05		
Mercury	0.002		
Nitrate (as N)	10		
Selenium	0.01		
Silver	0.05		
Endrin	0.0002		
Lindane	0.004		
Methoxychlor	0.1		
Toxaphene	0.005		
2,4-D	0.1		
2,4,5-TP Silvex	0.01		
	Maximum Level		
Radium	5 pCi/liter		
Gross Alpha	15 pCi/liter		
Gross Beta	4 millirem/yr		
Turbidity	1/TU		
Coliform Bacteria	1/100 milliliter		

(Comment: Turbidity is applicable only to surface water supplies.)

.23 Cochran's Approximation to the Behrens-Fisher Student's t-test.

A. Using all the available background data (n<sub>b</sub> readings), calculate the background mean ( $x_b$ ) and background variance  $S_b^2$ . For the single

(The next page is 1126)

1114

Supp. 10

and the second second

#### ENVIRONMENT

monitoring well under investigation  $(n_m \text{ reading})$ , calculate the monitoring mean  $(x_m)$  and monitoring variance  $(S_m^2)$ . For any set of data  $(x_1, x_2, \dots, x_n)$ , the mean is calculated by:

$$\overline{\mathbf{X}} = \frac{\mathbf{X}_1 + \mathbf{X}_2 \dots + \mathbf{X}_n}{n}$$

and the variance is calculated by:

$$\mathbf{s}^2 = \frac{(\mathbf{X}_1 - \overline{\mathbf{X}})^2 + (\mathbf{X}_2 - \overline{\mathbf{X}})^2 \dots + (\mathbf{X}_n - \overline{\mathbf{X}})^2}{\mathbf{n} \cdot \mathbf{1}}$$

where "n" denotes the number of observations in the set of data.

B. The t-test uses these data summary measures to calculate a tstatistic (t<sup>\*</sup>) and a comparison t-statistic (t<sub>c</sub>). The t<sup>\*</sup> value is compared to the t<sub>c</sub> value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

C. The t-statistic for all parameters except pH and similar monitoring parameters is:

$$\mathbf{t}^{*} = \underbrace{\mathbf{X}_{m} - \overline{\mathbf{X}}_{b}}_{\sqrt{\frac{\mathbf{S}_{m}^{2}}{\mathbf{n}_{m}} + \frac{\mathbf{S}_{b}^{2}}{\mathbf{n}_{b}}}}$$

EPA ARCHIVE DOCUMENT

D. If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

E. The t-statistic  $(t_c)$ , against which t' will be compared, necessitates finding  $t_B$  and  $t_m$  from standard (one-tailed) tables where,  $t_B = t$ -tables with  $(n_B^{-1})$  degrees of freedom, at the 0.05 level of significance.

F.  $t_m = t$ -tables with  $(n_m^{-1})$  degrees of freedom, at the 0.05 level of significance.

G. Finally, the special weighting  $W_{\rm B}$  and  $W_{\rm M}$  are defined as:

$$W_B = \frac{S_B^2}{n_B}$$
 and  $W_m = \frac{S_m^2}{n_m}$ 

## CONTROLLED HAZARDOUS SUBSTANCES

26.13.05.23

and so the comparison t-statistic is:

$$t_{c} = \frac{W_{B}t_{B} + W_{m}t_{m}}{W_{B} + W_{m}}$$

H. The t-statistic  $(t^*)$  is now compared with the comparison t-statistic  $(t_c)$  using the following decision-rule:

(1) If t is equal to or larger than  $t_c$ , then conclude that there most likely has been a significant increase in this specific parameter;

(2) If t is less than  $t_c$ , then conclude that most likely there has not been a change in this specific parameter.

I. The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction  $t_c$  for pH and similar monitoring parameters.

J. If t<sup>\*</sup> is equal or larger than  $t_c$ , then conclude that there most likely has been a significant increase (if the initial t<sup>\*</sup> had been negative, this would imply a significant decrease). If t<sup>\*</sup> is less than  $t_c$ , then conclude that there most likely has been no change.

K. A further discussion of the test may be found in Statistical Methods (6th Edition, Section 4.14) by G.W. Snedecor and W.G. Cochran, or Principles and Procedures of Statistics (1st Edition, Section 5.8) by R.G.D. Steel and J.H. Torrie.

#### Standard T-Tables 0.05 Level of Significance

Degrees of	t-v <b>alues</b>	t-values
Freedom	(one-tail)	(two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228

ENVIRONMENT

Degrees of	t-values	t-nalues
Freedom	(one-tail)	(two-tail)
11	1 796	9 901
12	1 789	2.201
13	1.771	2.175
14	1.761	2.100
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

## .24 Examples of Potentially Incompatible Waste.

A. Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and environment, such as:

- (1) Heat or pressure;
- (2) Fire or explosion;
- (3) Violent reaction;
- (4) Toxic dusts, mists, fumes, or gases; or
- (5) Flammable fumes or gases.

B. Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

C. This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.05.24

D. It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

E. In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted:

#### Group 1-A

Group 1-B

Acetylene sludge Alkaline caustic liquids Alkaline cleaner Alkaline corrosive liquids Alkaline corrosive battery fluid Caustic wastewater Lime sludge and other corrosive alkalines Lime wastewater Lime and water Spent caustic Acid sludge Acid and water Battery acid Chemical cleaners Electrolyte, acid Etching acid liquid or solvent Pickling liquor and other corrosive acids Spent acid Spent mixed acid Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A

Group 2-B

Any waste in Group 1-A or 1-B

Aluminum Beryllium Calcium Lithium Magnesium Potassium Sodium Zinc powder Other reactive metals and metal

hydrides

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

ENVIRONMENT

Group 3-A

Alcohols Water Any concentrated waste in Groups 1-A or 1-B Calcium Lithium Metal hydrides Potassium SO<sub>2</sub>Cl<sub>2</sub>, SOCl<sub>2</sub>, PCl<sub>3</sub>, CH<sub>3</sub>SiCl<sub>3</sub> Other water-reactive waste

Group 3-B

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A

## Group 4-B

Alcohols Aldehydes Halogenated hydrocarbons Nitrated hydrocarbons Unsaturated hydrocarbons Other reactive organic compounds and solvents Concentrated Group 1-A or 1-B wastes Group 2-A wastes

Potential consequences: Fire, explosion, or violent reaction.

## Group 5-A

## Group 5-B

Group 1-B wastes

Spent cyanide and sulfide solutions

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

## Group 6-A

## Group 6-B

Acetic acid and other organic acids Concentrated mineral acids Group 2-A wastes Group 4-A wastes Other flammable and combustible wastes

Chlorates Chlorine Chlorites Chromic acid Hypochlorites Nitrates Nitric acid, fuming Perchlorates Permanganates

**JS EPA ARCHIVE DOCUMENT** 

#### Peroxides

#### Other strong oxidizers

Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Waste". California Department of Health, February 1975.

#### Administrative History

#### Effective date:

Regulations .01-.18 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642)

Regulations .01, .05G, .06, .08A, .11C, .12D, and .14C amended effective January 18, 1982 (9:1 Md. R. 20)

Regulations .01-.12. .18 amended effective January 31, 1983 (10:2 Md. R. 110)

Regulations .01A, B. .02F, .05D, H. .07C, D. G, H. .08A, .09G, .10D, F. .11A-1, C, E-G, .12A, B, D, D-1, D-2, E, G, .13, .14, .15A, .16A, .18 (Appendix IV) amended, .15-1 adopted, .06 repealed and new .06 adopted, .10I, .12C-1, and .18 (Appendices VI-XIII) repealed effective February 13, 1984 (11:3 Md. R. 202)

Regulations .01A, .02D, F, .05G, .06A, I, .07A, D, I, .10D, .11B, F, F-1, .12D-1, .14A-C, J, L, .15-1A, D amended, and .01C adopted effective July 30, 1984 (11:15 Md. R. 1330)

Regulation .01A amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .02I, J adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .04G amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .05A, D amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .06A amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .06L adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .07B amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .07C-J repealed and new C-J adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .08A amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .09F, H, and I amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .10D, E amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .10I adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .11A-1, B, C, E, F, F-1 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .12B, D-1 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .12H adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .13N adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .14B. C amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .14P adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .15A amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .15-1B, C, and F amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .16G adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .10C-1-I recodified to .10D-J

Regulation .11A-1-F recodified to .11B-G

Regulation .11F-1-I recodified to .11H-K

Regulation .12D-1 and D-2 recodified to .12E and F

#### Environment

26.13.05.24

EPA ARCHIVE DOCUMENT

Regulation .12E—H recodified to .12G—J

Regulation .15-1 recodified to Regulation .16

Regulations .16—.18 recodified to Regulations .17—.19 Appendix I—Appendix V codified as Regulations .20—.24

Chapter recodified from COMAR 10.51.05 to COMAR 26.13.05

Regulation .01A amended effective May 24, 1993 (20:10 Md. R. 853)

Regulation .01C amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .02D amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .02F amended effective April 1, 1991 (18:6 Md. R. 690); May 24, 1993 (20:10 Md. R. 853)

Regulation .04G amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .05B amended effective May 24, 1993 (20:10 Md. R. 853)

Regulation .05D amended effective April 1, 1991 (18:6 Md. R. 690); December 23, 1991 (18:25 Md. R. 2759); May 24, 1993 (20:10 Md. R. 853)

Regulation .05F amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .06A amended effective April 1, 1991 (18:6 Md. R. 690)

Regulation .06K amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .07A, E, and F amended effective May 24, 1993 (20:10 Md. R. 853)

Regulation .07B, C, E, G, and H amended effective April 1, 1991 (18:6 Md. R. 690)

Regulation .07B, F amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .08A amended effective April 1, 1991 (18:6 Md. R. 690)

Regulation .08B amended effective November 9, 1992 (19:22 Md. R. 1991)

Regulation .10 repealed and new Regulations .10-10-7 adopted effective May 24, 1993 (20:10 Md. R. 853)

Regulation .10G amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .11D amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .14B, N amended effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .16-1 adopted effective April 1, 1991 (18:6 Md. R. 690) (Regulation .16-1 was initially adopted as Regulation .17. The recodification to Regulation .16-1 negated the need for some changes to cross-references shown in the Maryland Register.)

Regulation .20A amended effective December 23, 1991 (18:25 Md. R. 2759)

Chapter revised effective April 11, 1994 (21:7 Md. R. 533)

Regulation .01A amended effective August 28, 1995 (22:17 Md. R. 1321) Regulation .01 amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .05F, H amended effective May 5, 1997 (24:9 Md. R. 659) Regulation .07D amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .08A amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .08B amended effective August 28, 1995 (22:17 Md. R. 1321) Regulation .10A amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .10A amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .14N amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .16A, F amended effective May 8, 1995 (22:9 Md. R. 648) Regulation .16D amended effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-1 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-2 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-3 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .17-4 adopted effective September 10, 1997 (24:5 Md. R. 413) Regulation .21 repealed effective May 5, 1997 (24:9 Md. R. 659)

1132

## Title 26 DEPARTMENT OF THE ENVIRONMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 06 Site Selection for CHS Facilities

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

## .01 General Regulations.

A. A facility may not be located in an active fault zone.

B. Flood Plains.

(1) Definitions. The following definitions are used in B(2), below:

(a) "100-year flood" means a flood that has a 1 percent chance of being equaled or exceeded in any given year.

(b) "100-year flood plain" means any land area which is subject to a 1 percent or greater chance of a flooding in any given year from any source.

(c) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(2) A facility located in a 100-year flood plain shall be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood unless the owner or operator demonstrates to the Secretary that procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters.

C. A facility may not be located in a wetland, unless the operator obtains a discharge permit under COMAR 26.10.01 and a wetlands permit under COMAR 08.05.07.

D. A facility may not be located so as to be likely to jeopardize the continued existence of endangered and threatened species, or result in the destruction or adverse modification of their critical habitat. (Reference: COMAR 08.03.08 and Natural Resources Article, §§10-2A-01-2A-09, Annotated Code of Maryland.)

#### 26.13.06.01

#### ENVIRONMENT

E. A facility may not be located in the recharge zone of a sole source aquifier unless it can be demonstrated that the facility is designed, constructed, operated, and maintained to prevent any endangerment of the aquifier.

F. Salt Dome Formations, Salt Bed Formations, Underground Mines, and Caves. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine, or cave is prohibited.

## **Administrative History**

Effective date:

Regulation .01 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642) Regulation .01B amended effective January 31, 1983 (10:2 Md. R. 110)

Chapter recodified from COMAR 10.51.06 to COMAR 26.13.06 Regulation .01F adopted effective April 18, 1988 (15:8 Md. R. 1009)

## Title 26 DEPARTMENT OF THE ENVIRONMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

## Chapter 07 Permits for CHS Facilities

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

#### .01 Permit Required.

A. Except for persons identified in COMAR 26.13.05.01A(3), a person may not operate any facilities without first obtaining a valid permit from the Department. A permit will not be issued without the facility first having applied for an EPA identification number.

B. A person may not begin physical construction of a new facility without having submitted a complete permit application and having received a final permit under this chapter.

C. A facility that is no longer operating but is maintained to permanently contain CHS and does not receive any additional CHS shall also be required to obtain a valid permit from the Department.

D. A permit may be issued or denied for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility.

E. Record Keeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this chapter for a period of at least 3 years from the date the application is signed.

F. Incorporation by Reference. 40 CFR §§264.140—264.151, as promulgated as of July 1, 1995, are incorporated by reference.

G. Wastes Newly Regulated as Hazardous. A person managing a waste that is newly regulated by being listed or identified as hazardous under COMAR 26.13.02, in a manner that requires a CHS facility permit under this chapter, may continue managing the waste as if the person had a CHS facility permit to manage the waste, if the person:

(1) Was managing the waste that is newly listed or identified as hazardous on or before the effective date of the regulation listing or
## 26.13.07.02

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

identifying the waste as hazardous and, if applicable, on or before the date it was regulated as hazardous under 40 CFR 261;

(2) Complies with the notification requirements of §3010 of RCRA;

(3) Manages the waste in compliance with the requirements of COMAR 26.13.05; and

(4) Submits a complete application for a CHS facility permit or a complete application for a CHS facility permit modification within 180 days of the effective date of the regulation listing or identifying the waste as hazardous.

#### .02 Application for a Permit.

A. Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign and submit an application to the Secretary as described in this section. Procedures for application, issuance and administration of research, development, and demonstration permits are found exclusively in Regulation .19.

B. When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit. The owner shall also sign the permit application.

C. Completeness. The Secretary may not issue a permit before receiving a complete application for a permit. An application for a permit under a program is complete when the Secretary receives an application form, and any supplemental information, which is completed to his or her satisfaction. An application may be deemed by the Secretary as complete, notwithstanding the failure of the owner or operator to submit the exposure information described in D(37). The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.

D. Permit Information. All applicants, using the application form provided by the Department, shall provide the following information to the Secretary. A duplicate of each application shall be submitted at the same time to the EPA. Information shall be signed in accordance with §§A and B of this regulation, and Regulation .03D of this chapter:

(1) The activities conducted by the applicant which require it to obtain a permit.

(2) Name, mailing address, and location of the facility for which the application is submitted.

1136

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.02D

(3) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as federal, State, private, public or other entity.

(5) A listing of all permits or construction approvals received or applied under any of the following programs:

(a) Hazardous Waste Management program under the Resource Conservation and Recovery Act;

(b) Underground Injection Control program under the Safe Drinking Water Act;

(c) NPDES program under the Clean Water Act;

(d) Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(e) Nonattainment program under the Clean Air Act;

# (See page 1137)

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.02D

(f) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

(g) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act;

(h) Dredge or fill permits under §404 of the Clean Water Act;

(i) Other relevant environmental permits, including State permits.

(6) A topographic map (or other map if a topographic map is unavailable) extending 1 mile beyond the property boundaries of the source, depicting the facility and:

(a) Each of its intake and discharge structures;

(b) Each of its hazardous waste treatment, storage, or disposal facilities;

(c) Each well where fluids from the facility are injected underground; and

(d) Those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within  $\frac{1}{2}$  mile of the facility property boundary.

(7) A brief description of the nature of business.

(8) The latitude and longitude of the facility.

(9) The name, address, and telephone number of the owner of the facility.

(10) An indication of whether the facility is new or existing and whether it is a first or revised application.

(11) For existing facilities, a scale drawing of the facility showing the location of all past, present, and future treatment, storage, and disposal areas.

(12) For existing facilities, photographs of the facility clearly delineating all:

(a) Existing structures;

(b) Existing treatment, storage, and disposal areas; and

(c) Sites of future treatment, storage, and disposal areas.

(13) A description of the processes to be used for treating, storing, and disposing of hazardous waste, and the design capacity of these items.

#### 26.13.07.02D

**US EPA ARCHIVE DOCUMENT** 

## Environment

(14) A specification of the hazardous wastes listed or designated in COMAR 26.13.02 to be treated, stored, or disposed at the facility, an estimate of the quantity of the wastes to be treated, stored, or disposed of annually, and a general description of the processes to be used for the wastes.

(15) A general description of the facility.

(16) Chemical and physical analyses of the hazardous wastes to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the wastes in accordance with COMAR 26.13.05.

(17) A copy of the waste analysis plan required by COMAR 26.13.05.02D.

(18) A description of the security procedures and equipment required by COMAR 26.13.05.02E.

(19) A copy of the general inspection schedule required by COMAR 26.13.05.02F(2). Include, when applicable, as part of the inspection schedule, specific requirements in COMAR 26.13.05.09E, .10D, .10-4G, .11F, .12E, .13D, .14C, .15D, .16I, .16-1C, .17D, and .18D.

(20) A justification of any request for a waiver or waivers of the preparedness and prevention requirements of COMAR 26.13.05.03.

(21) A copy of the contingency plan required by COMAR 26.13.05.04.

(22) A description of procedures, structures, or equipment used at the facility to:

(a) Prevent hazardous discharge in unloading operations (for example, ramps, special forklifts);

(b) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

(c) Prevent contamination of water supplies;

(d) Mitigate effects of equipment failure and power outages;

(e) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing).

(23) Traffic pattern, volume, and control (for example, show turns across traffic lanes, and stacking lanes if appropriate, provide access road surfacing and load bearing capacity, show traffic control signals, provide estimates of traffic volume (number of types of vehicles)).

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.02D

(24) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with COMAR 26.13.05.02H including documentation demonstrating compliance with COMAR 26.13.05.02H(3).

(25) The political jurisdiction in which the facility is proposed to be located.

(26) Flood Map.

(a) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year flood plain. This identification shall indicate the source of data for the determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used if a FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (for example, wave action) which shall be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

(b) If maps for the National Flood Insurance Program produced by the Federal Emergency Management Agency are available, they will normally be determinative whether a facility is located within or outside of the 100-year flood plain. However, if the FIA map excludes an area (usually areas of the flood plain less than 200 feet in width), these areas shall be considered and a determination made as to whether they are in the 100-year flood plain.

(c) If FIA maps are not available for a proposed facility location, the owner or operator shall use equivalent mapping techniques to determine whether the facility is within the 100-year flood plain, and if so located, what the 100-year flood elevation would be.

(27) Owners and operators of facilities located in the 100-year flood plain shall provide the following information:

(a) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood.

(b) Structural or other engineering studies showing the design of operational units (for example, tanks, incinerators) and flood protection devices (for example, floodwalls, dikes) at the facility, and how these will prevent washout.

## 26.13.07.02D

EPA ARCHIVE DOCUMENT

## ENVIRONMENT

(c) If applicable, and instead of D(27)(a) and (b), above, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including: the timing of movement relative to flood levels, including estimated time to move the waste, to show that this movement can be completed before flood waters reach the facility; a description of the location or locations to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with COMAR 26.13.01-26.13.09; the planned procedures, equipment, and personnel to be used and the means to ensure that the resources will be available in time for use; and the potential for accidental discharges of the waste during movement.

(28) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with COMAR 26.13.05.02G. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in COMAR 26.13.05.02G(1)(c).

(29) A copy of the closure plan and, when applicable, the post-closure plan required by COMAR 26.13.05.07C and H. Include, when applicable, as part of the plan, specific requirements in COMAR 26.13.05.09I, .10-7, .11G, .12I, .13K, .14J, .15E, .16L, .16-1B and D, .17E, and .18E.

(30) For hazardous waste disposal units that have been closed, documentation that notices required under COMAR 26.13.05.07I have been filed.

(31) The most recent closure cost estimate for the facility prepared in accordance with 40 CFR §264.142 and a copy of the documentation required to demonstrate financial assurance under 40 CFR §264.143. For a new facility, a copy of the required documentation may be submitted 60 days before the initial receipt of hazardous wastes, if that is later than the submission of the permit application.

(32) If applicable, the most recent post-closure cost estimate for the facility prepared in accordance with 40 CFR §264.144 plus a copy of the documentation required to demonstrate financial assurance under 40 CFR §264.145. For a new facility, a copy of the required documentation may be submitted 60 days before the initial receipt of

hazardous wastes, if that is later than the submission of the permit application.

(33) When applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 40 CFR 264.147. For a new facility, documentation showing the amount of insurance meeting the specification of 40 CFR 264.147(a) and, if applicable, 40 CFR 264.147(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in 40 CFR 264.147(c).

(34) When appropriate, proof of coverage by a State financial mechanism in compliance with 40 CFR §§264.149-264.150.

(35) A topographic map showing a distance of 1,000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours shall be shown on the map. The contour interval shall be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meter (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of hazardous waste management facilities located in mountainous areas should use larger contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

(a) Map scale and date;

(b) 100-year flood plain area;

(c) Surface waters including intermittent streams;

(d) Surrounding land uses (residential, commercial, agricultural, recreational);

(e) A wind rose (for example, prevailing windspeed and direction);

(f) Orientation of the map (north arrow);

(g) Legal boundaries of the hazardous waste management facility site;

(h) Access control (fences, gates);

(i) Injection and withdrawal wells both on-site and off-site;

Supp. 11

## 26.13.07.02-1

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(j) Building, treatment, storage, or disposal operations, or other structures (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.);

(k) Barriers for drainage or flood control;

(1) Location of operational units within the hazardous waste management facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).

(36) Applicants may be required to submit such information as may be necessary to enable the Secretary to carry out his duties.

(37) Exposure Information. After August 8, 1985, any permit application submitted by an owner or operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or a landfill shall be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, this information shall address:

(a) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(b) The potential pathways for human exposure to hazardous wastes of constituents resulting from the releases described under D(37)(a); and

(c) The potential magnitude and nature of the human exposure resulting from these releases.

(38) A copy of the contingency plan required by COMAR 26.13.05.04, including, when applicable, as part of the contingency plan, specific requirements in COMAR 26.13.05.11H.

E. Any facility with an effective permit shall submit to the Secretary a new application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Secretary. The later date may not be after the expiration date of the effective permit.

# .02-1 Additional Information Requirements—Ground Water Protection.

A. Applicability. This regulation applies to persons seeking or required to obtain a controlled hazardous substances (CHS) facility

permit to manage hazardous waste in a regulated unit, as defined in COMAR 26.13.05.06A(2)(b).

B. Except as otherwise provided in COMAR 26.13.05.06A(3), a person subject to this regulation shall provide the following additional information regarding protection of ground water as a part of the permit application:

(1) A summary of the ground water monitoring data obtained from the requirements of COMAR 26.13.05.06A—E, when applicable;

(2) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including ground water flow direction and rate, and the basis for the identification, such as the information obtained from hydrogeologic investigation of the facility area;

(3) On the topographic map required under Regulation .02D(6) of this chapter, a delineation of the waste management area, the property boundary, the proposed point of compliance as defined under COMAR 26.13.05.06-1D, the proposed location of ground water monitoring wells as required under COMAR 26.13.05.06-2 and, to the extent possible, the information required in  $\SB(2)$  of this regulation;

(4) A description of any plume of contamination that has entered the ground water from a regulated unit at the time the application is submitted that:

(a) Delineates the extent of the plume on the topographic map required under Regulation .02D(6)(b) of this chapter; and

(b) Identifies the concentration of each constituent from COMAR 26.13.02.25C throughout the plume or identifies the maximum concentrations of each constituent in the plume;

(5) Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of COMAR 26.13.05.06-2;

(6) If the presence of hazardous constituents has not been detected in the ground water at the time of permit application, sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of COMAR 26.13.05.06-4, including:

(a) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;

Supp. 11

EPA ARCHIVE DOCUMENT

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

(b) A proposed ground water monitoring system;

(c) Background values for each proposed monitoring parameter or constituent, or procedures to calculate these values; and

(d) A description of proposed sampling analysis and statistical comparison procedures to be used in evaluating ground water monitoring data;

(7) The following information if the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of permit application:

(a) Sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of COMAR 26.13.05.06-5;

(b) An engineering feasibility plan for a corrective action program necessary to meet the requirements of COMAR 26.13.05.06-6, except as provided by COMAR 26.13.05.06-4H(5), unless the permit applicant obtains written authorization in advance from the Secretary to submit a proposed permit schedule for submittal of the plan; and

(c) The following items to demonstrate compliance with COMAR 26.13.05.06-5:

(i) A description of the wastes previously handled at the facility,

(ii) A characterization of the contaminated ground water, including concentrations of hazardous constituents,

(iii) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with COMAR 26.13.05.06-2 and .06-5,

(iv) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in COMAR 26.13.05.06-1C, including a justification for establishing any alternate concentration limits,

(v) Detailed plans and an engineering report describing the proposed ground water monitoring system, in accordance with the requirements of COMAR 26.13.05.06-2, and

(vi) A description of proposed sampling, analysis, and statistical comparison procedures to be used in evaluating ground water monitoring data.

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.02-1

C. Information Concerning a Corrective Action Program.

(1) Under the circumstances described in C(2) of this regulation, a person identified in A of this regulation shall either:

(a) Provide, as part of a CHS facility permit application, sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of COMAR 26.13.05.06-6; or

#### (b) Comply with the following requirements:

(i) Demonstrate to the Secretary that alternate concentration limits will protect human health and the environment after considering the criteria listed in COMAR 26.13.05.06-1C(2), and

(ii) Provide as part of a CHS facility permit application, sufficient information to establish a compliance monitoring program which meets the requirements of §B of this regulation and COMAR 26.13.05.06-5.

(2) The requirements of C(1) of this regulation apply if:

(a) Hazardous constituents have been measured in the ground water at levels which exceed the concentration limits established under COMAR 26.13.05.06-1C, Table 1; or

(b) Ground water monitoring conducted at the time of permit application under COMAR 26.13.05.06-1 at the waste boundary indicates the presence of hazardous constituents from the facility in ground water over background concentrations.

(3) A person required by C(1) of this regulation to submit information concerning a corrective action program under COMAR 26.13.05.06-6 shall address, at a minimum, the following items:

(a) A characterization of the contaminated ground water, including concentration of hazardous constituents;

(b) The concentration limit for each hazardous constituent found in the ground water as set forth in COMAR 26.13.05.06-1C;

(c) Detailed plans and an engineering report describing the corrective action to be taken; and

(d) A description of how the ground water monitoring program will assess the adequacy of the corrective action.

D. The Secretary may issue a permit containing a schedule for submittal of the information required in C(3)(c)—(d) of this regulation if

Supp. 11

EPA ARCHIVE DOCUMENT

#### Environment

the permit applicant obtains written authorization from the Secretary before submittal of the complete permit application.

#### .02-2 Specific Information Requirements for Containers.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit to manage hazardous waste in containers shall provide the Secretary with the specific information required by §§B and C of this regulation.

B. For facilities that store containers of hazardous waste, except as otherwise provided in COMAR 26.13.05.09, the permit applicant shall provide the following information:

(1) A description of the containment system to demonstrate compliance with COMAR 26.13.05.09H which includes at least the following:

(a) Basic design parameters, dimensions, and materials of construction,

(b) A description of how the design promotes drainage or how containers are kept from contact with standing liquids in the containment system,

(c) Capacity of the containment system relative to the number and volume of containers to be stored,

(d) A description of provisions for preventing or managing runon, and

(e) A description of how accumulated liquids can be analyzed and removed to prevent overflow;

(2) Sketches, drawings, or data demonstrating compliance with COMAR 26.13.05.09F, concerning location of buffer zone and containers holding ignitable or reactive wastes, and COMAR 26.13.05.09G(3), concerning location of incompatible wastes, if applicable; and

(3) If incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with COMAR 26.13.05.02H(2) and (3) and 26.13.05.09G(1) and (2).

C. For storage areas that store containers holding wastes that do not contain free liquids the permit applicant shall demonstrate compliance with COMAR 26.13.05.09H(4), including:

(1) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

# Controlled Hazardous Substances 26.13.07.02-3

(2) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

## .02-3 Specific Information Requirements for Tank Systems.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit to manage hazardous waste in tanks shall provide the Secretary with the specific information required by §B of this regulation.

B. For facilities that use tanks to store or treat hazardous waste, except as otherwise provided in COMAR 26.13.05.10A, the permit applicant shall provide a description of design and operation procedures which demonstrate compliance with requirements of all of COMAR 26.13.05.10-.10-7, including:

(1) References to design standards or other available information used, or to be used, in design and construction of the tank;

(2) A description of design specifications including identification of construction materials and lining materials, including pertinent characteristics such as corrosion or erosion resistance;

(3) Tank dimensions, capacity, and shell thickness;

(4) A diagram of piping, instrumentation, and process flow for each tank system;

(5) Description of feed systems, safety cutoff, bypass systems, and pressure controls, for example, vents;

(6) A written assessment that has been reviewed and certified by an independent qualified registered professional engineer that attests to the structural integrity and suitability for handling hazardous waste of each tank system, as required under COMAR 26.13.05.10-2 and .10-3;

(7) A description of materials and equipment used to provide external corrosion protection, as required under COMAR 26.13.05.10-3B(2)(c)(ii);

(8) For new tank systems, a detailed description of how the tank system or systems will be installed in compliance with COMAR 26.13.05.10-3B(4)—(8);

(9) Detailed plans and description of how the secondary containment system for each tank system is or will be designed, con-

Supp. 11

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

structed, and operated to meet the requirements of COMAR 26.13.05.10-4A-F;

(10) For tank systems for which a variance from the requirements of COMAR 26.13.05.10-4 is sought, as provided by COMAR 26.13.05.10-5:

(a) Detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous waste or hazardous constituents into the ground water or surface water during the life of the facility, or

(b) A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment;

(11) A description of controls and practices to prevent spills and overflows, as required by COMAR 26.13.05.10C(2); and

(12) For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of COMAR 26.13.05.10-1A and B.

# .02-4 Specific Information Requirements for Surface Impoundments.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit to use a surface impoundment to store, dispose, or treat hazardous waste shall provide the Secretary with the specific information required by §B of this regulation.

B. For facilities that store, dispose of, or treat hazardous waste in surface impoundments, except as otherwise provided in COMAR 26.13.05.11, the permit applicant shall submit detailed plans and specifications accompanied by an engineering report which shall collectively include the following information:

(1) A statement of the minimum freeboard to be maintained at the facility and the basis of the design to demonstrate compliance with freeboard requirements of COMAR 26.13.05.11B(1) and C(1) and (2), including, for flow-through facilities a hydraulic profile;

(2) Detailed drawings of the structure which is or will be provided to immediately stop flow into the impoundment to comply with COMAR 26.13.05.11B(2), or, if no structure is needed to comply with

1148

COMAR 26.13.05.11H(3)(a), a description of the means by which waste additions will be stopped;

(3) Detailed drawings of any dikes which exist or will be constructed;

(4) For any dike associated with the surface impoundment:

(a) A basis of design and design analysis of the dike to comply with COMAR 26.13.05.11B(4) and I(1), and

(b) A demonstration, through the design analysis, that the dike will meet the requirements of COMAR 26.13.05.11F(3)(a);

(5) Detailed design drawings and specifications of liner or liners and the leachate detection, collection, and removal system and the basis of design and design analysis to comply with COMAR 26.13.05.11B(3), (4), (5), and D(2), (3), and (5);

(6) Liner installation instructions to comply with the requirements of COMAR 26.13.05.11F(1), and for existing facilities if owner or operator proposes to rely on existing liners, a description of the installation procedures used;

(7) Design details of the leachate removal system, the basis of design, and a description of the operating procedures to be used to ensure free flow from the collection system in accordance with COMAR 26.13.05.11C(4);

(8) Design plans and specifications and basis of design of any structures needed to comply with COMAR 26.13.05.11C(5);

(9) A description of the maintenance and repair procedures proposed to comply with COMAR 26.13.05.11C(4) and Regulation .07C of this chapter;

(10) A description of the operating procedures that will ensure compliance with COMAR 26.13.05.11I and J;

(11) A certification by a qualified engineer which complies with COMAR 26.13.05.11F(3) or, for a new facility, a statement by a qualified engineer that the engineer will provide this certification upon completion of construction in accordance with the plans and specifications;

(12) A description of the procedure to be used for removing a surface impoundment from service, as required under COMAR 26.13.05.11H(2) and (3), as part of the contingency plan submitted under Regulation .02D(21) of this chapter;

Supp. 11

# 26.13.07.02-4

#### ENVIRONMENT

(13) As part of the closure plan, and, if applicable, the post-closure plan submitted under Regulation .02D(29) of this chapter:

(a) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under COMAR 26.13.05.11G(1)(a), and

(b) For any wastes not to be removed from the unit upon closure, detailed plans and an engineering report describing how COMAR 26.13.05.11G(1)(b)-(d) and (2) will be complied with;

(14) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how COMAR 26.13.05.111 will be complied with;

(15) If incompatible wastes and materials will be placed in a surface impoundment, an explanation of how COMAR 26.13.05.11J will be complied with;

(16) A description of the liner system or, if an exemption from the requirement for a liner is sought as provided by COMAR 26.13.05.11B(6), detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(17) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 that:

(a) Describes how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of COMAR 26.13.05.11K; and

(b) Addresses the:

(i) Volume, physical characteristics, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere,

(ii) Attenuative properties of underlying and surrounding soils or other materials,

(iii) Mobilizing properties of other materials co-disposed with these wastes, and

(iv) Effectiveness of additional treatment, design, or monitoring techniques;

1150

# Controlled Hazardous Substances 26.13.07.02-5

(18) A list of the hazardous wastes placed or to be placed in each surface impoundment.

# .02-5 Specific Information Requirements for Waste Piles.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit to use a waste pile to store, dispose, or treat hazardous waste shall provide the Secretary with the specific information required by §B of this regulation.

B. For facilities that store or treat hazardous waste in waste piles, except as otherwise provided in COMAR 26.13.05.12, the permit applicant shall provide the following information:

(1) A description of practices to control wind dispersal (for example, cover or frequent wetting) of hazardous waste in piles so that the Secretary, when necessary, can specify appropriate control measures;

(2) A detailed engineering description of the facility design including:

(a) A description of measures to divert run-on away from the pile;

(b) A description of the leachate and run-off collection and control system;

(c) A description of the foundation supporting the base;

(d) Design specifications of the pile base and liner or liners, including the estimated containment life of the base and the permeability of the liner or liners;

(e) Estimated life of the hazardous waste pile; and

(f) If applicable under COMAR 26.13.05.12D(1)(a)(ii), a description of the leachate detection, collection, and removal system including the system's relation to the water table and a description of any efforts to control the water table;

(3) A detailed description of the facility operating procedures which demonstrates compliance with COMAR 26.13.05.12D, G, and H, including:

(a) A description of efforts to protect the containment system from plant growth which could puncture any component of the system;

(b) A description of design and operating procedures to properly manage and dispose of any leachate that is a hazardous waste;

Supp. 11

EPA ARCHIVE DOCUMENT

## ENVIRONMENT

(c) A description and listing of all equipment and procedures used to place the waste in or on the pile or to clean and expose the liner surface; and

(d) A description of efforts to separate hazardous waste that is incompatible with any waste or material stored nearby, including the design specifications of any dike, berm, wall, or other device used to separate the materials;

(4) If applicable under COMAR 26.13.05.12, a description of the leachate detection, collection, and removal system, including the system's relation to the water table and a description of any efforts to control the water table;

(5) As part of the inspection plan submitted under Regulation .02D(19) of this chapter, a description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of COMAR 26.13.05.12D and E;

(6) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quantity of the residuals;

(7) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how an owner or operator will comply with the requirements of COMAR 26.13.05.12G;

(8) If incompatible wastes, or incompatible wastes and materials will be placed in a waste pile, an explanation of how an owner or operator will comply with the requirements of COMAR 26.13.05.12H;

(9) As part of the closure plan and, if applicable, the post-closure plan submitted under Regulation .02D(29) of this chapter:

(a) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile upon closure; and

(b) Detailed plans and an engineering report describing how the owner or operator will comply with COMAR 26.13.05.12I;

(10) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 that:

(a) Describes how a waste pile that is not enclosed, as defined in COMAR 26.13.05.12A, is or will be designed, constructed, operated, and maintained to meet the requirements of COMAR 26.13.05.12J; and

(b) Addresses the:

(i) Volume, physical characteristics, and chemical characteristics of the wastes to be disposed of in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere,

(ii) Attenuative properties of underlying and surrounding soils or other materials,

(iii) Mobilizing properties of other materials co-disposed with these wastes, and

(iv) Effectiveness of additional treatment, design, or monitoring techniques;

(11) A list of the hazardous wastes placed, or to be placed, in each waste pile.

#### .02-6 Specific Information Requirements for Incinerators.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit to incinerate hazardous waste shall provide the Secretary with the specific information required by §§B and C of this regulation.

B. For facilities that incinerate hazardous waste, except as otherwise provided in COMAR 26.13.05.16B, the permit applicant shall provide the following information:

(1) If the applicant is seeking exemption under COMAR 26.13.05.16B, which provides for reduced regulatory requirements for incinerators that burn only ignitable, corrosive, or reactive wastes, documentation that the waste is:

(a) Listed as a hazardous waste in COMAR 26.13.02.15—.19 solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both,

(b) Listed as a hazardous waste in COMAR 26.13.02.15—.19 solely because it is reactive (Hazard Code R) for characteristics other than those listed in COMAR 26.13.02.12A(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone,

(c) A hazardous waste solely because it possesses the characteristics of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous waste under COMAR 26.13.02.11— .12, or

Supp. 11

EPA ARCHIVE DOCUMENT

## 26.13.07.02-6

**JS EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(d) A hazardous waste solely because it possesses the reactivity characteristics listed in COMAR 26.13.02.13A(1), (2), (3), (6), (7), or (8), and that it will not be burned when other hazardous wastes are present in the combustion zone;

(2) Either:

(a) A trial burn plan, or the results of a trial burn, including all required determinations conducted in accordance with Regulation .17 of this chapter, or

(b) The information required by §C of this regulation.

C. If the applicant does not submit a trial burn plan or the results of a trial burn under B(2) of this regulation, the applicant shall submit the following information:

(1) An analysis, using the analytical techniques specified in 40 CFR Part 261, Appendix III, of each waste or mixture of wastes to be burned including:

(a) Heat value of the waste in the form and composition in which it will be burned,

(b) Viscosity, if applicable, or description of physical form of the waste,

(c) An identification of any hazardous organic constituents listed in COMAR 26.13.02.24, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in COMAR 26.13.02.24 which would reasonably not be expected to be found in the waste,

(d) A list of the constituents excluded from analysis under C(1)(c) of this regulation and the basis for their exclusion,

(e) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in 40 CFR Part 261, Appendix III, and

(f) A quantification of those hazardous constituents in the waste which may be designated as POHCs based under COMAR 26.13.05.16E on data submitted from other trial or operational burns which demonstrate compliance with the performance standard in COMAR 26.13.05.16F;

(2) A detailed engineering description of the hazardous waste incinerator, including:

(a) Manufacturer's name and model number of incinerator,

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.02-6

(b) Type of incinerator,

(c) Linear dimension of incinerator unit including cross-sectional area of combustion chamber,

(d) Description of auxiliary fuel system (type/feed),

(e) Capacity of prime mover,

(f) Description of automatic waste feed cutoff system or systems,

(g) Stack gas monitoring and pollution control monitoring system,

(h) Nozzle and burner design,

(i) Construction materials,

(j) Location and description of temperature, pressure, and flow indicating devices and control devices;

(3) A description and analysis of the waste to be burned that:

(a) Provides a comparison with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed,

(b) Includes the items listed in C(1) of this regulation, and

(c) Specifies the POHCs which the applicant has identified in the waste for which a permit is sought, and any differences from the POHCs in the waste for which burn data are provided;

(4) The design and operating conditions of the hazardous waste incinerator unit to be used, compared with that for which comparative burn data are available;

(5) A description of the results submitted from any previously conducted trial burn or burns, including:

(a) Sampling and analysis techniques used to calculate performance standards in COMAR 26.13.05.16F,

(b) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity, including a statement concerning the precision and accuracy of this measurement, and

(c) The certification and results required by Regulation .17 of this chapter;

Supp. 11

## 26.13.07.02-7

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

(6) The expected hazardous waste incinerator operation information to demonstrate compliance with COMAR 26.13.05.16F and H, including:

(a) Expected carbon monoxide (CO) level in the stack exhaust gas,

(b) Waste feed rate,

(c) Combustion zone temperature,

(d) Indication of combustion gas velocity,

(e) Expected stack gas volume, flow rate, and temperature,

(f) Computed residence time for waste in the combustion zone,

(g) Expected hydrochloric acid removal efficiency,

(h) Expected fugitive emissions and their control procedures,

(i) Proposed waste feed cut-off limits based on the identified significant operating parameters;

(7) Supplemental information that the Secretary finds necessary to achieve the purpose of this section;

(8) Waste analysis data, including that submitted in C(1) of this regulation, sufficient to allow the Secretary to specify the Principal Organic Hazardous Constituents (POHCs) in the permit for which destruction and removal efficiencies will be required.

D. The Secretary shall approve a permit application without a trial burn, if the Secretary finds that the:

(1) Wastes that the applicant seeks to burn are sufficiently similar to the wastes that were used to generate operational and trial burn data that the applicant proposes to use instead of conducting a trial burn; and

(2) Hazardous waste incinerator units are sufficiently similar, and the data from other trial burns are sufficiently similar, and the data from other trial burns are adequate to specify, under COMAR 26.13.05.16H, operating conditions that will ensure that the performance standards in COMAR 26.13.05.16F will be met by the incinerator.

## .02.7 Specific Information Requirements for Land Treatment.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit for a hazardous waste management facility that uses or is proposed to use land treat-

1156

ment to dispose of hazardous waste shall provide the Secretary with the specific information required by §§B—D of this regulation.

B. For facilities that use land treatment to dispose of hazardous waste, except as otherwise provided in COMAR 26.13.05.01, the permit applicant shall provide the following information:

(1) A description of plans to conduct a treatment demonstration as required under COMAR 26.13.05.13C that includes the following information:

(a) The wastes for which the demonstration will be made and the potential hazardous constituents in the wastes;

(b) The data sources to be used to make the treatment demonstration such as scientific literature, laboratory data, field data, or operating data; and

(c) A description of any specific laboratory or field test that will be conducted, including:

(i) The type of test, such as column leaching or degradation,

(ii) Materials and methods, including analytical procedures,

(iii) Expected time for completion,

(iv) Characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices;

(2) A description of a land treatment program as required under COMAR 26.13.05.13B, which shall:

(a) Be submitted with the plan for the treatment demonstration;

(b) Be updated following the treatment demonstration; and

(c) Address the following items:

(i) The wastes to be land treated,

(ii) Design measures and operating practices necessary to maximize treatment in accordance with COMAR 26.13.05.13D(1),

(iii) Waste application method and rate,

(iv) Measures to control soil pH,

(v) Enhancement of microbial or chemical reactions,

(vi) Control of moisture content,

EPA ARCHIVE DOCUMENT

## ENVIRONMENT

(vii) Provisions for unsaturated zone monitoring, including: sampling equipment, procedures, frequency, procedures for selecting sampling locations, analytical procedures, chain of custody control, procedures for establishing background values, statistical methods for interpreting results,

(viii) The justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for the selection in COMAR 26.13.05.13I(1),

(ix) A list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed in accordance with COMAR 26.13.05.02D, and

(x) The proposed dimensions of the treatment zone;

(3) A description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of COMAR 26.13.05.13D that addresses the following items:

(a) Control of run-on;

(b) Collection and control of run-off;

(c) Minimization of run-off of hazardous constituents from the treatment zone;

(d) Management of collection and holding facilities associated with run-on and run-off control systems;

(e) Periodic inspection of the unit, as part of the inspection plan submitted under Regulation .02D(19) of this chapter; and

(f) Control of wind dispersal of particulate matter, if applicable;

(4) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining the cover during the post-closure care period, as required under COMAR 26.13.05.13K(1)(h) and (3)(b), as part of the closure plan and, if applicable, the post-closure care plan submitted under Regulation .02D(29) of this chapter;

(5) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of COMAR 26.13.05.13L will be complied with;

(6) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how COMAR 26.13.05.13M will be complied with;

(7) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 that:

(a) Describes how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of COMAR 26.13.05.13N; and

(b) Addresses the:

(i) Volume, physical characteristics, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere,

(ii) Attenuative properties of underlying and surrounding soils or other materials,

(iii) Mobilizing properties of other materials co-disposed with these wastes, and

(iv) Effectiveness of additional treatment, design, or monitoring techniques;

(8) A list of the hazardous wastes to be land treated.

C. If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, the permit applicant shall provide a description of how the demonstration required under COMAR 26.13.05.13G was conducted including:

(1) Characteristics of the food-chain crop for which the demonstration will be made;

(2) Characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;

(3) Procedures for crop growth, sample collection, sample analysis, and data evaluation; and

(4) Characteristics of the comparison crop, including the location and conditions under which it was or will be grown.

D. If food-chain crops are to be grown, and cadmium is present in the land treated waste, the permit applicant shall provide a description of how the requirements of COMAR 26.13.05.13G(6) will be complied with.

#### .02-8 Specific Information Requirements for Landfills.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit for a hazardous waste management facility that uses, or is proposed to use, a landfill

Supp. 11

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

to manage hazardous waste shall provide the Secretary with the specific information required by §B of this regulation.

B. For facilities that dispose of hazardous waste in landfills, except as otherwise provided in COMAR 26.13.05.01, the permit applicant shall provide the following information:

(1) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;

(2) A detailed plan and an engineering report that:

(a) Describe how the landfill is or will be designed, constructed, operated, and maintained to comply with the requirements of COMAR 26.13.05.14B; and

(b) Provide information on the following items as specified in COMAR 26.13.05.14B:

(i) The liner system and leachate collection and removal system, except for an existing portion of landfill,

(ii) If an exemption from the requirements for a liner and a leachate collection and removal system is sought as provided by COMAR 26.13.05.14B(2), detailed plans and engineering hydrogeologic reports as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time,

(iii) Control of run-on,

(iv) Control of run-off,

(v) Management of collection and holding facilities associated with run-on and run-off control systems, and

(vi) Control of wind dispersal of particulate matter, when applicable;

(3) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of COMAR 26.13.05.14C(1) and (2) as part of the inspection plan submitted under Regulation .02D(19) of this chapter;

(4) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with COMAR 26.13.05.14J(1), and a description of how each landfill will be maintained and monitored after closure in accor-

1158-2

dance with COMAR 26.13.05.14J(2) as part of the closure and postclosure plans submitted under Regulation .02D(29) of this chapter;

(5) If food-chain crops are to be grown, and cadmium is present in the land treated waste, a description of how the requirements of COMAR 26.13.05.13G(5) will be complied with;

(6) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining the cover during the post-closure care period, as required under COMAR 26.13.05.13K(1)(h) and (3)(b). This information should be included in the closure plan and, when applicable, the post-closure care plan submitted under Regulation .02D(29) of this chapter;

(7) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of COMAR 26.13.05.13L will be complied with;

(8) A waste management plan for EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 that:

(a) Describes how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of COMAR 26.13.05.14P; and

(b) Addresses the:

(i) Volume, physical characteristics, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere,

(ii) Attenuative properties of underlying and surrounding soils or other materials,

(iii) Mobilizing properties of other materials co-disposed with these wastes, and

(iv) Effectiveness of additional treatment, design, or monitoring techniques.

.02-9 Specific Information Requirements for Miscellaneous Units.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit for a hazardous waste management facility that uses, or is proposed to use, miscellaneous units to manage hazardous waste shall provide the Secretary with the specific information required by §B of this regulation.

Supp. 11

EPA ARCHIVE DOCUMENT

#### Environment

B. For facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as otherwise provided in COMAR 26.13.05.16-1A, the permit applicant shall provide the following additional information:

(1) A detailed description of the unit being used or proposed for use, including the following:

(a) Physical characteristics, materials of construction, and dimensions of the unit;

(b) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of COMAR 26.13.05.16-1B and C; and

(c) For disposal units, a detailed description of the plans to comply with the post-closure requirements of COMAR 26.13.05.16-1D;

(2) Information that addresses and assures compliance of the unit with each factor in the environmental performance standards of COMAR 26.13.05.16-1B, consisting of either:

(a) Detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region surrounding the site; or

(b) The following:

**JS EPA ARCHIVE DOCUMENT** 

(i) A demonstration, to the Secretary's satisfaction, that the unit meets the environmental performance standards of COMAR 26.13.05.16-1B, and

(ii) Preliminary hydrologic, geologic, and meteorologic assessments;

(3) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of the exposures;

(4) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data;

(5) Any additional information determined by the Secretary to be necessary for evaluation of compliance of the unit with the environmental performance standards of COMAR 26.13.05.16-1B.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.02-11

# .02-10 Specific Information Requirements for Solid Waste Management Units.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit shall provide the Secretary with the following information for each solid waste management unit at the facility:

(1) The location of the unit on the topographic map required under Regulation .02D(35) of this chapter;

(2) Designation of type of unit;

(3) General dimensions and structural description along with any available drawings;

(4) When the unit was operated;

(5) Specification of all wastes that have been managed at the unit, to the extent available; and

(6) All available information pertaining to any release of hazardous wastes or hazardous constituents from the unit.

B. The permit applicant shall conduct and provide the results of sampling and analysis of ground water, land surface and subsurface strata, surface water, or air, which may include the installation of wells, when the Secretary ascertains it is necessary to complete an assessment that will determine if a more complete investigation is necessary.

## .02-11 Specific Information Requirements for Drip Pads.

A. In addition to complying with the requirements of Regulation .02 of this chapter, a person seeking a CHS facility permit to collect, store, or treat hazardous waste on a drip pad shall provide the Secretary with the following specific information in a permit application:

(1) A list of hazardous wastes placed or to be placed on each drip pad;

(2) If an exemption is sought to the requirements of COMAR 26.13.05.06-...06-7, as provided by COMAR 26.13.05.06A, the detailed plans and an engineering report describing how the requirements of COMAR 26.13.05.06A(3)(b) will be met; and

(3) Detailed plans and an engineering report that:

Supp. 11

#### 26.13.07.02-11

#### ENVIRONMENT

(a) Describe how the drip pad has been or will be designed, constructed, operated, and maintained to meet the requirements of COMAR 26.13.05.17-2,

(b) Include as-built drawings and specifications, and

(c) Include information specified in §B of this regulation.

B. The owner or operator shall ensure that the detailed plans and the engineering report required to be submitted by A(3) of this regulation include the following items:

(1) Information on the:

(a) Design characteristics of the drip pad,

(b) Liner system,

(c) Leakage detection system, including how the system is designed to detect the failure of the drip pad or the presence of any releases of hazardous waste or accumulated liquid at the earliest practicable time, and

(d) Associated collection system;

(2) A description of the practices that the owner or operator will use to maintain the drip pad;

(3) A description of how the owner or operator will control:

(a) Run-on to the drip pad, and

(b) Run-off from the drip pad;

(4) The interval at which the owner or operator will remove drippage and other materials from the associated collection system and a statement demonstrating that the interval will be sufficient to prevent overflow onto the drip pad;

(5) The procedures that the owner or operator will use to satisfy the cleaning requirements of COMAR 26.13.05.17-2F, including documentation requirements;

(6) The operating practices and procedures that the owner or operator will follow to minimize the tracking of hazardous waste or waste constituents off the drip pad due to activities by personnel or equipment;

(7) The procedures the owner or operator will follow to ensure that, after removal from the treatment vessel, treated wood from pressure and nonpressure processes is held on the drip pad until drippage has ceased, and the associated record-keeping practices;

1158-6

(8) The provisions the owner or operator has made to ensure that, as soon as possible after a storm, each collection and holding unit associated with a run-on or run-off control system is emptied or otherwise managed to maintain the design capacity of the system;

(9) If treatment is carried out on the drip pad, the details of the process equipment used, and the nature and quality of the residuals;

(10) As part of the inspection plan required by Regulation .02D(19) of this chapter, a description of how the owner or operator will inspect each drip pad, including appurtenances for control of runon and run-off, in order to meet the requirements of COMAR 27.13.05.17-2;

(11) A certification signed by an independent qualified registered professional engineer, stating that the drip pad design meets the requirements of COMAR 26.13.05.17-2A;

(12) A description of how hazardous waste residues and contaminated materials will be removed from the drip pad at closure, as required under COMAR 26.13.05.17-4A-D; and

(13) As part of the closure plan or the post-closure plan submitted under Regulation .02D(29) of this chapter, detailed plans and an engineering report describing how the requirements of COMAR 26.13.05.14J will be met for any waste that will not be removed from the drip pad at closure.

## .03 Signatories to Permit Applications and Reports.

A. Applications. All permit applications shall be signed as follows:

(1) For a corporation, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(b) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.

Supp. 11

EPA ARCHIVE DOCUMENT

## 26.13.07.03

**JS EPA ARCHIVE DOCUMENT** 

### ENVIRONMENT

(3) For a municipality, State, federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes:

(a) The chief executive officer of the agency; or

(b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. An example would be the Regional Administrator of Region III, EPA.

B. Reports. All reports required by permits and other information requested by the Secretary, shall be signed by a person described in A of this regulation, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in §A of this regulation.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

(3) The written authorization is submitted to the Secretary.

C. Changes to Authorization. If an authorization under §B of this regulation is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of §B of this regulation shall be submitted to the Secretary before or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under §A or B of this regulation shall make the following certification: I certify under penalty of law that I personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

## (See page 1159)

## CONTROLLED HAZARDOUS SUBSTANCES

26.13.07.04

## .04 Conditions Applicable to All Permits.

The following conditions apply to all permits. All conditions applicable to all permits, and all additional conditions applicable to all permits for individual programs, shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations shall be given in the permit.

A. Duty to Comply. The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the appropriate Act and is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

B. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. This application shall be submitted at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Secretary. This later date may not be later than the expiration date of the effective permit.

C. Duty to Halt or Reduce Activity. It may not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

## 26.13.07.04

#### ENVIRONMENT

F. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

G. Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

H. Duty to Provide Information. The permittee shall furnish to the Secretary within a reasonable time, any relevant information which the Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Secretary, upon request, copies of records required to be kept by this permit.

I. Inspection and Entry. The permittee shall allow the Secretary, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized, any substances or parameters at any location.

J. Monitoring and Records.

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by COMAR 26.13.05.05D(2)(i) and records of all data used to complete the application for this permit, for a period of at least 3 years from the

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.04

date of the sample, measurement, report, or application. This period may be extended by request of the Secretary at any time.

(3) Records of monitoring information shall include the:

(a) Date, exact place, and time of sampling or measurements;

(b) Individual or individuals who performed the sampling or measurements;

(c) Date or dates analyses were performed;

(d) Individual or individuals who performed the analyses;

- (e) Analytical techniques or methods used; and
- (f) Results of the analyses.

K. Signatory Requirement. All applications, reports, or information submitted to the Secretary shall be signed and certified.

L. Reporting Requirements.

**US EPA ARCHIVE DOCUMENT** 

(1) Planned Changes. The permittee shall give notice to the Secretary as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) Anticipated Noncompliance. The permittee shall give advance notice to the Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Transfers. This permit is not transferable to any person except after notice to the Secretary. The Secretary shall require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary.

(4) Monitoring Reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(5) Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted not later than 14 days following each schedule date.

(6) Twenty-Four Hour Reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes

# 26.13.07.05

## ENVIRONMENT

aware of the circumstances. Both the oral and written reports shall follow the requirements of Regulation .15D. In addition, the written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(7) Other Noncompliance. The permittee shall report all instances of noncompliance not reported under L(4)—(6), above, at the time monitoring reports are submitted. The reports shall contain the information listed in L(6), above.

(8) Other Information. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Secretary, it shall promptly submit these facts or information.

#### .05 Establishing Permit Conditions.

A. In addition to conditions required by regulation, the Secretary may establish conditions as required on a case-by-case basis.

B. Each permit shall include permit conditions necessary to achieve compliance with the State law and regulations, including each of the applicable requirements specified in this subtitle. In satisfying this provision, the Secretary may incorporate applicable requirements of 40 CFR Parts 264, 266, 267, or this subtitle directly into the permit or establish other permit conditions that are based on these parts.

C. Each permit issued shall contain terms and conditions as the Secretary determines necessary to protect human health and the environment.

## .06 Duration of Permits.

A. Permits shall be effective for a fixed term not to exceed 3 years.

B. The Secretary may issue any permit for a duration that is less than the full allowable term under this section.

#### .07 Schedules of Compliance.

A. The permit may, when appropriate, specify a schedule of compliance leading to compliance with the appropriate Act and regulations.

B. Time for Compliance. Any schedules of compliance under this section shall require compliance as soon as possible.
## CONTROLLED HAZARDOUS SUBSTANCES

C. Interim Dates.

EPA ARCHIVE DOCUMENT

(1) Except as provided in E(1)(b), if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(2) The time between interim dates may not exceed 1 year.

(3) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

D. Reporting. The permit shall be written to require that not later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Secretary in writing of its compliance or noncompliance with the interim or final requirements.

E. Alternate Schedules of Compliance. A permit applicant or permittee may cease conducting regulated activities (by receiving terminal volume of hazardous waste and for treatment and storage HWM facilities, closing pursuant to applicable requirements, and for disposal HWM facilities, closing and conducting post-closure care pursuant to applicable requirements) rather than continue to operate and meet permit requirements as follows:

(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(a) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities;

(b) The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement.

(2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(3) If the permittee is undecided whether to cease conducting regulated activities, the Secretary may issue or modify a permit to contain two schedules as follows:

#### ENVIRONMENT

(a) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities not later than a date that ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities.

(b) One schedule shall lead to timely compliance with applicable requirements.

(c) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements.

(d) Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under E(3)(a), it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Secretary, such as a resolution of the board of directors of a corporation.

# .08 Requirements for Recording and Reporting of Monitoring Results.

All permits shall specify:

A. Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

B. Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

C. Applicable reporting requirements based upon the impact of the regulated activity and as specified in COMAR 26.13.05. Reporting may not be less frequently than specified in the above regulations.

#### .09 Effect of a Permit.

A. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

B. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of local law or regulations.

#### .10 Transfer of Permits.

A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued under Regulation .11, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary.

# .11 Modification, Withdrawal, or Revocation and Reissuance of Permits.

A. When the Secretary receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit, receives a request for modification or revocation and reissuance, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in §§A and B for modification or revocation and reissuance, or both, exist. If cause exists, the Secretary may modify or revoke and reissue the permit accordingly, subject to the limitations of §B, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. If cause does not exist under this regulation or Regulation .13, the Secretary may not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in Regulation .13 for "minor modifications" the permit may be modified without a draft permit or public review. Otherwise, a draft permit shall be prepared and other procedures of this chapter followed.

B. Causes of Modification. The following are causes for modification but not revocation and reissuance of permits:

(1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occur after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) Information. The Secretary has received information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other revised

**US EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(3) New Regulations. The standards or regulations on which the permit was based have been changed by statute, through promulgation of amended standards or regulations or by judicial decision after the permit was issued.

(4) Modification. The Secretary may modify a permit:

(a) When modification of a closure plan is required by COMAR 26.13.05.07C(3) or H(4);

(b) After the Secretary receives the notification of expected closure under COMAR 26.13.05.07D when the Secretary determines that extension of the 90 or 180 day periods under COMAR 26.13.05.07D, modification of the 30-year post-closure period under COMAR 26.13.05.07G(2), continuation of security requirements under COMAR 26.13.05.07G(3), or permission to disturb the integrity of the containment system under COMAR 26.13.05.07G(4) are unwarranted;

(c) When the permittee has filed a request under 40 CFR §264.147(c) for a variance to the level of financial responsibility or when the Secretary demonstrates under 40 CFR §264.147(d) that an upward adjustment of the level of financial responsibility is required;

(d) When the corrective action program specified in the permit under COMAR 26.13.05.06-6 has not brought the regulated unit into compliance with the ground water protection standard within a reasonable period of time;

(e) To include a detection monitoring program meeting the requirements of COMAR 26.13.05.06-4, when the owner or operator has been conducting a compliance action program under COMAR 26.13.05.06-6 and the compliance period ends before the end of the post-closure care period for the unit;

(f) When a permit requires a compliance monitoring program under COMAR 26.13.05.06-5, but monitoring data collected before permit issuance indicate that the facility is exceeding the ground water protection standard;

(g) To include conditions applicable to units at a facility that were not previously included in the facility's permit;

(h) When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

1166

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.12

(5) Compliance Schedules. The Secretary determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

C. The suitability of the facility location may not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

D. Causes for Modification or Revocation and Reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under Regulation .12, of this chapter, and the Secretary determines that modification or revocation and reissuance is appropriate;

(2) The Secretary has received notification under Regulation .04L(3) of a proposed transfer of the permit.

E. A CHS facility permit can be withdrawn by the Secretary at the request of the owner or operator if the following conditions are complied with:

(1) The Secretary receives a written withdrawal request at least 6 months before expiration of the permit;

(2) The Secretary approves a closure plan for activities regulated by the permit; and

(3) An inspection by a representative of the Department verifies that activities regulated by the CHS facility permit are no longer performed and that a CHS facility permit is not otherwise required.

#### .12 Termination of Permits.

A. The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

(4) Failure to pay the permit fee in a timely manner; or

(5) Failure to comply with any applicable State environmental law or regulation.

B. For purposes of this chapter, the term "termination" means the same as the term "revocation" in Environment Article, Title 7, Annotated Code of Maryland, and Regulation .11 of this chapter.

C. The Secretary shall follow Regulation .20 of this chapter in terminating any permit.

#### .13 Processing Minor Modifications of Permits.

Upon the consent of the permittee, the Secretary may modify a permit to make the corrections or allowances for changes in the permitted activity identified in Regulations .13-1-...13-3 of this chapter without following the procedures of Regulation .20 of this chapter. Any permit modification not processed as a minor modification under this regulation and Regulations .13-1-...13-3 of this chapter shall be made for cause and with the draft permit and public notice as required in Regulation .11 of this chapter.

### .13-1 Minor Modifications of Permits to Address Newly Regulated Hazardous Wastes.

A. Permit modifications to allow for the continued management of a waste newly listed or identified as hazardous under COMAR 26.13.02 may be processed as minor modifications provided that the following conditions are met:

(1) The permittee manages the waste in compliance with the requirements of COMAR 26.13.05;

(2) The permittee submits, within 180 days after the effective date of the regulation listing or identifying the waste as hazardous, an application for a permit modification to incorporate all changes necessary to achieve compliance with the requirements of COMAR 26.13 in managing the newly regulated waste; and

(3) In the case of land disposal units, the permittee certifies by the date 12 months after the effective date of the regulation identifying or listing the waste as hazardous that the unit is in compliance with all applicable requirements of COMAR 26.13.05.06 and .08.

#### Controlled Hazardous Substances 26.13.07.13-2

B. If the permittee fails to demonstrate compliance with these requirements, the permittee shall lose authority to operate under this regulation.

C. In the case of land disposal units, the permittee shall certify by the date 12 months after the effective date of the regulation identifying or listing the waste as hazardous that the unit is in compliance with all applicable requirements of COMAR 26.13.05.06—.06-7 and .08. If the permittee fails to demonstrate compliance with these requirements, the permittee loses authorization to operate under this regulation.

## .13-2 Specific Changes Eligible for Processing as a Minor Permit Modification.

A. Except as provided in Regulations .13-1 and .13-3 of this chapter, only modifications to accomplish the following may be processed as minor modifications:

(1) The following changes to general permit provisions:

(a) Correction of typographical errors;

(b) Requirement of more frequent monitoring or reporting by the permittee;

(c) Change in an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

(d) Allowance for a change in ownership or operational control of a facility as specified in §B, when the Secretary determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility between the current and new permittees has been submitted to the Secretary.

(e) Administrative and informational changes;

(f) Replacement or upgrading of equipment with equipment or components that are functionally equivalent;

(g) Providing for more frequent sampling or maintenance;

(2) The following changes related to general facility standards:

(a) Changes to waste sampling or analysis methods to conform with agency guidance or regulations;

Supp. 6

## 26.13.07.13-2

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

(b) Changes to analytical quality assurance/quality control plans to conform with agency guidance or regulations;

(c) Changes in procedures for maintaining the operating record;

(d) Changes in the training plan other than those that affect the type or decrease the amount of training given to employees;

(e) Changes to the contingency plan to accomplish the following:

(i) Upgrade, relocate, or replace with functionally equivalent equipment, emergency equipment listed in the contingency plan,

(ii) Change the name, address, or phone number of a coordinator or other person or agency identified in the plan;

(3) The following changes related to ground water protection:

(a) Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well;

(b) Changes in ground water sampling or analysis procedures;

(c) Changes to the ground water monitoring schedule;

(d) Changes in statistical procedures for determining whether a statistically significant change in ground water quality between upgradient and downgradient wells has occurred;

(4) The following changes related to closure:

(a) Changes to estimates of maximum inventory under COMAR 26.13.05.07C(2)(c);

(b) Changes to estimates of expected year of closure or schedules for final closure under COMAR 26.13.05.07C(2)(f);

(c) Approval of periods longer than 90 days or 180 days under COMAR 26.13.05.07D;

(d) Changes in procedures for decontamination of facility equipment or structures; or

(e) Addition of tanks to be used temporarily for closure activities provided that the tanks are used for neutralization, dewatering, phase separation, or component separation;

(5) The following changes related to post-closure:

(a) Changes in the name, address, or phone number of a contact in the post-closure plan;

1169-1

# Controlled Hazardous Substances 26.13.07.13-2

(b) Changes in the expected year of final closure where other permit conditions are not changed;

(c) Changes in the post-closure care plan necessitated by events occurring during the active life of the facility, including partial and final closure;

(6) Addition of a roof to a container management unit;

(7) The following changes related to tanks:

# (See page 1169-2)

Supp. 6

1169-1-1

# CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.13-2

(a) Addition of a new tank that will operate for up to 90 days using any of the following treatment technologies:

(i) Neutralization,

(ii) Phase separation,

(iii) Dewatering, or

(iv) Component separation;

(b) Replacement of a tank by a tank that meets the same design standards, provided that all of the following conditions are met:

(i) The capacity of the replacement tank is between 90 percent and 110 percent of the capacity of the replaced tank,

(ii) The capacity of the replacement tank is within 1,500 gallons of the capacity of the replaced tank,

(iii) The facility's permitted tank capacity is not increased, and

(iv) The replacement tank meets the same conditions in the permit as the replaced tank;

(c) Management of different wastes in tanks provided that the following conditions are met:

(i) The change does not require the addition of units or a change in the treatment process or management standards,

(ii) The units have previously received wastes of the same type, for example, incinerator scrubber water, and

(iii) The waste is not a dioxin containing waste (F020, F021, F022, F023, F026, F027, and F028);

(8) For waste piles complying with COMAR 26.13.05.12A(2), replacement of the waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit;

(9) The following changes related to land treatment:

(a) Changes to the treatment program requirements for land treatment units made under COMAR 26.13.05.13B to improve treatment of hazardous constituents, provided the change is minor;

(b) Changes to any conditions specified in the permit for land treatment units to reflect the results of field tests or laboratory analyses used in making a treatment demonstration in accordance with Regulation .14B, provided that the change is minor;

1169-2

#### 26.13.07.13-3

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

(c) Allowing a second treatment demonstration for land treatment to be conducted when the results of the first demonstration have not shown the conditions under which the waste or wastes can be treated completely as required by COMAR 26.13.05.13C(1), provided the conditions for the second demonstration are substantially the same as the conditions for the first demonstration;

(d) Modification of a land treatment unit management practice to decrease the rate of waste application.

(10) The following changes related to incinerators:

(a) Changes to the ranges of the operating requirements set in a hazardous waste incinerator permit to reflect the results of the trial burn, provided that the change is minor;

(b) Changes to the operating requirements set in a hazardous waste incinerator permit for conducting a trial burn, provided that the change is minor;

(c) Granting one extension of the time period for determining operational readiness of a hazardous waste incinerator following completion of construction, for up to 720 hours operating time for incineration of hazardous waste;

(d) Substitution of an alternate type of fuel that is not specified in the permit.

B. Changes in the ownership or operational control of a facility may be made if the new owner or operator submits a revised permit application not later than 90 days before the scheduled change. When a transfer of ownership or operational control of a facility occurs, the old owner or operator shall comply with the requirements of COMAR 26.13.05.08 until the new owner or operator has demonstrated to the Secretary that he is complying with the requirements of that regulation. The new owner or operator shall demonstrate compliance with COMAR 26.13.05.08 requirements within 6 months of the date of the change in the ownership or operational control of the facility. Upon demonstration to the Secretary by the new owner or operator of compliance with COMAR 26.13.05.08, the Secretary shall notify the old owner or operator in writing that he no longer needs to comply with COMAR 26.13.05.08 as of the date of demonstration.

## .13-3 General Criteria Defining Eligibility for Processing as a Minor Modification.

A. For modifications not listed in Regulation .13-1 or .13-2 of this chapter, the permittee may request a determination by the Secretary

1169-3

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.13-3

that the modification should be processed as a minor modification. The permittee shall provide the Secretary with the information necessary to support the requested determination.

B. In determining whether the proposed modification may be processed as a minor modification, the Secretary shall consider the similarity of the modification to modifications listed in Regulation .13-2 of this chapter.

C. The modification in §B of this regulation may be considered minor only if it meets the following conditions:

(1) It involves minor changes that keep the permit current with routine changes to the facility or its operation; and

(2) Changes under the modification do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment.

#### (See page 1170)

#### ENVIRONMENT

## .14 Emergency Permits, Short Term Permits, and Phased Permits.

A. Notwithstanding any other provision of this regulation, if the Secretary finds an imminent and substantial endangerment to human health or the environment, the Secretary may issue a temporary emergency permit to a facility to allow treatment, storage, or disposal of hazardous waste for a non-permitted facility or a hazardous waste not covered by the permit for a facility with an effective permit. This emergency permit:

(1) May be oral or written. If oral, it shall be followed within 5 days by a written emergency permit.

(2) May not exceed 90 days in duration.

(3) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment. storage, or disposal.

(4) May be terminated by the Secretary at any time without process if he or she determines that termination is appropriate to protect human health and environment.

(5) Shall be accompanied by a public notice including:

(a) Name and address of the office granting the emergency authority;

(b) Name and location of the permitted hazardous waste management facility;

(c) A brief description of the wastes involved;

(d) A brief description of the action authorized and reasons for authorizing it;

(e) Duration of the emergency permit.

(6) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of COMAR 26.13.05 and 26.13.07.

B. Short Term Permits.

(1) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of COMAR 26.13.05.13C, the Secretary may issue a treatment demonstration permit. The permit shall contain only those requirements necessary to meet the standards in COMAR 26.13.05.13C(3). The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or

laboratory analyses, and design, construction, operation, and maintenance of the land treatment unit.

(2) The Secretary may issue a two-phase facility permit if he finds that, based on information submitted in the application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(3) If the Secretary finds that not enough information exists upon which he can establish permit conditions to attempt to provide for compliance with all of the requirements of COMAR 26.13.05.13, he shall issue a treatment demonstration permit covering only the field test or laboratory analyses.

C. Phased Permits.

(1) If the Secretary finds that a phased permit may be issued, he will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration cleanup activities, and any other conditions which the Secretary finds may be necessary under COMAR 26.13.05.13C(3). The Secretary will include conditions in the second phase of the facility permit to attempt to meet all requirements pertaining to unit design, construction, operation, and maintenance in COMAR 26.13.05.13. The Secretary will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the application.

(2) The first phase of the permit will be effective as provided in Regulation .20L(3).

(3) The second phase of the permit will be effective as provided in §E.

D. When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he shall submit to the Secretary a certification, signed by a person authorized to sign a permit application or report under Regulation .03, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting the tests or analyses. The owner or operator shall also submit all data collected during the field tests or laboratory analyses within 90 days of comple-

#### ENVIRONMENT

tion of those tests or analyses unless the Secretary approves a later date.

E. Modification.

(1) If the Secretary determines that the results of the field tests or laboratory analyses meet the requirements of COMAR 26.13.05.13C, he will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with COMAR 26.13.05.13, based upon the results of the field tests or laboratory analyses.

(2) This permit modification may proceed as a minor modification under Regulation .13, provided any such change is minor, or otherwise will proceed as a modification under Regulation .11.

(3) If no modification of the second phase of the permit is necessary, or if only minor modifications are necessary and have been made, the Secretary will give notice of his final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in Regulation .20L(3).

(4) If modifications under Regulation .11 are necessary, the second phase of the permit will become effective only after those modifications have been made.

#### .15 Additional Conditions; Applicable Permits.

A. The permittee need not comply with the conditions of this permit to the extent and for the duration the noncompliance is authorized in any emergency permit.

B. The permittee shall maintain records from all ground monitoring wells and associated ground water surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period.

C. For a new hazardous waste management facility, the permittee may not begin treatment, storage, or disposal of hazardous waste, and for a facility being modified the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility, until:

(1) The permittee has submitted to the Secretary by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(2) The Secretary has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(3) Within 15 days of the date of the submission of the letter in C(1), above, the permittee has not received notice from the Secretary of his or her intent to inspect. prior inspection is waived, and the permittee may begin treatment, storage, or disposal of hazardous waste.

D. The following shall be included as information which shall be reported orally within 24 hours as required by Regulation .04L(6):

(1) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(2) Any information of a release or discharge of hazardous waste, or of a fire or explosion from a hazardous waste management facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(a) Name, address, and telephone number of owner or operator;

(b) Name, address, and telephone number of the facility;

(c) Date, time, and type of incident;

(d) Name and quantity of material or materials involved;

(e) The extent of injuries, if any;

(f) An assessment of actual or potential hazards to the environment and human health outside the facility, when this is applicable; and

(g) Estimated quantity and disposition of recovered material that resulted from the incident. The Secretary may waive the 5-day written notice requirement in favor of a written report within 15 days.

E. The following reports required by COMAR 26.13.05 shall be submitted in addition to those required by COMAR 26.13.05.07G:

(1) Manifest Discrepancy Report. If a significant discrepancy in a manifest is discovered, the permittee shall attempt to reconcile the discrepancy. If not resolved within 15 days, the permittee shall submit a letter report including a copy of the manifest to the Secretary.

(2) Unmanifested Waste Report. An unmanifested waste report shall be submitted to the Secretary within 15 days of receipt of unmanifested waste.

#### ENVIRONMENT

(3) Annual or Biennial Report. An annual or biennial report shall be submitted in accordance with the requirements of COMAR 26.13.05.05F.

F. A list of the wastes or classes of wastes which will be treated, stored, or disposed of at the facility, and a description of the process to be used for treating, storing, and disposing of these hazardous wastes at the facility including the design capacities of each storage, treatment, and disposal unit. Except in the case of containers, the description shall identify the particular wastes or classes of wastes which shall be treated, stored, or disposed of in particular equipment or locations (for example, "Halogenated organics may be stored in Tank A", and "Metal hydroxide sludges may be disposed of in landfill cells B, C, and D").

#### .16 Establishing Permit Conditions.

In addition to the conditions established under Regulation .05 of this chapter, each permit shall include each of the applicable requirements of COMAR 26.13.05.

## .17 Hazardous Waste Incinerator Permits.

A. Start-Up.

**US EPA ARCHIVE DOCUMENT** 

(1) For the purposes of determining operational readiness following completion of physical construction, the Department will establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit for a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness sufficient to conduct a trial burn, not to exceed 720 hours operating time for incineration of hazardous waste. The Department may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to Regulation .13 of this chapter.

(2) Applicants shall submit a statement, with the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of COMAR 26.13.05.16F during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters identified in COMAR 26.13.05.16H.

(3) The Department will review this statement and any other relevant information submitted with the permit application and specify re-

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.17B

quirements for this period sufficient to meet the performance standards of COMAR 26.13.05.16F based on its engineering judgment.

B. Trial Burn.

(1) For the purposes of determining feasibility of compliance with the performance standards of COMAR 26.13.05.16F and of determining adequate operating conditions under COMAR 26.13.05.16H, the Department will establish conditions in the permit to a new hazardous waste incinerator to be effective during the trial burn.

(2) Applicants shall propose a trial burn plan, prepared under §B(3), below.

(3) The trial burn plan shall include the following information:

(a) An analysis of each waste or mixture of wastes to be burned which includes:

(i) Heat value of the waste in the form and composition in which it will be burned.

(ii) The viscosity (if applicable), or description of physical form of the waste.

(iii) An identification of any hazardous organic constituents listed in COMAR 26.13.02.24, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in COMAR 26.13.02.24, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis shall be identified, and the basis for their exclusion stated. The waste analysis shall rely on analytical techniques specified in 40 CFR Part 261, Appendix III.

(iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in 40 CFR Part 261, Appendix III.

(b) A detailed engineering description of the hazardous waste incinerator for which the permit is sought including:

(i) Manufacturer's name and model number of incinerator (if available);

(ii) Type of incinerator;

(iii) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber;

(iv) Description of the auxiliary fuel system (type/feed);

## 26.13.07.17B

#### ENVIRONMENT

(v) Capacity of prime mover;

(vi) Description of automatic waste feed cut-off system or sys-

tems;

(vii) Stack gas monitoring and pollution control equipment;

(viii) Nozzle and burner design;

(ix) Construction materials;

(x) Location and description of temperature, pressure, and flow indicating and control devices.

(c) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(d) A detailed test schedule for each waste for which the trial burn is planned including date or dates, duration, quantity of waste to be burned, and other factors relevant to the Department's decision under B(6).

(e) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(f) A description of, and planned operating conditions for any emission control equipment which will be used.

(g) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(h) Such other information as the Department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in \$B(6).

(4) The Department, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.

(5) Based on the waste analysis data in the trial burn plan, the Department will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Department based on its estimate of

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.17B

the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and for wastes listed in COMAR 26.13.02.15—.19, the hazardous waste organic constituent or constituents identified in COMAR 26.13.02.24 as the basis for listing.

(6) The Department will approve a trial burn plan if it finds that the:

(a) Trial burn is likely to determine whether the hazardous waste incinerator performance standard required by COMAR 26.13.05.16F can be met;

(b) Trial burn itself does not present an imminent hazard to human health or the environment;

(c) Trial burn will help the Department determine operating requirements to be specified under COMAR 26.13.05.16H; and

(d) Information sought in B(6)(a) and (c) cannot reasonably be developed through other means.

(7) During each approved trial burn (or as soon after the burn as is practicable), the applicant shall make the following determinations:

(a) A quantitative analysis of the trial POHCs in the waste feed to the incinerator;

(b) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs oxygen  $(O_2)$  and hydrogen chloride (HCl);

(c) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs;

(d) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in COMAR 26.13.05.16F(1);

(e) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with COMAR 26.13.05.16F(2);

(f) A computation of particulate emissions, in accordance with COMAR 26.13.05.16F(3);

(g) An identification of sources of fugitive emissions and their means of control;

#### 26.13.07.17C

#### ENVIRONMENT

(h) A measurement of average, maximum, and minimum temperatures and combustion gas velocity;

(i) A continuous measurement of carbon monoxide (CO) in the exhaust gas; and

(j) Such other information as the Department may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in COMAR 26.13.05.16F and to establish the operating conditions required by COMAR 26.13.05.16H as necessary to meet those performance standards.

(8) The applicant shall submit to the Department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and shall submit the results of all the determinations required in B(7). This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Department.

(9) All data collected during any trial burn shall be submitted to the Department following the completion of the trial burn.

(10) All submissions required by this subsection shall be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under Regulation .03.

(11) Based on the results of the trial burn, the Department shall set the operating requirements in the final permit according to COMAR 26.13.05.16H. The permit modification shall proceed as a minor modification according to Regulation .13.

C. Post Trial Burn.

**JS EPA ARCHIVE DOCUMENT** 

(1) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and before final modification of the permit conditions to reflect the trial burn results, the Department may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of COMAR 26.13.05.16H, in the permit for a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Department.

(2) Applicants shall submit a statement, with the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of COMAR 26.13.05.16F during this

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.18

period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters identified in COMAR 26.13.05.16H.

(3) The Department will review this statement and any other relevant information submitted with the permit application and specify those requirements for this period most likely to meet the performance standards of COMAR 26.13.05.16F based on its engineering judgment.

D. For the purposes of determining feasibility of compliance with the performance standards of COMAR 26.13.05.16F and of determining adequate operating conditions under COMAR 26.13.05.16H, the applicant for a permit to an existing hazardous waste incinerator may prepare and submit a trial burn plan and perform a trial burn in accordance with B(3)-(9). Applicants who submit trial burn plans and receive approval before submission of a permit application shall complete the trial burn and submit the results, specified in B(7), with the permit application. If completion of this process conflicts with the date set for submission of the application, the applicant shall contact the Department to establish a later date for submission of the application or the trial burn results. If the applicant submits a trial burn plan with Part B of the permit application, the trial burn shall be conducted and the results submitted within a time period to be specified by the Department.

#### .18 Permits for Land Treatment Demonstrations Using Field Test or Laboratory Analyses.

A. General.

(1) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of COMAR 26.13.05.13C, the Secretary may issue a treatment demonstration permit. The permit shall contain only those requirements necessary to meet the standards in COMAR 26.13.05.13C(3). The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or laboratory analyses, and design, construction, operation, and maintenance of the land treatment unit.

(2) The Secretary may issue a two-phase facility permit if he finds that, based on information submitted in the application, substantial although incomplete or inconclusive information already exists upon which to base the issuance of a facility permit.

#### ENVIRONMENT

(3) If the Secretary finds that not enough information exists upon which he can establish permit conditions to attempt to provide for compliance with all of the requirements of COMAR 26.13.05.13, he shall issue a treatment demonstration permit covering the field test or laboratory analyses.

B. Phased Permit.

(1) If the Secretary finds that a phased permit may be issued, he will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration cleanup activities, and any other conditions which the Secretary finds may be necessary under COMAR 26.13.05.13C(3). The Secretary will include conditions in the second phase of the facility permit to attempt to meet all COMAR 26.13.05.13 requirements pertaining to unit design, construction, operation, and maintenance. The Secretary will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the application.

(2) The first phase of the permit will be effective as provided in Regulation .20L(3) of this chapter.

(3) The second phase of the permit will be effective as provided in §D.

C. Certification. When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he shall submit to the Secretary a certification, signed by a person authorized to sign a permit application or report under Regulation .03A, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting the tests or analyses. The owner or operator shall also submit all data collected during the field tests or laboratory analyses within 90 days of completion of those tests or analyses unless the Secretary approves a later date.

D. Modifications.

(1) If the Secretary determines that the results of the field tests or laboratory analyses meet the requirements of COMAR 26.13.05.13, he will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with COMAR 26.13.05.13, based upon the results of the field tests or laboratory analyses.

(2) This permit modification may proceed as a minor modification under Regulation .20L provided any change is minor, or otherwise will proceed as a modification under Regulation .20J(1)(b).

(3) If no modifications of the second phase of the permit are necessary, or if only minor modifications are necessary and have been made, the Secretary will give notice of his final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in Regulation .20L(3).

(4) If modifications under Regulation .11B(2) are necessary, the second phase of the permit will become effective only after those modifications have been made.

#### .19 Research, Development, and Demonstration Permits.

A. The Secretary may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for the experimental activity have not been adopted in COMAR 26.13.05. The permit shall include those terms and conditions that assure protection of human health and the environment. The permit shall:

(1) Provide for the construction of the facilities as necessary, and for operation of the facility for not longer than 1 year unless renewed as provided in Regulation .19D.

(2) Provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the Secretary considers necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of the technology or process on human health and the environment; and

(3) Include such requirements as the Secretary considers necessary to protect human health and the environment including requirements regarding monitoring, operation, financial responsibility, closure, and remedial action, and such requirements as the Secretary considers necessary regarding testing and providing of information to the Secretary with respect to the operation of the facility.

#### ENVIRONMENT

B. For the purpose of expediting review and issuance of permits under this section, the Secretary may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements in this subtitle except that there may be no modification or waiver of regulations regarding financial responsibility, including insurance, or of procedures regarding public participation, or other requirements that by law may not be waived.

C. The Secretary may order an immediate termination, in accordance with the provisions of the Maryland Administrative Procedure Act, State Government Article, Title 10, Annotated Code of Maryland, of all operations at the facility at any time he determines that termination is necessary to protect human health and the environment.

D. Any permit issued under this section may be renewed not more than three times. Each renewal shall be for a period of not more than 1 year.

## .20 Administrative Procedures.

A. Application for a Permit.

(1) Any person who requires a permit shall complete, sign, and submit to the Secretary an application.

(2) The Secretary may not begin the processing of a permit until the applicant has fully complied with the application requirements.

(3) Permit applications shall comply with the signature and certification requirements of Regulation .03.

(4) The Secretary shall review for completeness each application for a permit. Each application for a permit submitted by a hazardous waste management facility should be reviewed for completeness by the Secretary within 60 days of its receipt. Upon completing the review, the Secretary shall notify the applicant in writing whether the application is complete. If the application is incomplete, the Secretary shall list the information necessary to make the application complete. After the application is completed, the Secretary may request additional information from an applicant but only when necessary to clarify, modify, or supplement previously submitted material. Requests for additional information may not render an application incomplete.

(5) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken under the applicable statutory provision in State statutes.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.20B

(6) If the Secretary decides that a site visit is necessary for any reason in conjunction with the processing of an application, he or she shall notify the applicant and a date shall be scheduled.

(7) The effective date of an application is the date on which the Secretary notifies the applicant that the application is complete as provided in A(4).

(8) For each application from a major hazardous waste management facility, the Secretary shall, not later than the effective date of the application, prepare and mail to the applicant a project decision schedule. The schedule shall specify target dates by which the Secretary intends to:

(a) Prepare a draft permit;

(b) Give public notice;

(c) Complete the public comment period, including any public hearing;

(d) Issue a final permit.

B. Modifications, Revocation and Reissuance, or Termination of Permits.

(1) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Secretary's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in Regulations .11 and 12. All requests shall be in writing and shall contain facts or reasons supporting the request.

(2) If the Secretary decides the request is not justified, he or she shall send the requester a brief written response giving a reason for the decision and shall offer an opportunity for a contested case hearing, in accordance with Maryland's Administrative Procedure Act, State Government Article, 10-201 et seq., Annotated Code of Maryland, and the procedures in L(3). Denials of requests for modification, revocation and reissuance, or termination are not subject to public hearing notice or comment.

(3) If the Secretary tentatively decides to modify or revoke and reissue a permit under Regulation .11, he shall prepare a draft permit under §C of this regulation, incorporating the proposed changes. The Secretary may request additional information and, in the case of a modified permit, may require the submission of an updated permit ap-

#### 26.13.07.20C

#### ENVIRONMENT

plication. In the case of revoked and reissued permits, the Secretary shall require the submission of a new application.

(4) In a permit modification under this regulation, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this regulation, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding, the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(5) Minor modifications are not subject to the requirements of this regulation. Minor modification is defined in Regulation .13.

(6) If the Secretary tentatively decides to terminate a permit under Regulation .12, he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under C of this regulation.

C. Draft Permits.

(1) Once an application is complete, the Secretary shall tentatively decide whether to prepare a draft permit or to deny the application.

(2) If the Secretary tentatively decides to deny the permit application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which allows the same procedures as any draft permit prepared under this section. If the Secretary's final decision is that the tentative decision to deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny and proceed to prepare a draft permit under C(3).

(3) If the Secretary decides to prepare a draft permit, he or she shall prepare a draft permit that contains the information described in Regulations .04, .05, .07, .08, .15, and .16.

(4) All draft permits shall be accompanied by a statement of basis or fact sheet ( $\S$  D and E) and shall be based on the administrative record (\$F), publicly noticed (\$G), and made available for public comment (\$H). The Secretary shall give notice of opportunity for the public hearing (\$I), issue a final decision (\$L), and respond to comments (\$M). An appeal from the final decision may be taken pursuant to Maryland Administrative Procedure Act, State Government Article, \$10-201 et seq., Annotated Code of Maryland, by following the procedures in L(3). Draft permits prepared by the State shall be accompanied by a fact sheet if required under §E.

D. Statement of Basis. The Secretary shall prepare a statement of basis for every draft permit for which a fact sheet under E is not prepared. The statement of basis shall briefly describe the derivation of the conditions of the draft permit and the reasons for them, or in the case of notices of intent to deny or terminate, reasons supporting the tentative decision. The statement of basis shall be sent to the applicant and, on request, to any other person.

E. Fact Sheet.

(1) A fact sheet shall be prepared for every draft permit for a major hazardous waste management facility and for every permit which the Secretary finds is the subject of widespread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. The Secretary shall send this fact sheet to the applicant and, on request, to any other person.

(2) The fact sheet shall include, when applicable:

(a) A brief description of the type of facility or activity which is the subject of the draft permit;

(b) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged;

(c) A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record required by F;

(d) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(e) A description of the precedures for reaching a final decision on the draft permit including:

(i) The beginning and ending dates of the comment period under §G, and the address where comments will be received,

(ii) Procedures for requesting a hearing and the nature of that hearing, and

(iii) Any other procedures by which the public may participate in the final decision;

## 26.13.07.20F

**US EPA ARCHIVE DOCUMENT** 

## ENVIRONMENT

(f) Name and telephone number of a person to contact for additional information.

F. Administrative Record for Draft Permits.

(1) The provisions of a draft permit prepared by the Department under §C shall be based on the administrative record defined in this regulation.

(2) For preparing a draft permit under §C, the record shall consist of:

(a) The application, if required, and any supporting data furnished by the applicant;

(b) The draft permit or notice of intent to deny the application or to terminate the permit;

(c) The statement of basis or fact heet;

(d) All documents cited in the statement of basis or fact sheet; and

(e) Other documents contained in the supporting file on the draft permit.

(3) Material readily available at the Department or published material that is generally available, and that is included in the administrative record under F(2), need not be physically included with the rest of the record as long as it is specifically referred to in the statement of basis or the fact sheet.

(4) This section applies to all draft permits when public notice was given after the effective date of these regulations.

G. Public Notice of Permit Actions and Public Comment Period.

(1) The Secretary shall give public notice that the following actions have occurred:

(a) A permit application has been tentatively denied;

(b) A draft permit has been prepared;

(c) Public hearings or informational meetings have been scheduled;

(d) An appeal has been granted.

(2) Public notice is not required when a request for permit modification, revocation and reissuance, or termination is denied. Written notice of that denial shall be given to the requester and to the permittee.

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.20G

(3) Public notices may describe more than one permit or permit action.

(4) Timing.

(a) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under G(1) shall allow at least 45 days for public comment.

(b) Public notice of a public hearing shall be given at least 45 days before the hearing. Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.

(5) Methods.

list.

(a) Public notice of activities described in G(1) shall be given by mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits):

(i) The applicant;

(ii) Any other agency who has issued or is required to issue a UIC, PSD, NPDES, or 404 permit for the same facility or activity;

(iii) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and other appropriate government authorities, including any affected States; and

(iv) Persons on a mailing list. The list can be developed by:

(aa) Including those who request in writing to be on the

(bb) Soliciting persons for "area lists" from participants in past permit proceedings in that area, and

(cc) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as regional and State funded newsletters, environmental bulletins, or State law journals.

(b) All public notices issued under this section shall contain the following minimum information:

(i) Name and address of the office processing the permit action for which notice is being given;

#### 26.13.07.20H

#### ENVIRONMENT

(ii) Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

(iii) A brief description of the business conducted at the facility or activity described in the permit application or the draft permit;

(iv) Name, address, and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit or draft general permit, as the case may be, statement of basis or fact sheet, and the application;

(v) A brief description of the comment procedures required by §§H and I and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision;

(vi) The location of the administrative record required by §F, the times at which the record will be open for public inspection, and a statment that all data submitted by the applicant is available as part of the administrative record.

(c) Public Notices for Hearings. In addition to the general public notice described in G(5)(b), the public notice of a hearing shall contain the following information:

(i) Reference to the date of previous public notices relating to the permit;

(ii) Date, time, and place of the hearing;

(iii) A brief description of the nature and purpose of the hearing, including the applicable regulations and procedures;

(iv) In addition to the general public notice described in G(5)(b), all persons identified in G(5)(a)(i), (ii), and (iii) shall be mailed a copy of the fact sheet or statement of basis, the permit application (if any), and the draft permit (if any).

H. Public Comments and Request for Public Hearings.

(1) During the public comment period provided, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled.

(2) A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

(3) All comments shall be considered in making the final decision and shall be answered as provided in §M.

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.20J

I. Public Hearings.

(1) The Secretary shall hold a public hearing whenever he or she receives written notice of opposition to a draft permit and a request for a hearing within 45 days of public notice. The Secretary also may hold a public hearing at his or her discretion, whenever, for instance, a hearing might clarify one or more issues involved in the permit decision. Public notice of the hearing shall be given as specified in §G.

(2) Whenever a public hearing will be held, the Secretary shall designate a hearing officer who shall be responsible for its scheduling and orderly conduct.

(3) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under §G shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.

(4) A tape recording or written transcript of the hearing shall be made available to the public.

(5) Whenever possible, the Secretary shall schedule a hearing under this section at a location convenient to the nearest population center to the proposed facility.

J. Obligation to Raise Issues and Provide Information During the public Comment Period.

(1) All persons, including applicants, who believe any condition of a draft permit is inappropriate or that the Secretary's tentative decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, shall raise all reasonably ascertainable issues and submit all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period (including any public hearing) under §G.

(2) All supporting materials shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of State or federal statutes and regulations, EPA documents of general applicability, or other generally available reference materials.

(3) Commenters shall make supporting material not already included in the administrative record available to the Secretary. A com-

#### 26.13.07.20K

**JS EPA ARCHIVE DOCUMENT** 

#### ENVIRONMENT

ment period longer than 30 days will often be necessary in complicated proceedings to give commenters a reasonable opportunity to comply with the requirements of this section. Commenters may request longer comment periods and they should be freely established under §G to the extent they appear necessary.

K. Reopening of the Public Comment Period.

(1) If any data, information, or arguments submitted during the public comment period, including information or arguments required under §J appear to raise substantial new questions concerning a permit, the Secretary may take one or more of the following actions:

(a) Prepare a new draft permit, appropriately modified, under §C;

(b) Prepare a revised statement of basis, a fact sheet or revised fact sheet and reopen the comment period;

(c) Reopen or extend the comment period to give interested persons an opportunity to comment on the information or arguments submitted.

(2) Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice under §G shall define the scope of the reopening.

(3) The Secretary may also, in the circumstances described above, elect to hold further proceedings.

(4) Public notice of any of the above actions shall be issued under §G.

L. Issuance and Effective Date of Permit.

(1) After the close of the public comment period under §G on a draft permit, the Secretary shall issue a final permit decision. The Secretary shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedures for appealing a decision on a permit or for contesting a decision to terminate a permit.

(2) For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

(3) A final permit decision shall become effective 30 days after the service of notice of the decision under L(1), unless:

(a) A later effective date is specified in the decision;

## CONTROLLED HAZARDOUS SUBSTANCES 26.13.07.21

(b) Review is requested, or an evidentiary hearing is requested, within 30 days under COMAR 26.08.04.01G; or

(c) Comments do not request a change in the draft permit, in which case the permit shall become effective immediately upon issuance.

M. Response to Comments.

(1) At the time that any final permit is issued, the Secretary shall issue a response to comments. This response shall specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change.

(2) Documents cited in the response to comments shall be included in the administrative record for the final permit decision. If new points are raised or new material supplied during the public comment period, the State may document its response to those matters by adding new materials to the administrative record.

(3) The response to comments shall be available to the public.

#### .21 Permit Fees.

A. Application Fee.

(1) A person applying for a facility permit, a facility permit renewal, or a major modification of a facility permit shall pay a nonrefundable application fee according to the fee schedule in A(2) of this regulation.

(2) Application Fee Schedule. The application fee is:

(a) \$2,000 for an application for a new or previously unpermitted storage facility;

(b) \$3,000 for an application for a new or previously unpermitted treatment facility other than an incinerator;

(c) \$5,000 for an application for a new or previously unpermitted incinerator;

(d) \$10,000 for an application for a new or previously unpermitted land disposal unit;

(e) \$2,000 for an application for renewal of a storage facility permit;

(f) \$3,000 for an application for renewal of a permit for a treatment facility;

Supp. 5

#### ENVIRONMENT

(g) \$5,000 for an application for renewal of a land disposal unit;

(h) \$2,000 for an application for a major modification of a facility permit which involves the addition of a new storage unit;

(i) \$3,000 for an application for a major modification of a facility permit which involves the addition of a new treatment unit other than an incinerator;

(j) \$5,000 for an application for a major modification of a facility permit which involves the addition of a new incinerator;

(k) \$10,000 for an application for a major modification of a facility permit which involves the addition of a new land disposal unit; and

(1) For new applications, renewal applications, or applications for permit modification which involve more than one type of unit, the sum of the application fees for the corresponding units specified in A(2)(a)—(k) of this regulation.

(3) The Secretary shall apply the application fee towards the permit fee required by §B of this regulation.

B. Permit Fee.

**US EPA ARCHIVE DOCUMENT** 

(1) Permit fees shall be established based upon the following considerations:

(a) Acreage involved in the facility;

(b) Nature and quantity of the CHS handled at the facility;

(c) The threat that the CHS may present to human health or the environment;

(d) The anticipated costs of monitoring and regulating the facility;

(e) The anticipated costs attributable to the removing and properly disposing of all CHS that may escape from a facility; and

(f) Anticipated needs for program development activities relating to CHS.

(2) The Secretary shall calculate the permit fee for a facility as 1.1 times the sum of a service fee and an environmental fee. The service fee is comprised of the costs borne by the Department in monitoring and regulating the facility, and is calculated as described in \$B(3) of this regulation. The environmental fee is calculated as described in \$B(6) of this regulation.

## CONTROLLED HAZARDOUS SUBSTANCES 26.1

(3) Service Fee. The service fee is calculated using the formulae in the following work sheet, and the values for salary, benefits, overhead, and work years specified in B(4) of this regulation:

(a) Monitoring—Analyses to be Performed by the Department.(Cost per analysis x number of analyses) = \$\_\_\_;

(b) Yearly Costs of Regulating the Facility for the Permit Duration.

(i) Cost of project manager = (permit writer work years) x
(permit writer's annual salary + annual benefits) x (overhead factor) =
\$\_\_\_\_\_,

(ii) Cost of supervision of project manager = 0.25 x (permit writer work years) x (permit writer's annual salary + annual benefits) x (overhead factor) = \$\_\_\_\_,

(iii) (Compliance and enforcement work years) x (enforcement personnel annual salary + annual benefits) x (overhead factor) = \$\_\_\_\_,

(iv) Subtotal, costs of regulating = \$;

(c) Service fee = costs of regulating + costs of monitoring =  $\beta_{--}$ .

(4) Except as specified in B(5) of this regulation, the Secretary shall use the following values in performing the calculations outlined in B(3):

(a) For the sum of the permit writer's annual salary and benefits, \$49,000;

(b) For the sum of enforcement personnel annual salary and benefits, \$51,000;

(c) For the overhead factor, 1.25;

(d) For permit writer work years:

(i) 0.1 for storage facilities,

(ii) 0.1 for treatment facilities,

(iii) 0.12 for incineration facilities,

(iv) 0.18 for disposal facilities, and

(v) For facilities that have a combination of the types of waste management units listed in B(4)(d)(i)—(iv) of this regulation, the sum of the corresponding factors listed in B(4)(d)(i)—(iv) of this regulation; and

1191-2
#### 26.13.07.21

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

(e) For compliance and enforcement work years:

(i) 0.2 for operating disposal facilities, and

(ii) 0.05 for facilities other than operating disposal facilities.

(5) The Secretary may modify the factors specified in B(4) of this regulation as necessary to reflect increased personnel and overhead costs, and additional expenditures of staff time based on the complexity of the facility.

(6) Environmental Fee.

(a) The environmental fee component of the permit fee is calculated as the product of a size factor, location factor, and a waste management factor.

(b) The size factor is equal to one plus (0.1 times the number of acres used for hazardous waste management units at the facility).

(c) The location factor is obtained by determining the land uses adjacent to the facility as shown on zoning maps, and choosing the maximum of the following numbers associated with the corresponding land uses that are adjacent to the facility:

(i) Industrial-1.0;

(ii) Agricultural-1.2;

(iii) Residential-1.5;

(iv) Institutional-1.5;

(v) Recreational-1.7.

(d) The waste management factor is equal to the sum of the products of a hazard factor and a quantity factor assigned to permitted storage, treatment, active disposal, and inactive disposal activities at a facility.

(e) Hazard Factor.

(i) For disposal facilities, the hazard factor is equal to 10 times the fraction of acute hazardous waste that the facility is permitted to handle plus 3.0 times the fraction of nonacute hazardous waste that the facility is permitted to handle.

(ii) For all other facilities, the hazard factor is equal to 10 times the fraction of acute hazardous waste that the facility is permitted to handle plus 2.0 times the fraction of nonacute hazardous waste that the facility is permitted to handle.

#### CONTROLLED HAZARDOUS SUBSTANCES 26.13

(iii) If a facility is permitted to manage acute hazardous wastes, but the facility's permit does not specify the fraction of waste that may be acute, the fraction is assumed to be 0.1 for the purpose of the calculations described in B(6)(e)(i) and (ii) of this regulation.

(f) Quantity Factor. The quantity factor is set according to the type of facility, as described in B(6)(g)—(1) of this regulation.

(g) For storage facilities, the quantity factor is equal to the hazardous waste storage capacity, in tons.

(h) For treatment facilities permitted to treat up to 1,000 tons of hazardous waste per year, the quantity factor is equal to the maximum amount of hazardous waste authorized to be treated per year, in tons.

(i) For treatment facilities permitted to treat more than 1,000 tons of hazardous waste per year, the quantity factor is equal to 1,000 plus (0.001 times the number of tons in excess of 1,000 authorized to be treated per year).

(j) For active disposal facilities permitted to dispose of up to 20,000 tons per year of hazardous waste, the quantity factor is equal to the amount of waste authorized to be disposed of per year, in tons.

(k) For active disposal facilities permitted to dispose of more than 20,000 tons per year of hazardous waste, the quantity factor is equal to 20,000 plus (0.001 times the amount of hazardous waste, in tons, in excess of 20,000 tons authorized to be disposed of per year).

(1) For inactive disposal facilities, the quantity factor is equal to 0.001 times the total amount of hazardous waste in tons disposed of at the facility.

C. Failure to pay the permit fee in a timely manner constitutes grounds for permit termination under Regulation .12.

#### (See page 1192)

#### 26.13.07.22

#### ENVIRONMENT

#### .22 Limited Facility Permits for Thermal Destruction Facilities other than Hazardous Waste Incinerators.

A. Permits Required.

(1) A person may not thermally destroy hazardous waste in an installation other than a hazardous waste incinerator without first obtaining a Limited Facility Permit and an air quality operating permit, except that an electric generating station is not required to obtain an air quality operating permit.

(2) The effects of these regulations with respect to persons who have submitted timely applications under B(2) shall be stayed until the Department has either issued or denied the Limited Facility Permit, but only so long as the applicant operates in compliance with the terms and conditions of an approval issued by the Department under COMAR 26.11.11.06.

(3) Upon issuance of the Limited Facility Permit, the terms and conditions of the Limited Facility Permit will supersede the terms and conditions of any approval issued under COMAR 26.11.11.06.

B. Application for a Limited Facility Permit.

(1) A person may apply to the Department for a Limited Facility Permit on an application provided by the Department. The application shall include the following information:

(a) The name and address of the owner of the installation in which the thermal destruction is to take place;

(b) The location of the installation in which the thermal destruction is to take place;

(c) A description of the installation in which the thermal destruction is to take place including:

(i) The maximum rated heat input,

(ii) The burner type or types,

(iii) A description of the combustion chamber,

(iv) The fuel type usually used,

(v) Any air pollution control devices used, and

(vi) A description of the exhaust system including the stack height and diameter;

(d) The characteristics of the hazardous waste to be thermally destroyed including:

(i) The flash point,

(ii) The heat content, expressed in Btu per pound, and

(iii) The viscosity;

(e) The total annual quantity of the hazardous waste to be thermally destroyed and the expected firing rate, expressed in pounds/hour;

(f) An operations plan for the installation that will be thermally destroying the hazardous waste including:

(i) The start-up procedure,

(ii) The normal operating procedure,

(iii) The shut-down procedure, and

(iv) The estimated firing time, expressed in hours per day and days per week;

(g) A waste analysis plan as described in COMAR 26.13.05.02D(2);

(h) A general inspection schedule as described in COMAR 26.13.05.02F(2);

(i) A contingency plan as described in COMAR 26.13.05.04;

(j) A closure plan as described in COMAR 26.13.05.07C;

(k) A closure cost estimate, evidence of financial responsibility and evidence of insurance, all as described in COMAR 26.13.05.08;

(1) Any other information the Department may request in order to make a determination under this regulation;

(m) The signature on the application of the applicant, if the applicant is an individual person, or of a person who is a responsible official, as described in Regulation .03A, of the organization, if the applicant is a business, governmental, or other organization entity.

(2) An installation subject to SA(1) that was in operation on the effective date of these regulations shall apply to the Department for a Limited Facility Permit on an application provided by the Department within 6 months of the effective date of this regulation. The application shall contain the information requested in SB(1).

1193

#### 26.13.07.22

#### ENVIRONMENT

C. Issuance of a Limited Facility Permit.

(1) General. Applications for a Limited Facility Permit will be reviewed and a permit issued by the Department based on the combustion efficiency and capacity of the installation to be used to destroy the waste. In determining the approvability of an application, the Department will consider the characteristics of the components in the waste and the capability of the installation to dispose of the waste in a manner that will have no adverse impact on the environment or on persons living in the area of the installation proposed to be used.

(2) Specific Requirements. A permit may be issued if the following requirements are met:

(a) The burner within the installation shall be of a type and size to burn the specified waste and the heat energy demand of the installation shall be constant during the time when the waste is burned or otherwise capable of maintaining the required combustion conditions;

(b) The stack height of the installation shall be consistent with good engineering practice;

(c) The installation shall be operated and maintained by a person directly assigned to those responsibilities;

(d) The discharge of components of the waste or products of combustion of the waste, including sulfur, lead, and halogenated compounds, may not cause a violation of any ambient air quality standards in COMAR 26.11.03 and 26.11.04 or cause a threat to public health;

(e) If PCBs are present in the waste to be destroyed, the PCB content of the waste shall be within allowable limits for the selected installation as specified by the U.S. EPA.

D. Permit Conditions and Procedures.

(1) The conditions and procedures specified in Regulations .04—.14 as applicable to facility permits shall also apply to Limited Facility Permits.

(2) The Department may establish conditions in a permit for the purpose of monitoring and controlling the efficiency of combustion of the waste, the products of combustion in the exhaust, or the composition of the waste feed.

(3) The Department will deny an application for a Limited Facility Permit if it determines that the requirements of §§B and D of this regulation or any other applicable requirements under this subtitle have not been satisfied. E. Permit Duration. A Limited Facility Permit under this regulation is valid for 3 years unless modified, revoked, or terminated under Regulation .11 or .20B of this chapter.

#### Administrative History

Effective date:

Regulations .01—.05 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642)

Regulation .01 amended effective January 18, 1982 (9:1 Md. R. 20)

Regulation .02A—F repealed, and new .02A—O adopted effective January 31, 1983-(10:2 Md. R. 110)

Regulations .02A, B, F, J, L, M, N, .03A, B, C, L, M amended and .01C, P, and .05 adopted effective February 13, 1984 (11:3 Md. R. 202)

Regulations .02A, C, J, .03I amended and .01D, E, and .02Q adopted effective July 30, 1984 (11:15 Md. R. 1330)

Regulation .03A—E repealed, and new .03A—M adopted effective January 31, 1983 (10:2 Md. R. 110)

Regulation .05 repealed effective January 31, 1983 (10:2 Md. R. 110)

Chapter recodified from COMAR 10.51.07 to COMAR 26.13.07

Regulation .01 amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .01A amended effective May 24, 1993 (20:10 Md. R. 853)

Regulation .01F amended and G adopted effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .02A-D, J-L, and P amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .02D and E amended effective April 1, 1991 (18:6 Md. R. 690); May 24, 1993 (20:10 Md. R. 853)

Regulation .02F amended effective May 24, 1993 (20:10 Md. R. 853); April 11, 1994 (21:7 Md. R. 533)

Regulation .02I adopted effective April 11, 1994 (21:7 Md. R. 533)

Regulation .02R adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .03B, C, F, G, and L amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .04C adopted effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .05B amended effective April 18, 1988 (15:8 Md. R. 1009)

Regulation .11B amended effective December 23, 1991 (18:25 Md. R. 2759); April 11, 1994 (21:7 Md. R. 533)

Regulation .13 amended and recodified as Regulations .13 and .13-1-.13-3 adopted effective December 23, 1991 (18:25 Md. R. 2759)

Regulation .13-1C adopted effective April 11, 1994 (21:7 Md. R. 533)

Regulation .13-2A amended effective April 11, 1994 (21:7 Md. R. 533)

Regulation .15E amended effective May 5, 1997 (24:9 Md. R. 659)

Regulation .21A, B amended effective March 15, 1993 (20:5 Md. R. 515)

Regulation .22B amended effective December 23, 1991 (18:25 Md. R. 2759)

Chapter revised effective September 10, 1997 (24:5 Md. R. 413)

Supp. 11

EPA ARCHIVE DOCUMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 08 Right of Condemnation

Authority: Environment Article, Title 7. Subtitle 2, Annotated Code of Maryland

#### .01 Determination by the Department.

The Department, pursuant to the applicable provisions of the Real Property Article, may condemn any land or facility used for disposal of CHS if it determines any of the following:

A. The condemnation is necessary to provide for proper perpetual care and monitoring of the facility;

B. Future disturbance of the land poses a substantial threat to the natural resources of the State; or

C. The facility poses a substantial threat to the public health.

#### Administrative History

Effective date:

Regulation .01 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642)

Chapter recodified from COMAR 10.51.09 to COMAR 26.13.08

#### Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 09 Enforcement

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

#### .01 Enforcement Provisions.

A. Violation of any of the provisions of these regulations shall be subject to the civil and criminal liabilities as specified in the Annotated Code of Maryland.

B. At the direction of the Department, an operator can be made to close his entire facility if any portion of it is not, at the determination of the Department, in substantial compliance with the applicable requirements of this subtitle.

C. Fine and Bond Schedule. (Reserved)

#### Administrative History

Effective date:

Regulation .01 adopted as an emergency provision effective November 18, 1980 (7:25 Md. R. S-1); adopted permanently effective April 3, 1981 (8:7 Md. R. 642)

Chapter recodified from COMAR 10.51.10 to COMAR 26.13.09

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 10 Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities

Authority: Environment Article, Title 7, Subtitle 2, Annotated Code of Maryland

# .01 Recyclable Materials Used in a Manner Constituting Disposal.

A. Applicability.

(1) This regulation applies to recyclable materials that are applied to or placed on the land:

(a) Without mixing with any other substance or substances; or

(b) After mixing or combining with any other substance or substances.

(2) The materials in A(1) of this regulation are referred to throughout this regulation as "materials used in a manner that constitutes disposal".

(3) Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means. Commercial fertilizers that are produced for the general public's use that contain recyclable materials also are not presently subject to regulation.

B. Standards Applicable to Generators and Transporters of Materials Used in a Manner That Constitutes Disposal. Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of COMAR 26.13.03 and 26.13.04 and the notification requirement of Section 3010 of RCRA.

#### 26.13.10.02

#### Environment

C. Standards Applicable to Storers of Materials That Are To Be Used in a Manner That Constitutes Disposal, Who Are Not the Ultimate Users. Owners or operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of COMAR 26.13.02, COMAR 26.13.05.01—.12, COMAR 26.13.07, and the notification requirement under §3010, the Solid Waste Disposal Act, 42 U.S.C. §§6901—6991i, as amended.

D. Standards Applicable to Users of Materials That Are Used in a Manner That Constitutes Disposal.

(1) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of COMAR 26.13.02, 26.13.05 and 26.13.07, and Section 3010 of RCRA. These requirements do not apply to products which contain these recyclable materials under the provisions of A(2).

(2) The use of waste or used oil or other material, which is contaminated with a hazardous waste, for dust suppression or road treatment is prohibited.

#### .02 Hazardous Waste Burned for Energy Recovery.

A. Applicability.

(1) This regulation applies to hazardous wastes that are burned for energy recovery in any boiler or industrial furnace that is regulated under COMAR 26.13.05.16 except as provided by §A(2). These hazardous wastes burned for energy recovery are termed "hazardous waste fuel". Fuel produced from hazardous waste by processing, blending, or other treatment is also hazardous waste fuel. These regulations do not apply, however, to gas recovered from hazardous waste management activities when the gas is burned for energy recovery.

(2) The following hazardous wastes are not regulated under this regulation:

(a) Hazardous wastes that are exempt from regulation under the provisions of COMAR 26.13.02.04, .04-1, and .06A(3);

(b) Except for §D of this regulation, used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in COMAR 26.13.02. This used oil is subject to regulation under COMAR 26.13.05.15 or .16, rather than this regulation.

#### CONTROLLED HAZARDOUS SUBSTANCES

**B.** Prohibitions.

(1) A person may market hazardous waste fuel only:

(a) To persons who have notified the State of their hazardous waste fuel activities and have a U.S. EPA identification number; and

(b) If the fuel is burned, to persons who burn the fuel in boilers or industrial furnaces identified in  $\S B(2)$  of this regulation.

(2) Hazardous waste fuel may be burned for energy recovery only in devices identified in COMAR 26.13.05.16C(3).

(3) Fuel which contains any hazardous waste may not be burned in any cement kiln which is located within the boundaries of any incorporated municipality with a population greater than 500,000 (based on the most recent census statistics) unless the kiln fully complies with regulations under this subtitle that are applicable to incinerators.

C. Standards Applicable to Generators of Hazardous Waste Fuel.

(1) Generators of hazardous waste that is used as a fuel or used to produce a fuel are subject to the requirements of COMAR 26.13.03.

(2) Generators who market hazardous waste fuel to a burner also are subject to §E of this regulation.

D. Standards Applicable to Transporters of Hazardous Waste Fuel. Transporters of hazardous waste fuel, and hazardous waste that is used to produce a fuel are subject to COMAR 26.13.04.

E. Standards Applicable to Marketers of Hazardous Waste Fuel. Persons who market hazardous waste fuel are termed "marketers". Marketers include generators who market hazardous waste fuel directly to a burner, persons who receive hazardous waste from generators and produce, process, or blend hazardous waste fuel from these hazardous wastes, and persons who distribute but do not process or blend hazardous waste fuel. These persons are subject to the following requirements:

(1) Prohibitions. The prohibitions under §B.

(2) Notification. Notification requirements under Section 3010 of RCRA for hazardous waste fuel activities. Even if a marketer has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA identification number he shall renotify the U.S. EPA and the Secretary to identify his hazardous waste fuel activities.

(3) Storage. COMAR 26.13.03.05E, 26.13.05.01-.12, and 26.13.07.

#### 26.13.10.02

#### ENVIRONMENT

(4) Off-site Shipment. The standards for generators in COMAR 26.13.03 when a marketer initiates a shipment of hazardous waste fuel.

(5) Required Notices.

(a) Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, he shall obtain a one-time written and signed notice from the burner or marketer certifying that:

(i) The burner or marketer has notified EPA and the Secretary under Section 3010 of RCRA and identified his waste-as-fuel activities; and

(ii) If the recipient is a burner, the burner will burn the hazardous waste fuel in a facility permitted under COMAR 26.13.05.15 or .16 and COMAR 26.13.07.05.

(b) Before a marketer accepts the first shipment of hazardous waste fuel from another marketer, he shall provide the other marketer with a one-time written and signed certification that he has notified EPA and the Secretary under Section 3010 of RCRA and identified his hazardous waste fuel activities.

(6) Recordkeeping. In addition to the applicable recordkeeping requirements of COMAR 26.13.03 and 26.13.05, a marketer shall keep a copy of each certification notice he receives or sends for 3 years from the date he last engages in a hazardous waste fuel marketing transaction with the person who sends or receives the certification notice.

F. Standards Applicable to Burners of Hazardous Waste Fuel. Owners and operators of industrial furnaces and boilers identified in B(2) that burn hazardous waste fuel for energy recovery are "burners", and are subject to the following requirements:

(1) Prohibitions. The prohibitions under §B.

(2) The substantive and procedural requirements of COMAR 26.13.05.16 and COMAR 26.13.07.05.

(3) Notification. Notification requirements under Section 3010 of RCRA for hazardous waste fuel activities. Even if a burner has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA identification number, he shall renotify the U.S. EPA and the Secretary to identify his hazardous waste fuel activities.

(4) Storage.

(a) For short term accumulation by generators who burn their hazardous waste fuel on-site, the applicable provisions of COMAR 26.13.03.05E.

(b) For storage facilities the applicable provisions of COMAR 26.13.05.01-.12 and 26.13.07.

(5) Required Notices. Before a burner accepts the first shipment of hazardous waste fuel from a marketer, he shall provide the marketer a one-time written and signed notice certifying that:

(a) He has notified EPA under Section 3010 of RCRA and identified his waste-as-fuel activities; and

(b) He will burn the fuel only in a boiler or furnace identified in §B of this regulation and COMAR 26.13.05.16.

(6) Record Keeping. In addition to the applicable record-keeping requirements of COMAR 26.13.05, a burner shall keep a copy of each certification notice that he sends to a marketer for 3 years from the date he last received hazardous waste fuel from that marketer.

#### .03 Recyclable Materials Utilized for Precious Metal Recovery.

A. This regulation applies to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, paladium, iridium, osmium, rhodium, ruthenium, or any combination of these.

B. Persons who generate, transport, or store recyclable materials regulated by this regulation are subject to the following requirements:

(1) Notification requirements under Section 3010 of RCRA; and

(2) COMAR 26.13.03.04 and COMAR 26.13.04.

C. Persons who store recycled materials that are regulated under this regulation shall:

(1) Keep the following records to document that they are not accumulating these materials speculatively as defined in COMAR 26.13.02:

(a) Records showing the volume of these materials stored at the beginning of the calendar year,

(b) The amount of these materials generated or received during the calendar year, and

Supp. 4

#### 26.13.10.04

#### ENVIRONMENT

(c) The amounts of materials remaining at the end of the calendar year; and

(2) Comply with the storage requirements for generators found in COMAR 26.13.03.

D. Recyclable materials that are subject to this regulation that are accumulated speculatively, as defined in COMAR 26.13.02, are subject to all applicable provisions of COMAR 26.13.03—.10.

#### .04 Spent Lead-Acid Batteries Being Reclaimed.

A. Applicability. This regulation applies to spent lead-acid batteries that are recyclable materials (spent batteries).

B. Requirements. Owners or operators of facilities that store spent batteries before reclaiming them are subject to the following requirements:

(1) Notification requirements under §3010 of RCRA;

(2) All applicable provisions in COMAR 26.13.05.01—.12, except for COMAR 26.13.05.02D and .05B and C; and

(3) All applicable provisions in COMAR 26.13.07.

C. Persons who generate or collect spent batteries before they are reclaimed or who store spent batteries before reclamation but do not reclaim them are not subject to COMAR 26.13.03—.10 and are not subject to the requirements of §3010 of RCRA.

#### .05 Management Standards for Used Oil.

A. Purpose. This regulation identifies circumstances under which used oil is regulated as hazardous waste, and identifies other regulations with which persons managing used oil are required to comply.

B. Applicability. This regulation applies to used oil as defined in COMAR 26.13.01.03B, and to other materials, whether or not the used oil or other materials exhibit any characteristics of hazardous waste identified in COMAR 26.13.02.10—.14.

C. Mixtures of Used Oil and Waste that is Listed as Hazardous.

(1) Mixtures of used oil and waste that is listed as hazardous in COMAR 26.13.02.16—.19 are subject to regulation as hazardous waste under COMAR 26.13.01 —26.13.09 and Regulations .01—.04 of this chapter rather than as used oil under COMAR 26.10.15.

(2) Rebuttable Presumption for Used Oil. Except as provided in COMAR 26.13.02.04-1A(11), used oil containing more than 1,000

1206

parts per million total halogens is regulated as a hazardous waste because it is presumed to have been mixed with halogenated hazardous waste listed in COMAR 26.13.02.16—.19.

D. Mixtures of Used Oil and Characteristic Hazardous Waste. Mixtures of used oil and hazardous waste that solely exhibits one or more of the hazardous waste characteristics identified in COMAR 26.13.02.11—.14 are regulated as:

(1) Hazardous waste rather than used oil under COMAR 26.10.15 if the resultant mixture exhibits any of the characteristics of hazardous waste; or

(2) Used oil under COMAR 26.10.15 if the resultant mixture does not exhibit any of the characteristics of hazardous waste.

E. Mixing Used Oil and Characteristic Hazardous Waste.

(1) Except as provided in E(2) and (3) of this regulation, a person may not mix the following hazardous wastes with used oil as a means of rendering the waste nonhazardous:

(a) Hazardous waste that solely exhibits one or more of the hazardous waste characteristics identified in COMAR 26.13.02.11—.14; and

(b) Hazardous waste that is listed in COMAR 26.13.02.16—.19 solely because it exhibits one or more of the hazardous waste characteristics identified in COMAR 26.13.02.11—.14.

(2) Section E(1) of this regulation does not prohibit incidental mixing of oil and characteristic hazardous waste that may occur during the intended use of the oil.

(3) A person may mix used oil with waste that is hazardous solely because it exhibits the characteristic of ignitability as identified in COMAR 26.13.02.11 if the mixture is to be burned for energy recovery.

F. A person who generates hazardous waste that is subject to reduced regulatory requirements under COMAR 26.13.02.05 shall comply with §E of this regulation with respect to mixing the waste with used oil.

G. Materials Containing or Otherwise Contaminated with Used Oil.

(1) Except as provided in G(2) of this regulation, materials containing or otherwise contaminated with used oil from which the used oil has been properly drained or removed to the extent possible, so

Supp. 12

EPA ARCHIVE DOCUMENT

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

that no visible signs of free-flowing oil remain in or on the material; are

(a) Not regulated as used oil; and

(b) Subject to applicable regulations of COMAR 26.13.01-26.13.10.

(2) Materials containing or otherwise contaminated with used oil that are burned for energy recovery are subject to regulation as used oil under COMAR 26.10.15 and 26.11.09.10.

(3) Used oil drained or removed from materials containing or otherwise contaminated with used oil is subject to regulation as used oil under COMAR 26.10.15.

#### H. Mixtures of Used Oil with Products.

(1) Except as provided in H(2) of this regulation, mixtures of used oil and fuels or other fuel products are subject to regulation as used oil under COMAR 26.10.15.

(2) Mixtures of used oil and diesel fuel mixed on-site by the generator of the used oil for use in the generator's own vehicles are not subject to this regulation or to COMAR 26.10.15 once the used oil and diesel fuel have been mixed.

(3) Before used oil and diesel fuel are mixed for use in the generator's own vehicles, the used oil is subject to regulation under COMAR 26.10.15.

I. Materials Derived from Used Oil.

(1) Materials that are reclaimed from used oil that are used beneficially and are not burned for energy recovery or used in a manner constituting disposal, such as re-refined lubricants, are not:

(a) Regulated as used oil; and

(b) Solid wastes and are not subject to the hazardous waste regulations of COMAR 26.13.01-26.13.10, as provided in COMAR 26.13.02.03C(2).

(2) Materials produced from used oil that are burned for energy recovery, such as used oil fuels, are subject to regulation as used oil under COMAR 26.10.15 and 26.11.09.10.

(3) Except as provided in COMAR 26.13.02.04-1A(15), materials derived from used oil that are disposed of or used in a manner constituting disposal are:

1206-2

#### CONTROLLED HAZARDOUS SUBSTANCES

्रहरू ्राच

(a) Solid wastes and are regulated as hazardous waste if they meet the definition of hazardous waste under COMAR 26.13.02.03; and

(b) Not regulated as used oil.

J. A person managing used oil shall also determine if the management of the used oil is regulated under COMAR 26.10.15, as described in COMAR 26.10.15.01.

#### Administrative History

Effective date: April 18, 1988 (15:8 Md. R. 1009)

Chapter recodified from COMAR 10.51.11 to 26.13.10

Regulation .01A, C amended effective May 24, 1993 (20:10 Md. R. 853) Regulation .02A amended effective December 23, 1991 (18:25 Md. R. 2759) Regulation .05 adopted effective September 7, 1998 (25:18 Md. R. 1438)

EPA ARCHIVE DOCUMENT

1206-3

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 11 Special Medical Wastes

Authority: Environment Article, §§7-104, 7-201 et seq., 9-252, 9-314, Annotated Code of Maryland

#### .01 Purpose and Scope.

This chapter identifies those solid wastes that are subject to regulation as special medical wastes under COMAR 26.13.12 and 26.13.13. In this chapter:

A. Regulation .02 defines the terms "solid waste" and "special medical waste", identifies those wastes that are excluded, and establishes management requirements for special medical waste;

B. Regulations .02 and .03 set forth the criteria used by the Department to identify special medical wastes;

C. Special medical wastes are Controlled Hazardous Substances (CHS) and are subject to the provisions of COMAR 26.13.11-26.13.13, 26.13.02.02A, and the applicable provisions of 26.13.01;

D. Special medical waste is hereby exempted from the requirements of Environment Article, \$7-205, 7-224, 7-226, 7-232, 7-249(a)(3), 7-253(3), with respect to the driver's certificate only, and \$7-253(4), Annotated Code of Maryland.

#### .02 Definitions.

A. The following terms have the meanings indicated.

B. Terms Defined.

(1) "Anatomical material" means human or animal body parts, including tissues and organs.

(2) "Blood" means human or animal blood.

(3) "Blood-soiled article" means any article that contains blood in any form as a result of contact with blood.

(4) "Contaminated material" means:

(a) Microbiological laboratory waste;

Supp. 11

#### 26.13.11.02

#### ENVIRONMENT

(b) The feces of an individual diagnosed as having a disease that may be transmitted to another human being through the feces;

(c) An article soiled with the feces of an individual diagnosed as having a disease that may be transmitted to another human being through the feces; or

(d) An article that has come into contact with a known infectious agent.

(5) "Generator" means any person whose act or process produces a special medical waste.

(6) "Microbiological laboratory waste" means waste from a microbiological laboratory that contains an infectious agent and includes cultures and stocks of infectious agents and associated biologicals.

(7) "Person" means an individual, trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, association, state, municipality, political subdivision of a state, any interstate body, and any combination of persons using a common disposal collection device.

(8) "Sharp" means a syringe, needle, surgical instrument, or other article that is capable of cutting or puncturing human skin.

(9) "Shipping paper" means a shipping order, bill of lading, manifest, or other shipping document serving a similar purpose and containing the information required by 49 CFR §§172.202, 172.203, and 172.204, which are incorporated by reference in COMAR 26.13.12.01B(5) and 26.13.13.01G.

(10) "Solid waste" means any waste defined by COMAR 26.13.02.02.

(11) "Special medical waste" means a solid waste that is not excluded under Regulation .03 of this chapter and is composed of:

(a) Anatomical material;

(b) Blood;

S EPA ARCHIVE DOCUMENT

(c) Blood-soiled articles;

(d) Contaminated material;

(e) Microbiological laboratory waste; or

(f) Sharps.

1208

#### CONTROLLED HAZARDOUS SUBSTANCES

26.13.11.03

#### .03 Exclusions.

A. The following solid wastes are not special medical wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed of, recovered, or reused. "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels, and motels).

(2) Wastes generated in the handling of an animal unless the generator knows or has reason to know that the animal has a disease that is capable of being transmitted to humans.

(3) The ash or by-product from an incinerator authorized by a state to burn special medical waste.

(4) Wastes not generated in the ordinary course of business.

B. Except as otherwise provided in this regulation, if a person generates, in a calendar month, a total of less than 50 pounds of special medical wastes, those wastes are not subject to regulation under COMAR 26.13.12 and 26.13.13, except as provided in §§C and D of this regulation.

C. If a person whose waste has been excluded from regulation under §B of this regulation accumulates special medical wastes in quantities greater than 50 pounds, those accumulated wastes are subject to regulation under COMAR 26.13.12 and 26.13.13.

D. In order for special medical waste to be excluded from regulation under §B of this regulation, the generator shall comply with COMAR 26.13.12.02 and .05A and C.

E. If a person sterilizes special medical wastes, those wastes are excluded from the requirements of COMAR 26.13.12 and 26.13.13, except for COMAR 26.13.12.02 and .05A and C.

#### Administrative History

Effective date:

Regulations .01—.03 adopted as an emergency provision effective September 28, 1988 (15:22 Md. R. 2549); emergency status extended at 16:4 Md. R. 493 (Emergency provisions are temporary and not printed in COMAR)

Regulations .01-.03 adopted effective April 3, 1989 (16:6 Md. R. 733)

Regulation .02 amended effective April 20, 1998 (25:8 Md. R. 599)

Regulation .03E amended effective December 23, 1991 (18:25 Md. R. 2759)

Supp. 11

# Title 26

# DEPARTMENT OF THE ENVIRONMENT

# Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 12 Standards Applicable to Generators of Special Medical Waste

Authority: Environment Article, §§7-104, 7-201 et seq., 9-252, 9-314, Annotated Code of Maryland

#### .01 Purpose, Scope, and Applicability.

A. These regulations establish standards for generators of special medical waste.

B. A generator who treats, stores, or disposes of special medical wastes on-site shall only comply with the following regulations of this chapter with regard to that waste:

(1) Regulation .02 of this chapter for determining whether or not the generator has special medical waste;

(2) Regulation .03 of this chapter for obtaining an identification number;

(3) Regulation .06A(2) and (3) of this chapter for record keeping;

(4) Regulation .06B of this chapter for additional reporting, and

(5) Applicable requirements of U.S. Department of Transportation Hazardous Materials Regulations, 49 CFR 171-178, which are incorporated by reference.

C. An owner or operator who initiates a shipment of special medical waste from a treatment, storage, or disposal facility shall comply with the generator standards established in this chapter.

#### .02 Special Medical Waste Determination.

A person who generates a solid waste, as defined in COMAR 26.13.02.02, shall determine if that waste is a special medical waste using the following method. A person shall:

A. First determine if the waste is excluded from regulation under COMAR 26.13.11.03;

Supp. 11

EPA ARCHIVE DOCUMENT

#### 26.13.12.03

#### ENVIRONMENT

B. Then determine if the waste is a special medical waste pursuant to COMAR 26.13.11.02.

#### .03 Maryland Identification Numbers.

A. A generator may not treat, store, dispose of, transport, or offer for transportation, special medical waste without having received a Maryland identification number from the Secretary.

B. A generator who has not received a Maryland identification number may obtain one by applying to the Secretary. Upon receiving the request the Secretary will assign an identification number to the generator.

C. A generator may not offer his special medical waste to transporters that have not received a Maryland identification number.

#### .04 Shipping Papers.

A generator of special medical waste who transports, or offers for transportation, special medical waste for off-site treatment, storage, or disposal shall prepare shipping papers in accordance with the requirements of 49 CFR §§172.200—172.204, which are incorporated by reference in COMAR 26.13.12.01B(5).

#### .05 Pretreatment Requirements.

#### A. Packaging.

(1) Before transporting or offering for transport any blood or blood-soiled article, a generator shall place the blood or blood-soiled article in a container that will prevent blood from spilling or otherwise leaving the container.

(2) Before transporting or offering for transport any anatomical materials, the generator shall place the anatomical materials in a leakproof bag or bags with a combined thickness of at least 3 mils or equivalent strength, and place the bag or bags in a clearly labeled rigid container to protect the bag or bags from puncture.

(3) Before transporting or offering for transport any sharps, a generator shall place a sharp in a container which is impervious to puncture.

(4) Before transporting or offering for transport any contaminated materials, a generator shall comply with any regulation by the Secretary of Health and Mental Hygiene under Health-General Article, §18-102, Annotated Code of Maryland, that is intended to ensure safety in handling infectious agents.

1212

#### Controlled Hazardous Substances 26.13.12.07

B. Labeling. Before transporting or offering special medical waste for transportation off-site, a generator shall:

(1) Label each package with the generator identification number and the words, "Special Medical Waste"; and

(2) Ensure that the label is clearly visible.

C. Treating.

(1) If a generator treats special medical waste before transporting or offering for transport, then the generator may treat the special medical waste only as provided in COMAR 10.06.06.

(2) A generator may not dispose of sharps in a solid waste landfill unless the generator incinerates the sharps or first sterilizes and then mechanically destroys the sharps.

#### .06 Record Keeping and Reporting.

A. Record Keeping.

(1) A generator shall keep a copy of each annual report and exception report for a period of at least 3 years from the date of the . report.

(2) A generator shall keep records of any test results, waste analyses, or other determinations made in accordance with Regulation .02 of this chapter for at least 3 years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(3) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Secretary.

B. Additional Reporting. The Secretary, as the Secretary deems necessary, may require generators to furnish additional reports concerning the quantities and disposition of special medical wastes.

#### .07 International Shipments.

A. A person who exports special medical waste to a foreign country or imports special medical waste from a foreign country into the State shall comply with the requirements of this chapter and with the requirements of this regulation.

Supp. 11

#### Environment

B. When shipping special medical waste outside the United States the generator shall:

(1) Notify the Secretary in writing 4 weeks before the initial shipment of special medical waste to each country in each calendar year;

(2) Include in the notification required by B(1) of this regulation:

- (a) An identification of the waste to be shipped, and
- (b) The name and address of the foreign consignee;

(3) Require that the foreign consignee confirm the delivery of the waste in the foreign country by providing the generator with a copy of the shipping papers signed by the foreign consignee or by other appropriate means; and

(4) Meet the requirements under Regulation .04 of this chapter.

C. When importing special medical waste, a person shall meet all requirements of Regulation .04 of this chapter.

#### Administrative History

Effective date:

EPA ARCHIVE DOCUMENT

Regulations .01—.07 adopted as an emergency provision effective September 28, 1988 (15:22 Md. R. 2549); emergency status extended at 16:4 Md. R. 493 (Emergency provisions are temporary and not printed in COMAR)

Regulations .01-.07 adopted effective April 3, 1989 (16:6 Md. R. 733)

Regulation .01B amended effective April 20, 1998 (25:8 Md. R. 599)

Regulation .04 repealed and new Regulation .04 adopted effective April 20, 1998 (25:8 Md. R. 599)

Regulation .06 amended effective April 20, 1998 (25:8 Md. R. 599) Regulation .07 amended effective April 20, 1998 (25:8 Md. R. 599)

San Article

#### Subtitle 13 DISPOSAL OF CONTROLLED HAZARDOUS SUBSTANCES

#### Chapter 13 Standards Applicable to Transporters of Special Medical Waste

Authority: Environment Article, §§7-201 et seq., 9-252, 9-314, Annotated Code of Maryland

#### .01 General.

A. Scope.

(1) These regulations establish standards which apply to persons transporting special medical waste within the State if the transportation requires a shipping paper under COMAR 26.13.12.

(2) These regulations do not apply to on-site transportation of special medical waste by generators or by owners or operators of permitted special medical waste management facilities.

(3) A transporter of special medical waste shall also comply with COMAR 26.13.12 if the transporter transports special medical waste into the United States from abroad.

B. State Identification Number.

(1) A transporter may not transport special medical wastes without having received a State identification number from the Secretary.

(2) A transporter who has not received a State identification . number may obtain one by applying to the Secretary.

C. Certificate.

EPA ARCHIVE DOCUMENT

(1) General.

(a) A person may not transport special medical waste to a facility within the State or from a source within the State unless the person obtains a certificate from the Department. A special medical waste hauler certificate is required of persons engaged in transporting special medical wastes.

Supp. 11

26.13.13.01

#### ENVIRONMENT

(b) Transporters using vehicles or articulated transports to transport special medical waste to a facility within the State or from a source within the State shall:

(i) Display prominently the vehicle certificate; or

(ii) Affix the vehicle certificate to the outside of the left door of the cab of the special medical waste vehicle.

(2) As a condition to the issuance of a certificate, a person shall:

(a) Secure a bond of not less than \$10,000 for the purpose of indemnifying the State for abatement of pollution resulting from the improper transportation or spill of special medical waste;

(b) Pay a yearly fee for certification not to exceed \$50 per vehicle used for hauling special medical waste; and

(c) Submit a certificate of safety inspection for each vehicle as provided in Regulation .01F of this chapter.

(3) Certification.

(a) A request for certification shall be submitted in writing and shall include:

(i) Information pertaining to the nature and quantity of the special medical waste to be transported;

(ii) The source and destination of the waste;

(iii) The method of transportation;

(iv) Specific information pertaining to the vehicles used to transport special medical waste, such as vehicle age and construction specifications;

(v) The safety inspection of the vehicle; and

(vi) The fee for certification.

(b) Failure to provide the information required in C(3)(a) of this regulation, the fee for certification, or other information required by the Department shall constitute grounds for denial of certification.

(c) The certification shall be carried in the vehicle at all times and presented upon request.

(4) This regulation does not apply to transportation within sites such as transport of a special medical waste from an on-site storage area to an on-site waste treatment facility.

(5) Personnel of the Department approved by the Secretary are certified special medical waste transporters.

1216

(6) Interstate Certificates.

(a) Interstate carriers with more than ten trucks operating in or out of the State, and servicing more than three states, may apply for interstate certificates if the carrier:

(i) Has five vehicle certificates currently issued; and

(ii) Meets the insurance requirements of 49 CFR Part 387-Minimum Levels of Financial Responsibility for Motor Carriers.

(b) Interstate certificates are transferable from one vehicle to another. The location of the certificate shall be registered with the Department.

(c) The carrier shall notify the Department 24 hours before use of the certificate. The notification shall include information detailing the type of vehicle, serial number, make, model, state of registration, license destination, material transported, and other information as may be requested.

(d) The maximum number of transferable certificates issued may not exceed the number of permanent certificates issued to a carrier.

(e) Each certificate issued shall carry a fee of \$50.

(7) The Department may require the applicant to report periodically, on a form provided by the Department, on the source, disposal destination, volume, and nature of the special medical waste transported.

D. Standards for Vehicles.

(1) A person shall transport special medical waste in a leakproof, noncompacting, and fully enclosed vehicle compartment.

(2) A person shall transport special medical waste in a manner that prevents any nuisance condition.

E. Stoppage.

EPA ARCHIVE DOCUMENT

(1) Except under the supervision of the Department during an emergency, a special medical waste hauler may not store special medical waste except in an approved facility. Storage in a special medical waste vehicle does not include periods of stoppage, as defined by E(2) of this regulation.

(2) Stoppage is a period of time not to exceed 72 hours during which a special medical waste vehicle is at rest. The cumulative period of stoppage may not exceed 5 days for a particular shipment of

Supp. 11

#### Environment

special medical waste within the State. Any stoppage in excess of 12 hours shall be at an authorized facility or other suitable site.

F. Safety Inspection.

26.13.13.02

(1) Before a person may receive a special medical waste vehicle certificate, the person shall provide written proof that the vehicle has passed a safety inspection as provided in F(2)—(4) of this regulation within 60 days before the date of the application.

(2) A safety inspection for a special medical waste vehicle includes each of the following:

(a) Windshield wipers and washers;

(b) Headlights, taillights, and signal lights;

(c) Exhaust system;

(d) Wheels, tire wear, and tire pressure;

- (e) Glass and mirrors;
- (f) Horn; and
- (g) Brakes.

(3) A safety inspection may only be performed by a state agency authorized to perform vehicle safety inspections or by a commercial establishment authorized by a state to perform vehicle safety inspections.

(4) A motor vehicle of the current or preceding model year that has not been previously titled or registered and for which the ownership document is a manufacture's certificate of origin is excluded from the requirements of F(1)—(3) of this regulation for a period of 12 months from the month of initial titling.

G. A person subject to this chapter shall comply with the applicable requirements of U.S. Department of Transportation Hazardous Materials Regulations, 49 CFR 171—178, which are incorporated by reference.

#### .02 Shipping Papers.

A. Shipping Papers. A transporter of special medical waste may not accept special medical waste from a generator unless the waste is accompanied by a shipping paper prepared by the generator in accordance with COMAR 26.13.12.04.

#### CONTROLLED HAZARDOUS SUBSTANCES

B. Delivery Requirements.

(1) The transporter shall deliver the entire quantity of special medical waste which the transporter has accepted from a generator or a transporter to:

(a) The facility designated by the generator;

(b) An alternate facility designated by the generator, if the special medical waste cannot be delivered to the designated facility because an emergency prevents delivery;

(c) Next designated transporter; or

(d) Place outside the United States designated by the generator.

(2) If the special medical waste cannot be delivered in accordance with B(1) of this regulation, the transporter shall contact the generator for further directions.

#### .03 Special Medical Waste Discharge.

A. Immediate Action.

(1) If a discharge of special medical waste occurs during transportation, the transporter shall take appropriate immediate action to protect human health and the environment (for example, notify local authorities, dike the discharge area), and shall notify the Department and local authorities, if any, within 1 hour of the incident, or, if not immediately discovered, within 1 hour of discovery of the incident, by calling (410) 974-3551.

(2) If a discharge of special medical waste occurs during transportation, and an official of a State or local government or a federal agency acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have State identification numbers.

(3) An air, rail, highway, or water transporter who has discharged special medical waste shall:

(a) Give notice, if required by 40 CFR §171.15, to the National Response Center, (800)424-8802;

(b) Submit a report in writing to the Department.

(4) A water (bulk shipment) transporter who has discharged special medical waste shall give notice under 33 CFR §153.203 to the

Supp. 11

EPA ARCHIVE DOCUMENT

#### ENVIRONMENT

National Response Center, (800) 424-8802 or, in the District of Columbia, (202) 276-2675, and to the State, (410) 631-4409.

B. Discharge Clean Up. A transporter shall clean up any special medical waste discharge that occurs during transportation or take such action as may be required or approved by federal, State, or local officials so that the special medical waste discharge no longer presents a hazard to human health or the environment.

C. All references to 49 CFR in COMAR 26.13.11—26.13.13 mean 49 CFR as it has been adopted as of October 1, 1997.

#### .04 Bonding.

**US EPA ARCHIVE DOCUMENT** 

A. The Department, as a condition to the issuance of a special medical waste hauler certificate, shall require a person to secure a bond of not less than \$10,000 for the purpose of indemnifying the State for abatement of pollution from the improper transportation or spill of special medical waste.

B. Execution of Bond.

(1) The bond shall be executed by the permittee and corporate surety licensed to do business in the State.

(2) Instead of a corporate surety, either of the following shall be acceptable:

(a) Deposits of cash or negotiable bonds of the United States Government. The cash deposit or market value of the securities shall be equal at least to the required sum of the bond. The Department, on receipt of any deposit of cash or securities, immediately shall forward it to the State Treasurer, who shall receive and hold the bond in the name of the State, in trust, for the purposes for which the deposit is made. The State Treasurer at all times is responsible for the custody and safekeeping of these deposits. The person making the deposit may demand and receive from the State Treasurer the whole or any portion of any securities so deposited, on depositing with the State Treasurer other negotiable securities of the classes specified in this section having a market value at least equal to the sum of the bond.

(b) A certificate of deposit, if it is equivalent to the required bond, issued by a bank within the State, and accompanied by written agreement of the bank to pay on demand to the State upon a finding of forfeit by the Secretary.

C. Upon expiration of the time limitations specified in the certification, the Department shall release the bond, provided that all provi-

1220

sions of the certificate and Environment Article, §§7-210-7-268, inclusive, have been satisfactorily met. Failure to fully comply with the provisions set forth above, or revocation of the certificate, shall constitute grounds for the Department to initiate forfeiture proceedings.

D. Forfeiture Proceedings. The Department shall notify the permittee by registered mail of its intent to initiate forfeiture proceedings. The permittee has 30 days to show cause why the bond or cash deposit should not be forfeited.

#### Administrative History

Effective date:

EPA ARCHIVE DOCUMENT

Regulations .01—.04 adopted as an emergency provision effective September 28, 1988 (15:22 Md. R. 2549); emergency status extended at 16:4 Md. R. 493 (Emergency provisions are temporary and not printed in COMAR)
Regulations .01—.04 adopted effective April 3, 1989 (16:6 Md. R. 733)
Regulation .01 amended effective April 20, 1998 (25:8 Md. R. 599)
Regulation .02 amended effective April 20, 1998 (25:8 Md. R. 599)
Regulation .02C amended effective December 23, 1991 (18:25 Md. R. 2759)
Regulation .03 amended effective April 20, 1998 (25:8 Md. R. 599)

#### (The next page is 1229)

INDEX	COMAR Number
Hazardous Substance Response, Procedures for	26.14.01
Applicability	
Community Relations and Public Information.	
Cost Recovery	
Definitions	
Hazardous Substances, Disposal of Controlled	Ŧ
CHS Facilities, Permits for	26.13.07
Additional Conditions; Applicable Permits	
Administration Procedures	20
Application for a Permit	02
Changes Eligible for Processing as a Minor Permit Mo	difica-
tion, Specific	13-2
Conditions Applicable to All Permits	04
Containers, Specific Information Requirements for.	02-2
Demonstration Permits	04
Development Permits.	
Drip Pads, Specific Information Requirements for	02-11
Duration of Permits	06
Effect of a Permit	
Emergency Permits	14
General Criteria Defining Eligibility for Processing a	s a Mi-
nor Modification	13-3
Ground Water Protection, Additional Information Re	quire-
ments—	02-1
Incinerator Permits, Hazardous Waste	17
Incinerators, Specific Information Requirements for.	02-6
Landfills, Specific Information Requirements for	
Land Treatment Demonstrations Using Field Test or	Labo-
ratory Analysis, Permits for	18
Land Treatment, Specific Information Requirements	for02-7
Miscellaneous Units, Specific Information Requireme	ents for .02-9
Modifications of Permits to Address Newly Regulated	l Haz-
ardous Wastes, Minor	
Modifications of Permits, Processing Minor.	
Modification, withdrawal, or Revocation and Reissua Permits	nce or
Monitoring Results, Requirements for Recording and	Report-
ing of	
Permit Conditions. Establishing.	
Permit Fees	
Permit Required	

Contractor and alternational

and the state

Π

And the second second

Burner and

Mar Persynakting

Procession of the second

And the second second

A MARKET AND A MARKET

 $\mathbb{R}$ 

Supp. 11

I-3

### Environment

Environment	COMAR Number
Phased Permits.	14
Research Permits	19
Schedules of Compliance	07
Short Term Permits	14
Signatories to Permit Applications	03
Solid Waste Management Units, Specific Information Re-	
quirements for	02-10
Surface Impoundments, Specific Information Requirements	;
for	02-4
Tank Systems, Specific Information Requirements for	02-3
Thermal Destruction Facilities other than Hazardous Wast	е
Incinerators, Limited Facility Permits for	22
Termination of Permits	12
Transfer of Permits.	10
Waste Piles, Specific Information Requirements for	02-5
CHS Facilities. Site Selection for	3.06
General Regulations	01
Condemnation, Right of 26.13	3.08
Determination by the Department	01
Enforcement	3.09
Enforcement Provisions	01
Generators of Hazardous Waste, Standards Applicable	
to	3.03
Applicability	01
EPA Identification Numbers	03
Export Notification	07-1
Exports of Hazardous Waste-General	07
Exports of Hazardous Waste—Manifesting, Reporting, and	1
Record Keeping	07-2
Farmers	07-4
Hazardous Waste Determination	02
Imports of Hazardous Waste	07-3
Manifest, The	04
Pretransport Requirements	05
Purpose	01
Record Keeping and Reporting	<b></b>
Scope	01
Generators of Special Medical Waste, Standards Appli-	
cable to 26.1	3.12
Applicability	01
International Shipments	07
Maryland Identification Numbers.	03

I-4

INDEX	COMA	R er
Pretreatment Requirements	.: .0	)5
Purpose	0	)1
Record Keeping and Reporting		)6
Scope		)1
Shipping Papers	0	)4
Special Medical Waste Determination		)2
Hazardous Waste Management System: General 26.	13.01	
Availability of Information		)2
Confidentiality of Information		)2
Definitions	(	03
General		01
Incorporation by Reference	0	05
Rulemaking Petitions		04
Identification and Listing of Hazardous Waste 26.	13.02	
Corrosivity, Characteristic of	!	12
Characteristics of Hazardous Waste, General		10
Chemical Analysis Test Methods		22
Containers		19
Discarded Commercial Chemical Products		19
EP Toxicity Test Procedure		21
Hazardous Constituents		24
Hazardous Waste, Definition of		03
Hazardous Wastes Which Are Exempt from Certain Regu	la-	
tions		04-2
Identifying the Characteristics of Hazardous Waste, Criter	ria 👘	
for		08
Ignitability, Characteristics of	•••	11
Incorporation by Reference		25
Listing Hazardous Waste, Basis for		23
Listing Hazardous Waste, Criteria for	(	09
Lists of Hazardous Wastes: General	••••	15
Materials Which Are Not Solid Wastes.	(	04
Nonspecific Sources, Hazardous Waste from	•••	16
Off-Specification Species	•••	19
Purpose and Scope	(	01
Reactivity, Characteristics of.	•••	13
Recyclable Material, Requirements for		06
Representative Sampling Methods		20
Residues of Hazardous Waste in Empty Containers		07
Samples	•••••••	04-3
Small Quantity Generators, Special Requirements for Ha	az-	
ardous Waste, Generated by		05

Instant of the second second

and the second

No. of Concession, Name

1 T

Martin Contraction

and a second second

Ander wernen

na startes

A STATEMENT CONTRACTOR

I-5

Environment	
-------------	--

26.13.05	00 ·
Solid Waste, Dennition of	.02
Solid Wastes Which Are Not Hazardous Wastes	.04-1
Specific Sources, Hazardous Waste from	.17
Specific Sources (State), Hazardous Waste from	.18
Spill Residues	.19
Toxicity Characteristic	.14
Treatability Studies at Laboratories and Testing Facilities,	
Samples Undergoing	.04-5
Treatability Study Samples	.04-4
Wastes Excluded Under COMAR 26.13.01.04A and C	.26
Owners and Operators of Hazardous Waste Treatment,	_
Storage, and Disposal Facilities, Standards for 26.13.0	5
Biological Treatment	.18
Chemical Treatment.	.18
Closure and Post Closure	.07
Closure and Post-Closure Care of Tank Systems	.10-7
Cochran's Approximation to the Behrens-Fisher Students'	~~
T-Test	.23
Containers, Use and Management of	.09
Contingency Plan	.04
	.06-0
Corrective Action for Solid waste Management Units	.06-7
Design and Installation of New Tank Systems and Compo-	10.2
	.10-3
Drip Pads, Closure of	17 9
Drip Pads—Design and Operating Requirements	.17-2
Drip Pads, General requirements for	17 9
	.11-3
Entergency Procedures	.04
Era Interni Frinary Drinking water Standards	.44
Existing Tank Systems Integrity, Assessment of	.10-2
	.00
Conorol Fooility Standards	.01
Ground Water Protection - Conoral	.02
Ground Water Protection — General Flomonto	.00
Ground water Protection—Program Elements	.00-1
Dequirements for	10
Hagandous Wasta Management in Tank Systems, Special	.10
Dequirements for	10-1
	15
Incinciators	.10 94
Incompatible waste, Examples of Fotentially	· 4 4

I-6

Supp, 11

# INDEX

INDEX	COMAR Number
Incorporation by Reference	06
Landfills	14
Land Treatment	13
Leaks, Spills, and Disposition of Leaking or Unfit-for-Use	9
Tank Systems	10-6
Manifest System	05
Miscellaneous Units	16-1
Monitoring, Compliance.	06-5
Monitoring Data, Statistical Methods for Evaluating Ground	4
Water	06-3
Monitoring Program, Detection.	06-4
Monitoring Requirements, General Ground Water	06-2
Open Burning	17
Physical Treatment	18
Preparedness and Prevention	03
Record Keeping and Reporting	05
Record-Keeping Instructions	20
Releases, Containment and Detection of	10-4
Surface Impoundments	11
	10
Thermal Destruction of Hazardous Waste	16
	17
Underground Injection Control	19
Variances from Secondary Containment Requirements for	10 F
	10-0
	12
Definitiona	3.11
Evolucione	02
	03
	01
Scope	01
Waste Management Facilities, Standards for the	
Management of	3.10
Energy Recovery, Mazardous Waste Burned Ior.	02
Recyclable Materials Used in a Manner Constituting Dispo	5-
	01
Recyclable Materials Utilized for Precious Metal Recovery	03
Lead-Acid Batteries Being Reclaimed, Spent.	04

Sold and Depart

Supp. 11

**I-7** 

. .5
Environment	COMAR Number
Transporters of Hazardous Waste, Standards Applica-	
able to	3.04
Bonding	
Compliance with the Manifest System and Record Keeping	g02
General	
Hazardous Waste Discharged	
Transporters of Special Medical Waste, Standards Ap-	
plicable to	13.13
Bonding	
General	
Shipping Papers	
Special Medical Waste Discharge	

## Hazardous Substances-Radioactive Hazardous Substances, Disposal of Controlled

see Radioactive Hazardous Substances, Disposal of Controlled Hazardous Substances-

## Hearing Procedures for Waterway Obstruction, Waterway Construction, and Water Appropriation and Use Permits see Title 26 Part 1

## Hearings before the Secretary of the Environment, Procedures for Contested Case see Title 26 Part 1

(See page I-8)

Supp. 11

## EPA ARCHIVE DOCUMENT Ľ

PRINTED ON RECYCLED PAPER BY THE DEPARTMENT OF GENERAL SERVICES VISUAL COMMUNICATIONS AND DIGITAL IMAGING Д

And Antonia and

ALC: NO.

( HARRISON AND A

Contraction of the local division of the loc

No. of Concession, Name

No.