

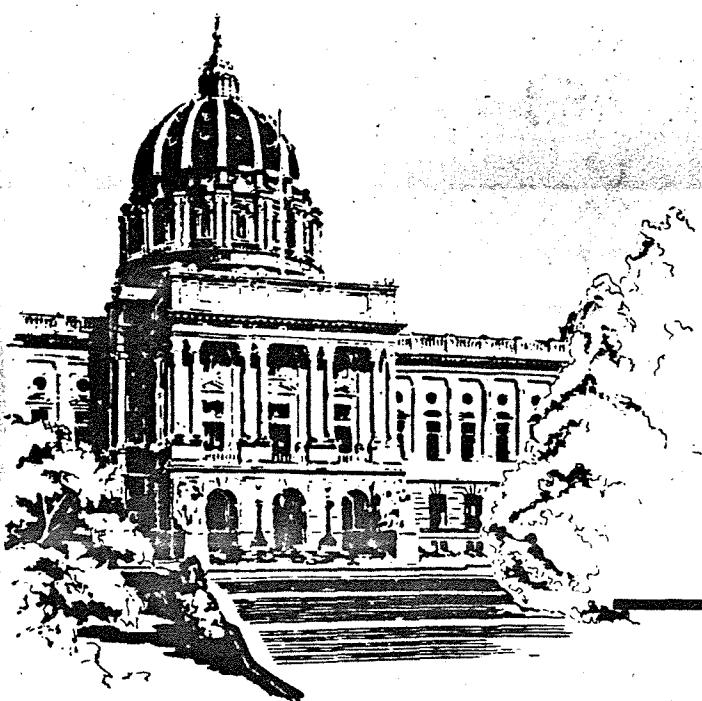
US EPA ARCHIVE DOCUMENT

# PENNSYLVANIA BULLETIN

VOLUME 10                    NUMBER 31  
Saturday, August 2, 1980 • Harrisburg, Pa.

## PART II

This Part Contains the  
Environmental Quality  
Board's  
Criteria, Identification  
and Listing  
of Hazardous Waste



***This issue contains documents officially filed through 12:00 noon, August 1, 1980***

**PENNSYLVANIA****BULLETIN**

ISSN 0162-2137

Change of address notices and undelivered copies should be sent to:

published weekly by Commonwealth of Pennsylvania, Legislative Reference Bureau, 647 Main Capitol Building, State & Third Streets, Harrisburg, Pa. 17120, under the policy supervision and direction of the Joint Committee on Documents pursuant to Part II of Title 45 of the Pennsylvania Consolidated Statutes (relating to publication and effectiveness of Commonwealth Documents). Subscription rate \$45.00 per year, postpaid to points in the United States. Individual copies \$1.25. Checks for subscriptions and individual copies should be made payable to "Commonwealth of Pennsylvania." Second class postage paid at Harrisburg, Pennsylvania.

FRY COMMUNICATIONS  
Attn: *Pennsylvania Bulletin*  
2023 N. 2nd St.  
Harrisburg, Pa. 17102

The Pennsylvania Bulletin is the official gazette of the Commonwealth of Pennsylvania. It contains notices, regulations and other documents filed with the Legislative Reference Bureau pursuant to 45 Pa. C. S. Part II, and supplements the Pennsylvania Code, a loose-leaf codification of administrative regulations, legislative documents, court rules, and home rule charter documents. The text of certain documents published in the Bulletin is declared to be the only valid and enforceable text of such documents and the text of home rule charter documents published in the Bulletin is declared to be *prima facie* evidence of the text approved by the electors. 45 Pa. C. S. § 901 (relating to official text of published documents). Courts are required to take judicial notice of the contents of the Bulletin. 45 Pa. C. S. § 506 (relating to judicial notice).

Orders for subscriptions and other circulation matters should be sent to:

Pennsylvania Bulletin  
Department of General Services  
P.O. Box 1365  
Tenth and Market Streets  
Harrisburg, Pennsylvania 17125

Copyright © 1980 Commonwealth of Pennsylvania

There are no restrictions on the republication of official documents appearing in the Pennsylvania Bulletin. See 1 Pa. Code § 3.44.

Editorial preparation, composition, printing and distribution of the Pennsylvania Bulletin is effected on behalf of the Commonwealth of Pennsylvania by FRY COMMUNICATIONS, 800 W. Church Road, Mechanicsburg, Pennsylvania 17055.

# Rules and Regulations

## Title 25— ENVIRONMENTAL RESOURCES DEPARTMENT OF ENVIRONMENTAL -RESOURCES ENVIRONMENTAL QUALITY BOARD [25 PA. CODE CH. 75]

### Criteria, Identification and Listing of Hazardous Waste.

July 15, 1980

Before members: Clifford L. Jones, Chairman; Shirley Dennis; Ralph Abele; Glenn Bowers; Thomas Dolan; Leonard Green; Dr. Alvin Grove; Russell Haller; Gail Rockwood; Representative Roy W. Wilt; Douglas Reeser, representing Secretary of Commerce; J. Luther Snyder, representing Secretary of Agriculture; Eileen Barrett, representing Chairman of Public Utility Commission; William Roth, representing Executive Director of Governor's Office of Policy and Planning; Stanley Brosky, representing Executive Director of Historical and Museum Commission; Dr. Donald Reid, representing Secretary of Health; Robert Quigley, representing Senator Mellow and E. Richard Dodd, representing Representative Fee.

The Environmental Quality Board by this order adopts 25 Pa. Code Chapter 75, section 75.261 (relating to criteria, identification and listing of hazardous waste) to read as set forth in Annex A hereto.

Section 75.261 identifies the characteristics of and lists particular hazardous wastes which the Department of Environmental Resources has determined pose a substantial present or potential hazard to the human health or the environment.

Section 75.261 is also the first step in the process of promulgating regulations which are at least as stringent as the regulations which the United States Environmental Protection Agency has recently begun to promulgate pursuant to the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 *et seq.*). Under this statute, states which have not put into effect sufficiently stringent programs and received EPA approval for those programs by certain dates will be deprived by operation of Federal preemp-

tion of their legal authority to regulate hazardous waste activities. Section 75.261 is, therefore, designed to be the Pennsylvania counterpart of 40 C.F.R. Part 261 (identification and listing of hazardous waste) published May 19, 1980 in the Federal Register at page 33119 *et seq.* It is anticipated that the Environmental Quality Board will be presented with other proposed regulations equivalent to EPA's May 19 promulgation as soon as the remainder of Act 97 becomes effective in September.

Section 75.261 is adopted pursuant to the mandate of section 402 of the act of July 7, 1980 (P. L. \_\_\_, No. 97) (\_\_\_\_ P. S. \_\_\_) known as the Solid Waste Management Act, which states as follows: "The Board shall identify the characteristics of hazardous wastes and list particular hazardous wastes within 30 days after the effective date of this section, which initial list shall not be subject to Section 107 of this act but shall be promulgated in accordance with Section 204(3) (relating to omission of notice of proposed rule making) of the act of July 31, 1968 (P. L. 769, No. 240), referred to as The Commonwealth Documents Law."

Accordingly, section 75.261 has not been previously published as a notice of proposed rule making, nor has a fiscal note been filed previously.

The Environmental Quality Board finds:

(1) That section 402 of the act of July 7, 1980 (P. L. \_\_\_, No. 97) (\_\_\_\_ P. S. \_\_\_) mandates that the subject regulations shall be promulgated within 30 days after the effective date of the act and in accordance with section 204(3) of the CDL, and, therefore, notice of proposed rule making is unnecessary and impracticable.

(2) That the adoption of the regulations in the manner provided in this order is necessary and appropriate for the administration and enforcement of the authorizing statutes.

The Environmental Quality Board, acting pursuant to the authorizing statutes, orders:

(A) That the regulations of the Department of Environmental Resources, 25 Pa. Code Chapter 75, are amended by adding section 75.261 to read as set forth in Annex A hereto.

(B) The Chairman of the Environmental Quality Board shall submit this order and Annex A hereto to the

Department of Justice for approval as to legality as required by law.

(C) The Chairman of the Environmental Quality Board shall duly certify this order and Annex A hereto and deposit the same with the Legislative Reference Bureau as required by law.

(D) This order shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

*By the Environmental Quality Board*  
CLIFFORD L. JONES,  
*Chairman*

**Fiscal Note:** EQB 80-16. No fiscal impact; (8) recommends adoption. These proposed regulations fulfill the requirements of section 402 of the recently enacted House Bill 1840, Act 97 of 1980, and section 3006 regarding State authorization under the Federal Resource Conservation and Recovery Act, P. L. 94-590.

### Annex A

#### TITLE 25. ENVIRONMENTAL RESOURCES

##### PART I. DEPARTMENT OF ENVIRONMENTAL RESOURCES

###### Subpart C. PROTECTION OF NATURAL RESOURCES

###### CHAPTER 75. SOLID WASTE MANAGEMENT

###### § 75.261. Criteria, identification and listing of hazardous waste.

###### (a) Scope.

This section defines the term "hazardous wastes", and identifies those solid wastes which are excluded from regulation under some portion or all of sections 75.262 — 75.267 of this title.

(2) This section identifies those solid wastes which are subject to regulation as hazardous wastes under sections 75.262 — 75.267 of this title.

(3) This section identifies hazardous wastes by characteristic, source and specific substance and establishes special management requirements for hazardous waste produced by small quantity generators and hazardous waste which is used, reused, recycled or reclaimed.

###### (b) Determination of hazardous waste.

(1) A hazardous waste is a solid waste which is not excluded as hazardous waste under subsection (c) of this section and meets any of the following criteria:

## RULES AND REGULATIONS

(i) Is listed in subsection (h) of this section and has not been exempted in accordance with § 75.260 of this title.

(ii) Is a mixture of solid waste and one or more hazardous wastes listed in subsection (h) of this section and has not been exempted in accordance with § 75.260 of this title.

(iii) Exhibits any of the characteristics of hazardous waste identified in subsection (g) of this section.

(2) A solid waste which is not excluded under subsection (c) of this section becomes a hazardous waste when any of the following occur:

(i) In the case of a waste listed in subsection (h) of this section when the waste first meets the listing description.

(ii) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subsection (h) of this section is first added to the solid waste.

(iii) In the case of any other waste, including a waste mixture, when the waste exhibits any of the characteristics identified in subsection (g) of this section.

(3) Unless and until it meets the criteria of paragraph (4) of this subsection:

(i) A hazardous waste will remain a hazardous waste as identified in this section.

(ii) 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 run-off, is a hazardous waste.

(4) Any solid waste described in paragraph (3) of this subsection is not a hazardous waste if it meets the following criteria:

(i) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subsection (g) of this section.

(ii) In the case of a waste which is a hazardous waste listed in subsection (h) of this section, contains a hazardous waste listed in subsection (h) of this section or is derived from a hazardous waste listed in subsection (h) of this section 75.621(h), if it has been exempted under § 75.260 of this title.

(c) *Exclusions.* The following solid wastes are specifically excluded as hazardous wastes:

(1) Solid or dissolved material in domestic sewage and any mixture of domestic sewage and other wastes that pass through a sewer system to a pub-

licly-owned treatment works for treatment.

(2) Industrial wastewater discharges that are point sources subject to regulation under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880). This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated prior to discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.

(3) Solid or dissolved materials in irrigation return flows.

(4) Source, special nuclear, or by-product material as defined by the United States Atomic Energy Act of 1954, as amended (68 Stat. 923).

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as a part of the extraction process.

(6) Industrial lunchroom or office waste and household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered, such as refuse derived fuel, or reused.

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

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(8) Coal refuse as defined in the act of September 24, 1968 (P. L. 1040, No. 318), known as the Coal Refuse Disposal Control Act.

(9) Mining overburden returned to the mine site.

(10) Treatment sludges from coal mine drainage treatment facilities, the disposal of which is being conducted pursuant to and in compliance with a valid permit issued pursuant to the act of June 22, 1937 (P. L. 1987, No. 394), known as The Clean Streams Law.

(11) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated either from the combustion of coal or other fossil fuels.

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

(d) *Special requirements for hazardous waste generated by small quantity generators.*

(1) Except as otherwise provided in

this section, any person or municipality who within a calendar month generates a total of less than 1000 kilograms of hazardous wastes from all on-site sources shall only be subject to hazardous waste determination in the generator requirements of section 75.262 of this title.

(2) If a person or municipality, whose waste has been excluded under paragraph (1) of this subsection accumulates hazardous wastes in quantities greater than 1000 kilograms, those wastes are subject to all applicable requirements under sections 75.262 — 75.267 of this title.

(3) If any person or municipality generates in a calendar month or accumulates at any time the following hazardous wastes greater than the quantities set forth below, the wastes shall be subject to all applicable requirements under sections 75.262 — 75.267 of this title.

(i) One kilogram of any commercial product or manufacturing chemical intermediate having the generic name listed in subsection (h)(4)(v) of this section.

(ii) One kilogram of any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have a generic name listed in subsection (h)(4)(v) of this section.

(iii) Any containers identified in subsection (h)(4)(iii) of this section that are larger than 20 liters in capacity;

(iv) Ten kilograms of inner liners from containers identified under subsection (h)(4)(iii) of this section.

(v) One hundred kilograms of any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or waters of the Commonwealth, of any commercial chemical product, off-specification commercial chemical product or manufacturing chemical intermediate having a generic name listed in subsection (h)(4)(v) of this section.

(4) In order for hazardous wastes to meet the special requirements under subsection (d) of this section, the small quantity generator shall:

(i) treat or dispose of the waste in a permitted on-site facility;

(ii) ensure delivery to a permitted off-site hazardous waste management facility within the Commonwealth;

(iii) ensure delivery of the waste to a permitted municipal or residual waste management facility, after the facility has received written approval from the Department if the facility is situated within the Commonwealth; or

## RULES AND REGULATIONS

3165

(iv) ensure delivery to a permitted municipal, industrial, or hazardous waste management facility outside the Commonwealth.

(5) Hazardous waste subject to the special requirements of this section may be mixed with nonhazardous waste and remain subject to only these special requirements even though the resultant mixture exceeds the quantity limitations identified in this subsection unless the mixture meets any of the characteristics of hazardous wastes identified in subsection (g) of this section.

(e) *Special requirements for hazardous waste which is used, reused, recycled or reclaimed.*

(1) Except as otherwise provided in paragraph (2) of this subsection, a hazardous waste which is being beneficially used, reused, or legitimately recycled or reclaimed; or accumulated, stored or physically, chemically or biologically treated prior to beneficial use or re-use or legitimate recycling or reclamation shall not be subject to the requirements of sections 75.262 — 75.267 of this title.

(2) [A hazardous waste which] is a sludge, or is listed in subsection (h) of this section or contains one or more hazardous wastes listed in subsection (h) of this section [~~and is stored or transported prior to being reused, recycled or reclaimed~~] is subject to the following requirements with respect to such transportation or storage:

(i) Notification Requirements, section 75.267 of this title.

(ii) Generator Requirements, section 75.262 of this title.

(iii) Transporter Requirements, section 75.263 of this title.

(iv) All applicable requirements of sections 75.264 — 75.265 of this title.

(f) *Departmental regulation of unlisted hazardous waste.*

(1) The Department may regulate an unlisted waste as a hazardous waste if such waste demonstrates a characteristic that:

(i) poses 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

(ii) can be measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private laboratories that are available to serve generators of solid waste.

(2) The Department may regulate an unlisted waste as a hazardous

waste upon determining that such waste meets one of the following criteria:

(i) 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 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.

(ii) It contains any of the toxic constituents listed in Appendix VIII unless, after considering any of the following factors, the Department concludes that the waste is not 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 improper management considered in subsection (f)(2)(ii)(G) of this title.

(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) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(K) Such other factors as may be appropriate.

Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(g) *Characteristics of hazardous waste.*

(1) *General.*

(i) A solid waste is a hazardous waste if it exhibits any of the characteristics identified in this subsection unless it is excluded as a hazardous waste in subsection (c) of this title.

(ii) A hazardous waste, identified by a characteristic in this subsection but not listed as a hazardous waste in subsection (h) of this section, is assigned the Hazardous Waste Number of the respective characteristic as set forth in this subsection. This number shall be used in complying with the notification requirements and certain record-keeping and reporting requirements under sections 75.262 — 75.267 of this title.

(iii) For the purposes of this subsection (g) of this section, the Department will consider as representative a sample obtained using any of the applicable sampling methods specified in Appendix I or an equivalent method approved by the Department.

(2) *Characteristic of ignitability.*

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

(A) It is a liquid with a flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79, 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 Department. An aqueous solution containing less than 24 percent alcohol by volume is excluded from this definition.

(B) 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.

(C) It is an ignitable compressed gas as defined in 49 C.F.R. § 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Department.

(D) It is an oxidizer as defined in 49 C.F.R. § 173.151.

(ii) A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in subsection (h) of this section, has the Hazardous Waste Number of D001.

**(3) Characteristic of corrosivity.**

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

(A) It is aqueous and has a pH less than or equal to two or greater than or equal to 12.5, as determined by a pH meter using either the test method specified in the "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (also described in "Methods for Analysis of Water and Wastes" EPA 600/4-79-020, March 1979), or an equivalent test method approved by the Department.

(B) 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°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," or an equivalent test method approved by the Department.

## RULES AND REGULATIONS

(ii) A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in subsection (h) of this section 75.261(h) has the Hazardous Waste Number of D002.

**(4) Characteristic of reactivity.**

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

(A) It is normally unstable and readily undergoes violent change without detonating.

(B) It reacts violently with water.

(C) It forms potentially explosive mixtures with water.

(D) 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.

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

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

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

(H) It is a forbidden explosive as defined in 49 C.F.R. § 173.51, or a Class A explosive as defined in 49 C.F.R. § 173.53 or a Class B explosive as defined in 49 C.F.R. § 173.88.

(ii) A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in subsection (h) of this section 75.261(h) has the Hazardous Waste Number of D003.

**(5) Characteristic of EP toxicity.**

(i) A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II or equivalent methods approved by the Department, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids as determined by the test procedure described in Appendix II, the waste itself, after filtering, is considered to be the extract for the purposes of this subsection(g) of this section.

(ii) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in subsection (h) of this section has the Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

Table I  
Maximum Concentration of Contaminants  
for Characteristic of EP Toxicity

Hazardous Waste Number	Contaminant	Maximum Concentration (milligrams per liter)
D004	Arsenic . . . . .	5.0
D005	Barium . . . . .	100.0
D006	Cadmium . . . . .	1.0
D007	Chromium . . . . .	5.0
D008	Lead . . . . .	5.0
D009	Mercury . . . . .	0.2
D010	Selenium . . . . .	1.0
D011	Silver . . . . .	5.0
D012	Endrin (1,2,3,4,10,10-hexachloro-1, 7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1, 4-endo, endo-5, 8-dimethano naphthalene) . . . . .	0.02
D013	Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer) . . . . .	0.4
D014	Methoxychlor (1,1,1-Trichloro-2,2-bis [p-methoxyphenyl] ethane) . . . . .	10.0
D015	Toxaphene ( $C_{10}H_{10}Cl_4$ , Technical chlorinated camphene, 67-79 percent chlorine) . . . . .	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid) . . . . .	10.0
D017	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid) . . . . .	1.0

**(h) Lists of hazardous wastes.**

**(1) General.**

(i) A solid waste is a hazardous waste if it is listed in this subsection (h) of this section unless it has been exempted under section 75.260 of this title.

(ii) The basis for listing the classes or types of wastes listed in this subsection (h) is indicated by one or more of the following hazard codes.

## RULES AND REGULATIONS

3167

Ignitable Waste (I)

Corrosive Waste (C)

Reactive Waste (R)

EP Toxic Waste (E)

Acute Hazardous Waste (H)

Toxic Waste (T)

Appendix VII identifies the waste to be listed as an EP Toxic Waste (E) or Toxic Waste (T) in paragraphs (2) and (3) of this subsection.

(iii) Each hazardous waste listed in this subsection (h) is assigned a Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements and certain recordkeeping and reporting requirements under sections 75.262 — 75.267 of this section.

## (2) List of hazardous waste from nonspecific sources.

Industry and Hazardous Waste No.	Hazardous waste	Hazard code
<i>Generic:</i>		
F001	The spent halogenated solvents used in degreasing; tetrachloroethylene, trichloroethylene, (T) methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations..	
F002	The spent halogenated solvents; tetrachloroethylene, methylene chloride, trichloroethylene, (T) 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, dichloroben- zene, trichlorofluoromethane, and the still bottoms from the recovery of these solvents...	
F003	The spent non-halogenated solvents; xylene, acetone, ethyl acetate, ethyl benzene, ethyl (I) ether, n-butyl alcohol, cyclohexanone, and the still bottoms from the recovery of these solvents.....	
F004	The spent non-halogenated solvents; cresols and cresylic acid, nitrobenzene, and the still (T) bottoms from the recovery of these solvents.	
F005	The spent non-halogenated solvents (methanol) toluene, methyl ethyl ketone, methyl isobu- tyl ketone, carbon disulfide, isobutanol, pyridine and the still bottoms from the recovery of these solvents.....	(I,T)
F006	Wastewater treatment sludges from electroplating operations .....	(T)
F007	Spent plating bath solutions from electroplating operations .....	(R,T)
F008	Plating bath sludges from the bottom of plating baths from electroplating operations .....	(R,T)
F009	Spent stripping and cleaning bath solutions from electroplating operations .....	(R,T)
F010	Quenching bath sludge from oil baths from metal heat treating operations .....	(R,T)
F011	Spent solutions from salt bath pot cleaning from metal heat treating operations .....	(R,T)
F012	Quenching wastewater treatment sludges from metal heat treating operations .....	(T)
F013	Flotation tailings from selective flotation from mineral metals recovery operations .....	(T)
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)
F016	Dewatered air pollution control scrubber sludges from coke ovens and blast furnaces .....	(T)

## (3) List of hazardous waste from specific sources.

Industry and Hazardous Waste No.	Hazardous waste	Hazard code
<i>Wood Preservation:</i>		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving pro- cesses that use creosote and/or pentachlorophenol .....	(T)
<i>Inorganic Pigments:</i>		
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 .....	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anh- drous 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 pigments.....	(T)
<i>Organic Chemicals:</i>		
K009	Distillation bottoms from the production of acetaldehyde from ethylene .....	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene .....	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile .....	(R,T)

Industry and Hazardous Waste No.	Hazardous waste	Hazard code
K012 . . . . .	Still bottoms from the final purification of acrylonitrile in the production of acrylonitrile . . . . .	(T)
K013 . . . . .	Bottom stream from the acetonitrile column in the production of acrylonitrile . . . . .	(R,T)
K014 . . . . .	Bottoms from the acetonitrile purification column in the production of acrylonitrile . . . . .	(T)
K015 . . . . .	Still bottoms from the distillation of benzyl chloride . . . . .	(T)
K016 . . . . .	Heavy ends or distillation residues from the production of carbon tetrachloride . . . . .	(T)
K017 . . . . .	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin . . . . .	(T)
K018 . . . . .	Heavy ends from fractionation in ethyl chloride production . . . . .	(T)
K019 . . . . .	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production . . . . .	(T)
K020 . . . . .	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production . . . . .	(T)
K021 . . . . .	Aqueous spent antimony catalyst waste from fluoromethanes production . . . . .	(T)
K022 . . . . .	Distillation bottom tars from the production of phenol/acetone from cumene . . . . .	(T)
K023 . . . . .	Distillation light ends from the production of phthalic anhydride from naphthalene . . . . .	(T)
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 residues from toluene diisocyanate production . . . . .	(R,T)
K028 . . . . .	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane . . . . .	(T)
K029 . . . . .	Waste from the product stream stripper in the production of 1,1,1-trichloroethane . . . . .	(T)
K030 . . . . .	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene . . . . .	(T)
<i>Pesticides:</i>		
K031 . . . . .	By-products salts generated in the production of MSMA and cacodylic acid . . . . .	(T)
K032 . . . . .	Wastewater treatment sludge from the production of chlordane . . . . .	(T)
K033 . . . . .	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane . . . . .	(T)
K034 . . . . .	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane . . . . .	(T)
K035 . . . . .	Wastewater treatment sludges generated in the production of creosote . . . . .	(T)
K036 . . . . .	Still bottoms from toluene reclamation distillation in the production of disulfoton . . . . .	(T)
K037 . . . . .	Wastewater treatment sludges from the production of disulfoton . . . . .	(T)
K038 . . . . .	Wastewater from the washing and stripping of phorate production . . . . .	(T)
K039 . . . . .	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate . . . . .	(T)
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 tetrachlorobenzene in the production of 2,4,5-T . . . . .	(T)
K043 . . . . .	2,6-Dichlorophenol waste from the production of 2,4-D . . . . .	(T)
<i>Explosives:</i>		
K044 . . . . .	Wastewater treatment sludges from the manufacturing and processing of explosives . . . . .	(R)
K045 . . . . .	Spent carbon from the treatment of wastewater containing explosives . . . . .	(R)
K046 . . . . .	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds . . . . .	(T)
K047 . . . . .	Pink/red water from TNT operations . . . . .	(R)
<i>Petroleum:</i>		
K048 . . . . .	Dissolved air flotation (DAF) float from the petroleum refining industry . . . . .	(T)
K049 . . . . .	Slop oil emulsion solids from the petroleum refining industry . . . . .	(T)
K050 . . . . .	Heat exchanger bundle cleaning sludge from the petroleum refining industry . . . . .	(T)
K051 . . . . .	API separator sludge from the petroleum refining industry . . . . .	(T)
K052 . . . . .	Tank bottoms (leaded) from the petroleum refining industry . . . . .	(T)
<i>Leather Tanning Finishing:</i>		
K053 . . . . .	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 . . . . .	(T)
K054 . . . . .	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 . . . . .	(T)
K055 . . . . .	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; and through-the-blue . . . . .	(T)
K056 . . . . .	Sewer screenings 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 . . . . .	(T)
K057 . . . . .	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 . . . . .	(T)
K058 . . . . .	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 . . . . .	(R,T)

Industry and Hazardous Waste No.	Hazardous waste	Hazard code
K059	Wastewater treatment sludges generated by the following subcategory of the leather tanning and finishing industry: hair save/non-chrome tan/retan/wet finish	(R)
<i>Iron and Steel</i>		
K060	Ammonia still lime sludge from coking operations	(T)
K061	Emission control dust/sludge from the electric furnace production of steel	(T)
K062	Spent pickle liquor from steel finishing operations	(C,T)
K063	Sludge from lime treatment of spent pickle liquor	(T)
<i>Primary Copper</i>		
K064	Acid-plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production	(T)
<i>Primary Lead</i>		
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities	(T)
<i>Primary Zinc</i>		
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 leach residue (iron oxide) from primary zinc production	(T)
<i>Secondary Lead</i>		
K069	Emission control dust/sludge from secondary lead smelting	(T)

100

(4) The following discarded commercial chemical products, off-specification species, containers, and spill residues thereof are hazardous wastes if and when they are discarded or intended to be discarded:

(i) Any commercial chemical product or manufacturing chemical intermediate having a generic name listed in subparagraphs (v) or (vi) of this paragraph,

(ii) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have a generic name listed in subparagraph (v) or (vi) of this paragraph,

(iii) Any container or inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having a generic name listed in subparagraph (v) of this paragraph unless:

(A) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial product or manufacturing chemical intermediate.

(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.

(C) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(iv) 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 intermediate having a generic name listed in subparagraphs (v) or (vi) of this paragraph. (The phrase "commercial product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in subparagraphs (v) or (vi) of this paragraph. Where a manufacturing process waste is deemed to be a hazardous waste be-

cause it contains a substance listed in paragraphs (v) or (vi) of this paragraph, such waste will be listed in either subsections (h)(2) or (h)(3) of this section or will be identified as a hazardous waste by the characteristics set forth in subsection (g) of this section.

(v) The commercial chemical products or manufacturing chemical intermediates, referred to in subparagraphs (i) through (iv) of this paragraph are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in subsection 75.261(d)(3) of this section. These wastes and their corresponding hazardous waste numbers are:

Hazardous Waste Number	Substance*
	1080 see P058
	1081 see P057
	(Acetato) phenylmercury see P092
	Acetone cyanohydrin see P069
P001	3-(alpha-Acetylbenzyl)-4-hydroxy-coumarin and salts
P002	1-Acetyl-2-thiourea
P003	Acrolein
	Agarin see P007
	Agrosan GN 5 see P092
	Aldicarb see P069
	Aldifen see P048
P004	Aldrin
	Algimycin see P092
P005	Allyl alcohol
P006	Aluminum phosphide (R)
	ALVIT see P037
P007	Aminoethylene see P054
P008	5-(Aminomethyl) 3-isoxazolol
	4-Aminopyridine
P009	Ammonium metavanadate see P119
	Ammonium picrate (R)
	ANTIMUCIN WDR see P092
	ANTURAT see P073

Addition

## RULES AND REGULATIONS

<i>Hazardous Waste Number</i>	<i>Substance*</i>	<i>Hazardous Waste Number</i>	<i>Substance*</i>
	AQUATHOL see P088	P043	Di-isopropylfluorophosphate
	ARETIT see P020		DIMETATE See P044
P010	Arsenic acid		1,4:5,8-Dimethanonaphthalene
P011	Arsenic pentoxyde		1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro endo,endo see P060
P012	Arsenic trioxide	P044	Dimethoate
	Athrombin see P001	P045	3,3-Dimethyl-1-(methylthio)-2-butanone-0-((methylamino) carbonyl) oxime
	AVITROL see P008		alpha,alpha-Dimethylphenethylamine
	Aziridene see P054	P046	Dinitrocyclohexylphenol see P034
	AZOFOS see P061	P047	4,6-Dinitro-o-cresol and salts
	Azophos see P061	P048	2,4-Dinitrophenol
	BANTU see P072		DINOSEB see P020
P013	Barium cyanide		DINOSEBE see P020
	BASENITE see P020	P049	Disulfoton see P039
	BCME see P016		2,4-Dithiobiuret
P014	Benzanethiol		DNBP see P020
	Benzoepin see P050		DOLCO MOUSE CEREAL see P108
P015	Beryllium dust		DOW GENERAL see P020
P016	Bis(chloromethyl) ether		DOW GENERAL WEED KILLER see P020
P017	BLADAN-M see P071		DOW SELECTIVE WEED KILLER see P020
P018	Bromoacetone		DOWICIDE G see P090
P019	Brucine		DYANACIDE see P092
	2-Butanone peroxide		EASTERN STATES DUOCIDE see P001
	BUFEN see P092	P050	ELGETOL see P020
	Butaphene see P020	P051	Endosulfan
P020	2-sec-Butyl-4,6-dinitrophenol		Endrin
P021	Calcium cyanide		Epinephrine see P042
	CALDON see P020	P052	Ethylcyanide
P022	Carbon disulfide	P053	Ethylenediamine
	CERESAN see P092	P054	Ethyleneimine
	CERESAN UNIVERSAL see P092		FASCO FASC RAT POWDER see P001
	CHEMOX GENERAL see P020	P055	FEMMA see P091
	CHEMOX P. E. see P020	P056	Ferric cyanide
	CHEM-TOL see P090	P057	Fluorine
P023	Chloroacetaldehyde	P058	2-Fluoroacetamide
P024	p-Chloroaniline		Fluoroacetic acid, sodium salt
P025	1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid	P059	FOLODOL-80 see P071
P026	1-(o-Chlorophenyl)thiourea	P060	FOLODOL M see P071
P027	3-Chloropropionitrile		FOSFERNO M 50 see P071
P028	alpha-Chlorotoluene		FRATOL see P058
P029	Copper cyanide		Fulminate of mercury see P065
	CRETOX see P108		FUNGITOX OR see P092
	Coumadin see P001		FUSSOF see P057
	Coumafen see P001		GALLOTOX see P092
P030	Cyanides		GEARPHOS see P071
P031	Cyanogen		GERUTOX see P020
P032	Cyanogen bromide		Heptachlor
P033	Cyanogen chloride		1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene
P034	Cyclodan see P050		1,4,5,6,7,7-Hexachloro-cyclic-5-norbornene-2,3-dimethanol sulfite see P050
	2-Cyclohexyl-4,6-dinitrophenol		Hexachloropropene
	D-CON see P001		Hexaethyl tetraphosphate
	DETHMOR see P001		HOSTAQUICK see P092
	DETHNEL see P001		HOSTAQUIK see P092
	DFP see P043		Hydrazomethane see P068
P035	2,4-Dichlorophenoxyacetic acid (2,4-D)		Hydrocyanic acid
P036	Dichlorophenylarsine		ILLOXOL see P037
	Dicyanogen see P031		INDOCl see P025
P037	Dieldrin		Indomethacin see P025
	DIELDREX see P037		
P038	Diethylarsine		
P039	0,0-Diethyl-S-((2-ethylthio)ethyl)ester of phosphorothioic acid		
P040	0,0-Diethyl-0-(2-pyrazinyl)phosphorothioate		
P041	0,0-Diethyl phosphoric acid, O-p-nitrophenyl ester		
P042	3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol		

## RULES AND REGULATIONS

3171

Hazardous Waste Number	Substance*	Hazardous Waste Number	Substance*
	INSECTOPHENE see P050		PANORAM D-31 see P037
	Isodrin see P060		PANTHERINE see P007
P064	Isocyanic acid, methyl ester		PANWARFIN see P001
	KILOSEB see P020	P089	Parathion
	KOP-THIODAN see P050		PCP see P090
	KWIK-KIL see P108		PENNACAP-M see P071
	KWIKSAN see P092	P090	PENOXYL CARBON N see P048
	KUMADER see P001		Pentachlorophenol
	KYPPFARIN see P001		Pentachlorophenate see P090
	LEYTOSAN see P092		PENTA-KILL see P090
	LIQUIPHENE see P092		PENTASOL see P090
	MALIK see P050		PENWAR see P090
	MAREVAN see P001		PERMICIDE see P090
	MAR-FRIN see P001		PERMAGUARD see P090
	MARTIN'D MAR-FRIN see P001		PERMATOX see P090
	MAVERAN see P001		PERMITE see P090
	MEGATOX see P005		PERTOX see P090
P065	Mercury fulminate		PESTOX III see P085
	MERSOLITE see P092		PHENMAD see P092
	METACID 50 see P071	P091	PHENOTAN see P020
	METAFOS see P071		Phenyl dichloroarsine
	METAPHOR see P071		Phenyl mercaptan see P014
	METAPHOS see P071	P092	Phenylmercury acetate
	METASOL 30 see P092	P093	N-Phenylthiourea
P066	Methomyl		PHILIPS 1861 see P008
P067	2-Methylaziridine		PHIX see P092
	METHYL-E 605 see P071	P094	Phorate
		P095	Phosgene
P068	Methyl hydrazine	P096	Phosphine
	Methyl isocyanate see P064	P097	Phosphorothioic acid, 0,0-dimethyl ester, 0-ester with N,N-dimethyl benzene sulfonamide
P069	2-Methyllactonitrile	P098	Phosphorothioic acid 0,0-dimethyl-o-(p-nitrophenyl) ester see P071
P070	2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime	P099	PIED PIPER MOUSE SEED see P108
	METHYLNIRON see P042	P100	Potassium cyanide
P071	Methyl parathion		Potassium silver cyanide
	METRON see P071		PREMERGE see P020
	MOLE DEATH see P108		1,2-Propanediol
	MOUSE-NOTS see P108		Propargyl alcohol see P102
	MOUSE-RID see P108	P101	Propionitrile
	MOUSE-TOX see P108		2-Propyn-1-ol
	MUSCIMOL see P007	P102	PROTHROMADIN see P001
P072	1-Naphthyl-2-thiourea		QUICKSAM see P092
P073	Nickel carbonyl		QUINTOX see P037
P074	Nickel cyanide		RAT AND MICE BAIT see P001
P075	Nicotine and salts		RAT-A-WAY see P001
P076	Nitric oxide		RAT-B-GON see P001
P077	p-Nitroaniline		RAT-O-CIDE # 2 see P001
P078	Nitrogen dioxide		RAT-GUARD see P001
P079	Nitrogen peroxide		RAT-KILL see P001
P080	Nitrogen tetroxide		RAT-MIX see P001
P081	Nitroglycerine (R)		RATS-NO-MORE see P001
P082	N-Nitrosodimethylamine		RAT-OLA see P001
P083	N-Nitrosodiphenylamine		RATOREX see P001
P084	N-Nitrosomethylvinylamine		RATTUNAL see P001
	NYLMERATE see P092		RAT-TROL see P001
	OCTALOX see P037		RO-DETH see P001
P085	Octamethylpyrophosphoramido		RO-DEX see P108
	OCTAN see P092		ROSEX see P001
P086	Oleyl alcohol condensed with 2 moles ethylene oxide		ROUGH & READY MOUSE MIX see P001
	OMPA see P085		SANASEED see P108
	OMPACIDE see P085		SANTOBRITE see P090
	OMPAX see P085		SANTOPHEN see P090
P087	Osmium tetroxide		SANTOPHEN 20 see P090
P088	7-Oxabicyclo [2.2.1] heptane-2,3-dicarboxylic acid		SCHRADAN see P085
	PANIVARFIN see P001		

## RULES AND REGULATIONS

<i>Hazardous Waste Number</i>	<i>Substance*</i>
P103 . . . . .	Selenourea
P104 . . . . .	Silver Cyanide
	SMITE see P105
	SPARIC see P020
	SPOR-KIL see P092
	SPRAY-TROL BRAND RODEN-TROL see P001
	SPURGE see P020
P105 . . . . .	Sodium azide
	Sodium coumadin see P001
P106 . . . . .	Sodium cyanide
	Sodium fluoroacetate see P056
	SODIUM WARFARIN see P001
	SOLFARIN see P001
	SOLFOBLACK BB see P048
	SOLFOBLACK SB see P048
P107 . . . . .	Strontium sulfide
P108 . . . . .	Strychnine and salts
	SUBTEX see P020
	SYSTAM See P085
	TAG FUNGICIDE see P092
	TEKWAISA see P071
	TEMIC see P070
	TEMIK see P070
	TERM-I-TROL see P090
P109 . . . . .	Tetraethylthiopyrophosphate
P110 . . . . .	Tetraethyl lead
P111 . . . . .	Tetraethylpyrophosphate
P112 . . . . .	Tetranitromethane
	Tetraphosphoric acid, hexaethyl ester see P062
	TETROSULFUR BLACK PB see P048
	TETROSULPHUR PBR see P048
P113 . . . . .	Thallic oxide
	Thallium peroxide see P113
P114 . . . . .	Thallium selenite
P115 . . . . .	Thallium (I) sulfate
	THIFOR see P092
	THIMUL see P092
	THIODAN see P050
	THIOFOR see P050
	THIOMUL see P050
	THIONEX see P050
	THIOPHENIT see P071
P116 . . . . .	Thiosemicarbazide
	Thiosulfan tional see P050
P117 . . . . .	Thiuram
	THOMPSON'S WOOD FIX see P090
	TIOVEL see P050
P118 . . . . .	Trichloromethanethiol
	TWIN LIGHT RAT AWAY see P001
	USAF RH-8 see P069
	USAF EK-4890 see P002
P119 . . . . .	Vanadic acid, ammonium salt
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 cyanide

<i>Hazardous Waste Number</i>	<i>Substance*</i>
P122 . . . . .	Zinc phosphide (R,T)
	ZOOCOUMARIN see P001

\*An omission of a trade name does not imply that the omitted material is not hazardous. The material is hazardous if it is listed under its generic name.

(vi) The commercial chemical products or manufacturing chemical intermediates referred to in subparagraphs (i), (ii), and (iv) of this paragraph are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in subsection (d)(1) and (2) of this section. These wastes and their corresponding hazardous waste numbers are:

<i>Hazardous Waste Number</i>	<i>Substance</i>
U001 . . . . .	AAF see U005
U002 . . . . .	Acetaldehyde
U003 . . . . .	Acetone(I)
U004 . . . . .	Acetonitrile (I,T)
U005 . . . . .	Acetophenone
U006 . . . . .	2-Acetylaminofluorene
U007 . . . . .	Acetyl chloride (C,T)
U008 . . . . .	Acrylamide
	Acetylene tetrachloride see U209
U009 . . . . .	Acetylene trichloride see U228
	Acrylic acid (I)
	Acrylonitrile
	AEROTHENE TT see U226
	3-Amino-5-(p-acetamidophenyl)-1H-1,2,4-triazole, hydrate see U011
U010 . . . . .	6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)8-methoxy-5-methylcarbamate azirino(2',3':3,4)pyrrolo (1,2-a) indole-4, 7-dione (ester)
U011 . . . . .	Amitrole
U012 . . . . .	Aniline (I)
U013 . . . . .	Asbestos
U014 . . . . .	Auramine
U015 . . . . .	Azaserine
U016 . . . . .	Benz[c]acridine
U017 . . . . .	Benzal chloride
U018 . . . . .	Benz[a]anthracene
U019 . . . . .	Benzene
U020 . . . . .	Benzenesulfonyl chloride (C,R)
U021 . . . . .	Benzidine
	1,2-Benzisothiazolin-3-one, 1,1-dioxide see U202
	Benzo[a]anthracene see U018
U022 . . . . .	Benzo[a]pyrene
U023 . . . . .	Benzotrichloride (C,R,T)
U024 . . . . .	Bis(2-chloroethoxy)methane
U025 . . . . .	Bis(2-chloroethyl)ether
U026 . . . . .	N,N-Bis (2-chloroethyl)-2-naphthylamine
U027 . . . . .	Bis(2-chloroisopropyl)ether
U028 . . . . .	Bis(2-ethylhexyl)phthalate
U029 . . . . .	Bromomethane
U030 . . . . .	4-Bromophenyl phenyl ether
U031 . . . . .	n-Butyl alcohol(I)
U032 . . . . .	Calcium chromate
	Carbolic acid see U188
	Carbon tetrachloride see U211
U033 . . . . .	Carbonyl fluoride
U034 . . . . .	Chloral
U035 . . . . .	Chlorambucil

## RULES AND REGULATIONS

3173

Hazardous Waste Number	Substance*	Hazardous Waste Number	Substance*
U036.....	Chlordane	U096.....	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U037.....	Chlorobenzene	U097.....	Dimethylcarbamoyl chloride
U038.....	Chlorobenzilate	U098.....	1,1-Dimethylhydrazine
U039.....	p-Chloro-m-cresol	U099.....	1,2-Dimethylhydrazine
U040.....	Chlorodibromomethane	U100.....	Dimethylnitrosoamine
U041.....	1-Chloro-2,3-epoxypropane	U101.....	2,4-Dimethylphenol
	CHLOROETHENE NU see U226	U102.....	Dimethyl phthalate
U042.....	Chloroethyl vinyl ether	U103.....	Dimethyl sulfate
U043.....	Chloroethene	U104.....	2,4-Dinitrophenol
U044.....	Chloroform (I,T)	U105.....	2,4-Dinitrotoluene
U045.....	Chloromethane (I,T)	U106.....	2,6-Dinitrotoluene
U046.....	Chloromethyl methyl ether	U107.....	Di-n-octyl phthalate
U047.....	2-Chloronaphthalene	U108.....	1,4-Dioxane
U048.....	2-Chlorophenol	U109.....	1,2-Diphenylhydrazine
U049.....	4-Chloro-o-toluidine hydrochloride	U110.....	Dipropylamine (I)
U050.....	Chrysene	U111.....	Di-n-propylnitrosamine
	C.I. 23060 see U073		EBDC see U114
U051.....	Creosote		1,4-Epoxybutane see U213
U052.....	Cresols	U112.....	Ethyl acetate (I)
U053.....	Crotonaldehyde	U113.....	Ethyl acrylate (I)
U054.....	Cresylic acid	U114.....	Ethylenebisdiethiocarbamate
U055.....	Cumene	U115.....	Ethylene oxide (I,T)
	Cyanomethane see U003	U116.....	Ethylene thiourea
U056.....	Cyclohexane (I)	U117.....	Ethyl ether (I,T)
U057.....	Cyclohexanone (I)	U118.....	Ethylmethacrylate
U058.....	Cyclophosphamide	U119.....	Ethyl methanesulfonate
U059.....	Daunomycin		Ethylnitrile see U003
U060.....	DDD		Firemaster T23P see U235
U061.....	DDT	U120.....	Fluoranthene
U062.....	Diallate	U121.....	Fluorotrichloromethane
U063.....	Dibenzo[a,h]anthracene	U122.....	Formaldehyde
	Dibenzo[a,h]anthracene see U063	U123.....	Formic acid (C,T)
U064.....	Dibenzo[a,l]pyrene	U124.....	Furan (I)
U065.....	Dibromochloromethane	U125.....	Furfural (I)
U066.....	1,2-Dibromo-3-chloropropane	U126.....	Glycidylaldehyde
U067.....	1,2-Dibromoethane	U127.....	Hexachlorobenzene
U068.....	Dibromomethane	U128.....	Hexachlorobutadiene
U069.....	Di-n-butyl phthalate	U129.....	Hexachlorocyclohexane
U070.....	1,2-Dichlorobenzene	U130.....	Hexachlorocyclopentadiene
U071.....	1,3-Dichlorobenzene	U131.....	Hexachloroethane
U072.....	1,4-Dichlorobenzene	U132.....	Hexachlorophene
U073.....	3,3'-Dichlorobenzidine	U133.....	Hydrazine (R,T)
U074.....	1,4-Dichloro-2-butene	U134.....	Hydrofluoric acid (C,T)
	3,3'-Dichloro-4,4'-diaminobiphenyl see U073	U135.....	Hydrogen sulfide
U075.....	Dichlorodifluoromethane		Hydroxybenzene see U188
U076.....	1,1-Dichloroethane	U136.....	Hydroxydimethyl arsine oxide
U077.....	1,2-Dichloroethane		4,4'-(Imidocarbonyl)bis(N,N-dimethyl) aniline see U014
U078.....	1,1-Dichloroethylene	U137.....	Indeno(1,2,3-cd)pyrene
U079.....	1,2-trans-dichloroethylene	U138.....	Iodomethane
U080.....	Dichloromethane	U139.....	Iron Dextran
	Dichloromethylbenzene see U107	U140.....	Isobutyl alcohol
U081.....	2,4-Dichlorophenol	U141.....	Isosafrole
U082.....	2,6-Dichlorophenol	U142.....	Kepone
U083.....	1,2-Dichloropropane	U143.....	Lasiocarpine
U084.....	1,3-Dichloropropene	U144.....	Lead acetate
U085.....	Diepoxybutane (I,T)	U145.....	Lead phosphate
U086.....	1,2-Diethylhydrazine	U146.....	Lead subacetate
U087.....	0,0-Diethyl-S-methyl ester of phosphorodithioic acid	U147.....	Maleic anhydride
U088.....	Diethyl phthalate	U148.....	Maleic hydrazide
U089.....	Diethylstilbestrol	U149.....	Malononitrile
U090.....	Dihydrosafrole		MEK Peroxide see U160
U091.....	3,3'-Dimethoxybenzidine	U150.....	Melphalan
U092.....	Dimethylamine (I)	U151.....	Mercury
U093.....	p-Dimethylaminoazobenzene	U152.....	Methacrylonitrile
U094.....	7,12-Dimethylbenz[a]anthracene	U153.....	Methanethiol
U095.....	3,3'-Dimethylbenzidine	U154.....	Methanol

## RULES AND REGULATIONS

<i>Hazardous Waste Number</i>	<i>Substance*</i>	<i>Hazardous Waste Number</i>	<i>Substance*</i>
U155.....	Methapyrilene	U214.....	Thallium (I) acetate
	Methyl alcohol see U154	U215.....	Thallium (I) carbonate
U156.....	Methyl chlorocarbonate	U216.....	Thallium (I) chloride
	Methyl chloroform see U226	U217.....	Thallium (I) nitrate
U157.....	3-Methylcholanthrene	U218.....	Thioacetamide
	Methyl chloroformate see U156	U219.....	Thiourea
U158.....	4,4'-Methylene-bis-(2-chloroaniline)	U220.....	Toluene
U159.....	Methyl ethyl ketone (MEK) (I,T)	U221.....	Toluenediamine
U160.....	Methyl ethyl ketone peroxide (R)	U222.....	o-Tolidine hydrochloride
	Methyl iodide see U138	U223.....	Toluene diisocyanate
U161.....	Methyl isobutyl ketone (MIBK)	U224.....	Toxaphene
U162.....	Methyl methacrylate (R,T)	U225.....	2,4,5-TP see U233
U163.....	N-Methyl-N'-nitro-N-nitrosoguanidine	U226.....	Tribromomethane
U164.....	Methylthiouracil	U227.....	1,1,1-Trichloroethane
	Mitomycin C see U010	U228.....	1,1,2-Trichloroethane
U165.....	Naphthalene		Trichloroethylene
U166.....	1,4-Naphthoquinone	U229.....	Trichloroethylene see U228
U167.....	1-Naphthylamine	U230.....	Trichlorofluoromethane
U168.....	2-Naphthylamine	U231.....	2,4,5-Trichlorophenol
U169.....	Nitrobenzene (I,T)	U232.....	2,4,6-Trichlorophenol
	Nitrobenzol see U169	U233.....	2,4,5-Trichlorophenoxyacetic acid
U170.....	4-Nitrophenol		2,4,5-Trichlorophenoxypropionic acid
U171.....	2-Nitropropane (I)	U233.....	alpha,alpha,alpha-Trichlorotoluene see U023
U172.....	N-Nitrosodi-n-butylamine	U234.....	TRI-CLENE see U228
U173.....	N-Nitrosodiethanolamine	U235.....	Trinitrobenzene (R,T)
U174.....	N-Nitrosodiethylamine	U236.....	Tris (2,3-dibromopropyl)phosphate
U175.....	N-Nitrosodi-n-propylamine	U237.....	Trypan blue
U176.....	N-Nitroso-n-ethylurea	U238.....	Uracil mustard
U177.....	N-Nitroso-n-methylurea		Urethane
U178.....	N-Nitroso-n-methylurethane		Vinyl chloride see U043
U179.....	N-Nitrosopiperidine		Vinylidene chloride see U078
U180.....	N-Nitrosopyrrolidine	U239.....	Xylene
U181.....	5-Nitro-o-toluidine		
U182.....	Paraldehyde		
	PCNB see U185		
U183.....	Pentachlorobenzene		
U184.....	Pentachloroethane		
U185.....	Pentachloronitrobenzene		
U186.....	1,3-Pentadiene(I)		
	Perc see U210		
	Perchlorethylene see U210		
U187.....	Phenaeitin		
U188.....	Phenol		
U189.....	Phosphorous sulfide (R)		
U190.....	Phthalic anhydride		
U191.....	2-Picoline		
U192.....	Pronamide		
U193.....	1,3-Propane sultone		
U194.....	n-Propylamine (I)		
U196.....	Pyridine		
U197.....	Quinones		
U200.....	Reserpine		
U201.....	Resorcinol		
U202.....	Saccharin		
U203.....	Safrole		
U204.....	Selenious acid		
U205.....	Selenium sulfide (R,T)		
	Silvex see U233		
U206.....	Streptozotocin		
	2,4,5-T see U232		
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		
U212.....	2,3,4,6-Tetrachlorophenol		
U213.....	Tetrahydrofuran (I)		

\*An omission of a trade name does not imply that it is not hazardous. The material is hazardous if it is listed under a generic name.

## APPENDIX I. REPRESENTATIVE SAMPLING METHODS

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 below, for sampling waste with properties similar to the indicated materials, will be considered by the Department to be representative of the waste.

Extremely viscous liquid — ASTM Standard D140-70

Crushed or powdered material — ASTM Standard D346-75

Soil or rock-like material — ASTM Standard D420-69

Soil-like material — ASTM Standard D1452-65

Fly Ash-like material — ASTM Standard D2234-76 (ASTM Standards are available from ASTM 1916 Race Street, Philadelphia, Pa. 19103)

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. 20460. (Copies may be obtained from Solid Waste Information, U. S. Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45268)

Liquid waste in pits, ponds, lagoons and similar reservoirs — "Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."

## RULES AND REGULATIONS

cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) 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.

*Procedure:*

1. 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 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cyl-

inder. For a fixated waste, samples may be cast in the form of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.

2. 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.

3. The material should be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.

3176

## RULES AND REGULATIONS

cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) 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.

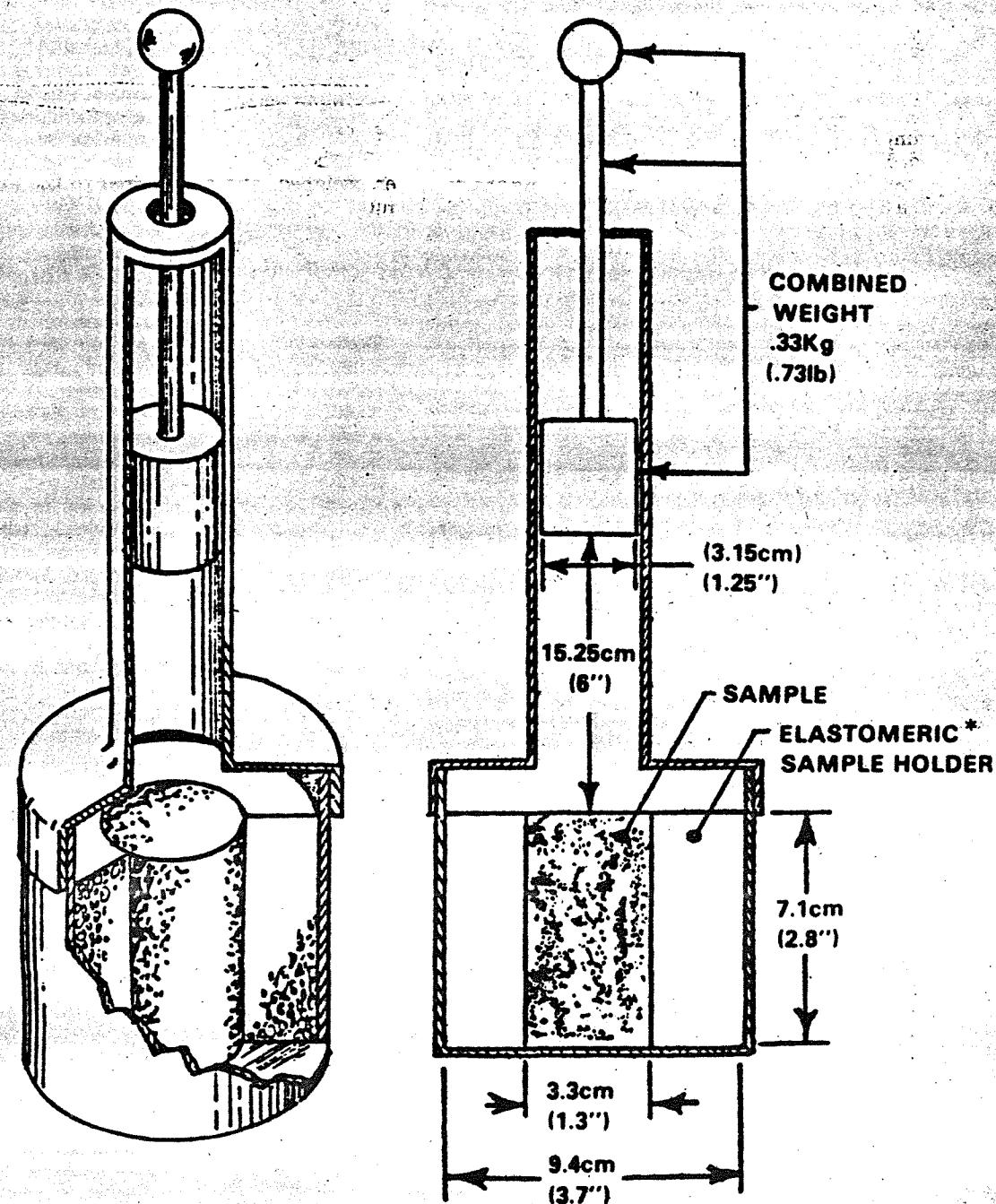
*Procedure:*

1. 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 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cyl-

inder. For a fixated waste, samples may be cast in the form of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.

2. 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.

3. The material should be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.



\*ELASTOMERIC SAMPLE HOLDER FABRICATED OF  
MATERIAL FIRM ENOUGH TO SUPPORT THE SAMPLE

Figure 1

## COMPACTION TESTER

## RULES AND REGULATIONS

*Analytical Procedures for Analyzing Extract Contaminants*

The test methods for analyzing the extract are as follows:

1. 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).

2. 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, as standardized in "Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods."

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.")

**APPENDIX III. CHEMICAL ANALYSIS TEST METHODS**

The following Tables A, B, and C specify the appropriate analytical procedures, described in "Test Methods for Evaluating Solid Waste" (SW-846), which should be used in determining whether the waste in question contains a given toxic constituent. Table A identifies the analytical class and the approved measurement techniques for each organic chemical listed in Appendix VII. Table B identifies the corresponding methods for the inorganic species. Table C identifies the specific sample preparation and measurement instrument introduction techniques which may be suitable for both the organic and inorganic species as well as the matrices of concern.

Prior to final selection of the analytical method, the operator should consult the specific method descriptions in SW-846 for additional guidance on which of the approved methods should be employed for a specific waste analysis situation.

**APPENDIX VII. BASIS FOR LISTING HAZARDOUS WASTE**

Hazardous Waste No.	Hazardous Constituents for Which Listed
F001	tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorinated fluorocarbons, carbon tetrachloride
F002	tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, dichlorobenzene, trichlorofluoromethane
F003	N. A.
F004	cresols and cresylic acid, nitrobenzene
F005	<del>methanol</del> , toluene, methyl ethyl ketone, methyl isobutyl ketone, carbon disulfide, isobutanol, pyridine
F006	cadmium, chromium, nickel, cyanide (complexed)
F007	cyanide (salts)
F008	cyanide (salts)
F009	cyanide (salts)

Hazardous Waste No.	Hazardous Constituents for Which Listed
F010	cyanide (salts)
F011	cyanide (salts)
F012	cyanide (complexed)
F013	cyanide (complexed)
F014	cyanide (complexed)
F015	cyanide (salts)
F016	cyanide (complexed)
K001	benzene, benz(a)anthracene, benzo(a)pyrene, chrysene, 4-nitrophe- nol, toluene, naphthalene, phenol, 2-chlorophenol, 2,4-dimethyl phenol, 2,4,6-trichlorophenol, pentachlorophenol, 4,6-dinitro-o-cresol, tetra- chlorophenol
K002	chromium, lead
K003	chromium, lead
K004	chromium
K005	chromium, lead
K006	chromium
K007	cyanide (complexed), chromium
K008	chromium
K009	chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid
K010	chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde
K011	acrylonitrile, acetonitrile, hydrocyanic acid
K012	acrylonitrile, acetonitrile, acrolein, acrylamide
K013	hydrocyanic acid, acrylonitrile, acetonitrile
K014	acetonitrile, acrylamide
K015	benzyl chloride, chlorobenzene, toluene, benzotrichloride
K016	hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene
K017	epichlorohydrin, chloroethers [(bis (chloromethyl) ether and bis (2-chloroethyl) ethers)], trichloropropane, dichloropropanols
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene
K019	ethylene dichloride, 1,1,1-trichloroethane, 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
K020	ethylene dichloride, 1,1,1-trichloroethane, 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
K021	antimony, carbon tetrachloride, chloroform
K022	phenol, tars (polycyclic aromatic hydrocarbons)

Hazardous Waste No.	Hazardous Constituents for Which Listed
K023.....	phthalic anhydride, maleic anhydride
K024.....	phthalic anhydride, polynuclear tar-like materials, naphthoquinone
K025.....	meta-dinitrobenzene, 2,4-dinitrotoluene
K026.....	paraldehyde, pyridines, 2-picoline
K027.....	toluene diisocyanate, toluene-2,4-diamine, tars (benzimidazapone)
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, benz(a)anthracene, benz(b)fluoranthene, benzo(a)pyrene
K036.....	toluene, phosphorodithioic and phosphorothioic acid esters
K037.....	toluene, phosphorodithioic and phosphorothioic acid esters
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.....	chromium, lead
K049.....	chromium, lead
K050.....	chromium
K051.....	chromium, lead
K052.....	lead
K053.....	chromium
K054.....	chromium
K055.....	chromium, lead
K056.....	chromium, lead
K057.....	chromium, lead
K058.....	chromium, lead
K059.....	N. A.
K060.....	cyanide, naphthalene, phenolic compounds, arsenic
K061.....	chromium, lead, cadmium
K062.....	chromium, lead
K063.....	chromium, lead
K064.....	lead, cadmium
K065.....	lead, cadmium
K066.....	lead, cadmium
K067.....	lead, cadmium
K068.....	lead, cadmium
K069.....	chromium, lead, cadmium

N. A. — Waste is hazardous because it meets either the ignitability, corrosivity, or reactivity characteristic.

## APPENDIX VIII. HAZARDOUS CONSTITUENTS

- Acetaldehyde
- (Acetato)phenylmercury
- Acetonitrile
- 3-(alpha-Acetylbenzyl)-4-hydroxycoumarin and salts
- 2-Acetylaminofluorene
- Acetyl chloride
- 1-Acetyl-2-thiourea
- Acrolein
- Acrylamide
- Acrylonitrile
- Aflatoxins
- Aldrin
- Allyl alcohol
- 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)
- 5-(Aminomethyl)-3-isoxazolol
- 4-Aminopyridine
- Amitrole
- 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
- Benzeneearsonic acid
- Benzenthiol
- Benzidine
- Benzo(a)anthracene
- Benzo(b)fluoranthene
- Benzo(j)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

## RULES AND REGULATIONS

p-Chloroaniline  
 Chlorobenzene  
 Chlorobenzilate  
 1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid  
 p-Chloro-m-cresol  
 1-Chloro-2,3-exoxybutane  
 2-Chloroethyl vinyl ether  
 Chloroform  
 Chloromethane  
 Chloromethyl methyl ether  
 2-Chloronaphthalene  
 2-Chlorophenol  
 1-(o-Chlorophenyl)thiourea  
 3-Chloropropionitrile  
 alpha-Chlorotoluene  
 Chlorotoluene, N.O.S.  
 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  
 Cyasin  
 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,j]pyrene  
 Dibenzo[a,i]pyrene  
 1,2-Dibromo-3-chloropropane  
 1,2-Dibromoethane  
 Dibromomethane  
 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 (Methylene chloride)  
 2,4-Dichlorophenol  
 2,6-Dichlorophenol  
 2,4-Dichlorophenoxyacetic acid (2,4-D)  
 Dichloropropane  
 Dichlorophenylarsine  
 1,2-Dichloropropane  
 Dichloropropanol, N.O.S.  
 Dichloropropene, N.O.S.  
 1,3-Dichloropropene  
 Dieldrin  
 Diepoxybutane  
 Diethylarsine  
 0,0-Diethyl-S-(2-ethylthio)ethyl ester of phosphorothioic acid  
 1,2-Diethylhydrazine  
 0,0-Diethyl-S-methylester phosphorodithioic acid  
 0,0-Diethylphosphoric acid, 0-p-nitrophenyl ester  
 Diethyl phthalate  
 0,0-Diethyl-0-(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  
 3,3-Dimethyl-1-(methylthio)-2-butanone-0-((methylamino) carbonyl) oxime  
 Dimethylnitrosoamine  
 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  
 1,2-Diphenylhydrazine  
 Di-n-propylnitrosamine  
 Disulfoton  
 2,4-Dithiobiuret  
 Endosulfan  
 Endrin and metabolites  
 Epichlorohydrin  
 Ethyl cyanide  
 Ethylene diamine  
 Ethylenebisdi thiocarbamate (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 isomers)  
 Hexachlorobenzene  
 Hexachlorobutadiene  
 Hexachlorocyclohexane (all isomers)  
 Hexachlorocyclopentadiene  
 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

## RULES AND REGULATIONS

3181

Iodomethane	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
Isocyanic acid, methyl ester	Parathion
Isosafrole	Pentachlorobenzene
Kepone	Pentachloroethane
Lasiocarpine	Pentachloronitrobenzene (PCNB)
Lead and compounds, N.O.S.	Pentachlorophenol
Lead acetate	Phenacetin
Lead phosphate	Phenol
Lead subacetate	Phenyl dichloroarsine
Maleic anhydride	Phenylmercury acetate
Malononitrile	N-Phenylthiourea
Melphalan	Phosgene
Mercury and compounds, N.O.S.	Phosphine
Methapyrilene	Phosphorothioic acid, O,O-dimethyl ester, O-ester with, N,N-dimethyl benzene sulfonamide
Methomyl	Phthalic acid esters, N.O.S.
2-Methylaziridine	Phthalic anhydride
3-Methylcholanthrene	Polychlorinated biphenyl, N.O.S. (PCB's)
4,4'-Methylene-bis-(2-chloroaniline)	Potassium cyanide
Methyl ethyl ketone (MEK)	Potassium silver cyanide
Methyl hydrazine	Pronamide
2-Methylacetonitrile	1,2-Propanediol
Methyl methacrylate	1,3-Propane sultone
Methyl methanesulfonate	Propionitrile
2-Methyl-2-(methylthio)propionaldehyde-o-(methylcar- bonyl) oxime	Propylthiouracil
N-Methyl-N'-nitro-N-nitrosoguanidine	2-Propyn-1-ol
Methyl parathion	Pryidine
Methylthiouracil	Reserpine
Mustard gas	Saccharin
Naphthalene	Safrole
1,4-Naphthoquinone	Selenious acid
1-Naphthylamine	Selenium and compounds, N.O.S.
2-Naphthylamine	Selenium sulfide
1-Naphthyl-2-thiourea	Selenourea
Nickel and compounds, N.O.S.	Silver and compounds, N.O.S.
Nickel carbonyl	Silver cyanide
Nickel cyanide	Sodium cyanide
Nicotine and salts	Streptozotocin
Nitric oxide	Strontium sulfide
p-Nitroaniline	Strychnine and salts
Nitrobenzene	1,2,4,5-Tetrachlorobenzene
Nitrogen dioxide	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
Nitrogen mustard and hydrochloride salt	Tetrachloroethane, N.O.S.
Nitrogen mustard N-oxide and hydrochloride salt	1,1,1,2-Tetrachloroethane
Nitrogen peroxide	1,1,2,2-Tetrachloroethane
Nitrogen tetroxide	Tetrachloroethene (Tetrachloroethylene)
Nitroglycerine	Tetrachloromethane
4-Nitrophenol	2,3,4,6-Tetrachlorophenol
4-Nitroquinoline-1-oxide	Tetraethylthiopyrophosphate
Nitrosamine, N.O.S.	Tetraethyl lead
N-Nitrosodi-N-butylamine	Tetraethylpyrophosphate
N-Nitrosodiethanolamine	Thallium and compounds, N.O.S.
N-Nitrosodiethylamine	Thallic oxide
N-Nitrosodimethylamine	Thallium (I) acetate
N-Nitrosodiphenylamine	Thallium (I) carbonate
N-Nitrosodi-N-propylamine	Thallium (I) chloride
N-Nitroso-N-ethylurea	Thallium (I) nitrate
N-Nitrosomethylethylamine	Thallium selenite
N-Nitroso-N-methylurea	Thallium (I) sulfate
N-Nitroso-N-methylurethane	Thioacetamide
N-Nitrosomethylvinylamine	Thiosemicarbazide
N-Nitrosomorpholine	Thiourea
N-Nitrosonornicotine	Thiuram
N-Nitrosopiperidine	Toluene
N-Nitrosopyrrolidine	Toluene diamine
N-Nitrososarcosine	o-Tolidine hydrochloride
5-Nitro-o-toluidine	Tolylene diisocyanate
Octamethylpyrophosphoramido	Toxaphene
Oleyl alcohol condensed with 2 moles ethylene oxide	Tribromomethane
Osmium tetroxide	1,2,4-Trichlorobenzene

## RULES AND REGULATIONS

1,1,1-Trichloroethane	Tris(1-azridinyl)phosphine sulfide
1,1,2-Trichloroethane	Tris(2,3-dibromopropyl) phosphate
Trichloroethylene (Trichloroethylene)	Trypan blue
Trichloromethanethiol	Uracil mustard
2,4,5-Trichlorophenol	Urethane
2,4,6-Trichlorophenol	Vanadic acid, ammonium salt
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	Vanadium pentoxide (dust)
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP)(Silvex)	Vinyl chloride
Trichloropropane, N.O.S.	Vinylidene chloride
1,2,3-Trichloropropane	Zinc cyanide
0,0,0-Triethyl phosphorothioate	Zinc phosphide
Trinitrobenzene	

\*The abbreviation N.O.S. signifies those members of the general class "not otherwise specified" by name in this listing.

TABLE A  
ANALYTICAL CHARACTERISTICS OF ORGANIC CHEMICALS

Compound	Sampling Handling Class/Fraction	Non-GC Methods	GC/MS	Conventional GC	Detector
Acetonitrile.....	Volatile.....	8.24	8.03	NSD	
Acrolein.....	Volatile.....	8.24	8.03	NSD	
Acrylamide.....	Volatile.....	8.24	8.01	FID	
Acrylonitrile.....	Volatile.....	8.24	8.03	NSD	
Benzene.....	Volatile.....	8.24	8.02	PID	
Benz(a)anthracene	Extractable/BN.....	8.10(HPLC).....	8.25	8.10	FID
Benz(a)pyrene.....	Extractable/BN.....	8.10(HPLC).....	8.25	8.10	FID
Benzotrichloride.....	Extractable/BN.....		8.25	8.12	ECD
Benzyl chloride.....	Volatile or.....	8.24	8.01	HSD	
Benz(b)flouranthene.....	Extractable BN.....	8.25	8.12	ECD	
Bis(2-chloroethoxymethane)	Extractable/BN.....	8.10(HPLC).....	8.25	8.10	FID
Bis(2-chloroethyl)ether.....	Volatile.....	8.24	8.01	HSD	
Bis(2-chloroisopropyl)ether.....	Volatile.....	8.24	8.01	HSD	
Carbon disulfide.....	Volatile.....	8.24	8.01	HSD	
Carbon tetrachloride .....	Volatile.....	8.24	8.01	HSD	
Chlordane.....	Extractable/BN.....	8.25	8.08	HSD	
Chlorinated dibenzodioxins.....	Extractable/BN.....	8.25	8.13	ECD	
Chlorinated biphenyls.....	Extractable/BN.....	8.25	8.08	HSD	
Chloroacetaldehyde.....	Volatile.....	8.24	8.01	HSD	
Chlorobenzene.....	Volatile.....	8.24	8.01	HSD	
			8.02	PID	
Chloroform.....	Volatile.....	8.24	8.01	HSD	
Chloromethane.....	Volatile.....	8.24	8.01	HSD	
2-Chlorophenol.....	Extractable/BN.....	8.25	8.04	FID,ECD	
Chrysene.....	Extractable/BN.....	8.10(HPLC).....	8.25	8.10	FID
Creosote.....	Extractable/BN.....	8.25	8.10	ECD	
Cresol(s).....	Extractable/A.....	8.25	8.04	FID,ECD	
Cresylic acid(s).....	Extractable/A.....	8.25	8.04	FID,ECD	
Dichlorobenzene(s).....	Extractable/BN.....	8.25	8.01	HSD	
			8.02	PID	
			8.12	ECD	
Dichloroethane(s).....	Volatile.....	8.24	8.01	HSD	
Dichloromethane.....	Volatile.....	8.24	8.01	HSD	
Dichlorophenoxy-acetic acid.....	Extractable/A.....	8.25	8.40	HSD	
Dichloropropanol.....	Extractable/BN.....	8.25	8.12	ECD	
2,4-Dimethylphenol.....	Extractable/A.....	8.25	8.04	FID,ECD	
Dinitrobenzene.....	Extractable/BN.....	8.25	8.09	FID,ECD	
4,6-Dinitro-o-cresol.....	Extractable/A.....	8.25	8.04	FID,ECD	
2,4-Dinitrotoluene.....	Extractable/BN.....	8.25	8.09	FID,ECD	
Endrin.....	Extractable/P.....	8.25	8.08	HSD	
Ethyl Ether.....	Volatile.....	8.24	8.01	FID	
			8.02	FID	

ECD=Electron capture detector; FID=Flame ionization detector; FPD=Flame photometric detector; HSD=Halide specific detector; HPLC=High pressure liquid chromatography; NSD=Nitrogen specific detector; PID=Photoionization detector.

## RULES AND REGULATIONS

3183

Compound	Sampling Class/Fraction	Non-GC Methods	Measurement Techniques		
			GC/MS	GC	Conventional Detector
Formaldehyde.....	Volatile.....		8.24	8.01	FID
Formic Acid .....	Extractable/BN.....		8.25	8.06	FID
Heptachlor .....	Extractable/P.....		8.25	8.06	HSD
Hexachlorobenzene.....	Extractable/BN.....		8.25	8.12	ECD
Hexachlorobutadiene.....	Extractable/BN.....		8.25	8.12	ECD
Hexachloroethane.....	Extractable/BN.....		8.25	8.12	ECD
Hexachlorocyclopentadiene.....	Extractable/BN.....		8.25	8.12	ECD
Lindane.....	Extractable/P.....		8.25	8.08	HSD
Maleic anhydride.....	Extractable/BN.....		8.25	8.06	ECD,FID
Methanol.....	Volatile.....		8.24	8.04	FID
Methomyl.....	Extractable/BN.....	8.32(HPLC).....			
Methyl ethyl ketone.....	Volatile.....		8.25	8.01	FID
Methyl isobutyl ketone .....	Volatile.....		8.25	8.01	FID
				8.02	FID
Naphthalene.....	Extractable/BN.....		8.25	8.10	FID
Naphthoquinone.....	Extractable/BN.....		8.25	8.06	ECD,FID
				8.09	FID
Nitrobenzene.....	Extractable/BN.....		8.25	8.09	ECD,FID
4-Nitrophenol.....	Extractable/A.....		8.24	8.04	ECD,FID
Paraldehyde (trimer of acetaldehyde).....	Volatile.....		8.24	8.01	FID
Pentachlorophenol.....	Extractable/A.....		8.25	8.04	ECD
Phenol.....	Extractable/A.....		8.25	8.04	ECD,FID
Phorate.....	Extractable/BN.....			8.22	FPD
Phosphorodithioic acid esters.....	Extractable/BN.....			8.06	ECD,FID
				8.09	ECD,FID
Phthalic anhydride.....	Extractable/BN.....		8.25	8.06	ECD,FID
				8.09	ECD,FID
2-Picoline.....	Extractable/BN.....		8.25	8.06	ECD,FID
				8.09	ECD,FID
Pyridine.....	Extractable/BN.....		8.25	8.06	ECD,FID
				8.09	ECD,FID
Tetrachlorobenzene(s).....	Extractable/BN.....		8.25	8.12	ECD
Tetrachloroethane(s).....	Volatile.....		8.24	8.01	HSD
Tetrachloroethene.....	Volatile.....		8.24	8.01	HSD
Tetrachlorophenol.....	Extractable/A.....		8.24	8.04	ECD
Toluene.....	Volatile.....		8.24	8.02	PID
Toluenediamine.....	Extractable/BN.....		8.25		
Toluene diisocyanate(s).....	Extractable/nonaqueous.....		8.25	8.06	FID
Toxaphene .....	Extractable/P.....		8.25	8.08	HSD
Trichloroethane .....	Volatile.....		8.24	8.01	HSD
Trichloroethene(s).....	Volatile.....		8.24	8.01	HSD
Trichlorofluoromethane.....	Volatile.....		8.24	8.01	HSD
Trichlorophenol(s).....	Extractable/A.....		8.25	8.04	HSD
2,4,5-TP(Silvex) .....	Extractable/A.....		8.25	8.40	HSD
Trichloroproppane .....	Volatile.....		8.24	8.01	HSD
Vinyl Chloride.....	Volatile.....		8.24	8.01	HSD
Vinylidene chloride.....	Volatile.....		8.24	8.01	HSD
Xylene.....	Volatile.....		8.24	8.02	PID

<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.

**RULES AND REGULATIONS**

**TABLE B**  
**ANALYTICAL CHARACTERISTICS OF INORGANIC SPECIES**

Species	Sample Handling Class	Measurement Techniques	Method Number
Antimony	Digestion	Atomic absorption-furnace/flame	8.50
Arsenic	Hydride	Atomic absorption-flame	8.51
Barium	Digestion	Atomic absorption-furnace/flame	8.52
Cadmium	Digestion	Atomic absorption-furnace/flame	8.53
Chromium	Digestion	Atomic absorption-furnace/flame	8.54
Cyanides	Hydrolysis	Absorption spectroscopy	8.55
Lead	Digestion	Atomic absorption-furnace/flame	8.56
Mercury	Cold Vapor	Atomic absorption	8.57
Nickel	Digestion	Atomic absorption-furnace/flame	8.58
Selenium	Hydride digestion	Atomic absorption-furnace/flame	8.59
Silver	Digestion	Atomic absorption-furnace/flame	8.60

**TABLE C**  
**SAMPLE PREPARATION/SAMPLE INTRODUCTION TECHNIQUES**

Sample Handling Class	Fluid	Physical Characteristics of Waste	
		Paste	Solid
Volatile	Purge and Trap or Direct Injection	Purge and Trap or Headspace	Headspace
Semivolatile and Nonvolatile	Direct Injection or Shake Out	Shake Out	Shake Out, Soxhlet or Sonication
Inorganic	Direct Injection, Digestion or Hydride	Digestion or Hydride	Digestion or Hydride

For purposes of this table, fluid refers to readily pourable liquids, which may or may not contain suspended particles. Paste-like materials, while fluid in the sense of flowability can be thought of as being thixotropic or plastic in nature, such as paints. Solid materials are those wastes which can be handled without a container (that is can be piled up without appreciable sagging).

**Procedure and Method Number(s):**

Digestion — See appropriate procedure for element of interest.

Direct injection — 8.80

Headspace — 8.82

Hydride — See appropriate procedure for element of interest.

Purge & Trap — 8.83

Shake Out — 8.84

Sonication — 8.85

Soxhlet — 8.86

[Pa. B. Doc. No. 80-1196. Filed August 1, 1980, 9:00 a.m.]