

US EPA ARCHIVE DOCUMENT

RCRA REVISION CHECKLIST 140

Carbamate Production Identification and Listing of Hazardous Waste

60 FR 7824-7859

February 9, 1995

as amended at 60 FR 19165, April 17, 1995

and at 60 FR 25619, May 12, 1995

(RCRA Cluster V, HSWA provisions)

Note: 1) On August 8, 1995, EPA published an interpretive rule in the Federal Register (see 60 FR 41817-41818) regarding a change in the Agency's interpretation of the February 9, 1995 rule that lists wastes from carbamate production as hazardous wastes under RCRA. Under this new interpretation, wastes from the production of non-carbamate intermediates that are used exclusively in the production of carbamates but are not produced at the ultimate site of manufacture of the carbamates will not be subject to the February 9, 1995 rule. These wastes are among those given in the RCRA waste code designations K156 and K157 in that rule.

2) On November 1, 1996, the U.S. Court of Appeals for the District of Columbia Circuit (*Dithiocarbamate Task Force v. EPA*, CA DC 95-1249, 11/1/96) vacated the following carbamate wastes listed by the February 9, 1995 (60 FR 7824) listing rule: U277, U365, U366, U375, U376, U377, U378, U379, U381, U382, U383, U384, U385, U386, U390, U391, U392, U393, U396, U400, U401, U402, U403, U407, and K160. In addition, the court vacated K156, K157 and K158 in so far as they encompass 3-iodo-2-propynyl n-butylcarbamate (IPBC), which was listed as product waste U375. These vacated wastes are not included on this checklist, because they are no longer required for authorization for this rule. States may choose to list these wastes as a matter of State law. In this case, the State-listed wastes will be broader in scope or more stringent than the Federal requirements, depending on whether or not the listed wastes also exhibit a 40 CFR 261, Subpart C hazardous waste characteristic.

3) States that incorporate the CFR by reference should be careful in their incorporation, particularly those States that have a statutory or regulatory restriction against being more stringent or broader in scope than the Federal requirements, because the U.S. Court of Appeals' vacatur may not be transferable to State law. See the special guidance for States that incorporate by reference on the Summary for this checklist.

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE

PART 261 - IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

SUBPART A - GENERAL

DEFINITION OF HAZARDOUS WASTE

† remove period at end of paragraph; add "; or"

261.3(a)(2)(iv)(E)

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and
Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
†1 add new paragraph which excludes as hazardous waste certain wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157); specific provisions which must be met	261.3(a)(2)(iv)(F)					
†1 add new paragraph which excludes as hazardous waste certain wastewaters derived from the treatment of one or more of the wastes listed in 261.32-- organic waste from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156); specific provisions which must be met	261.3(a)(2)(iv)(G)					

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and
Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
†1 add new paragraph which excludes as hazardous waste biological treatment sludge from the treatment of one of the wastes listed in 261.32-- organic waste from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157)	261.3(c)(2)(ii)(D)					
SUBPART D--LISTS OF HAZARDOUS WASTES						
HAZARDOUS WASTE FROM SPECIFIC SOURCES						
1 add the following "K" wastes in alphanumeric order (by the first column) to the subgroup "Organic chemicals":	261.32					

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE

Industry and EPA hazardous waste No.	Hazardous waste						Hazard code
--	-----------------	--	--	--	--	--	----------------

		*	*	*	*	*	*	*
Organic								
Chemicals:								
		*	*	*	*	*	*	*
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes.							(T)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes.							(T)
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes.							(T)
K159	Organics from the treatment of thiocarbamate wastes.							(T)
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts.							(R,T)
	(This listing does not include K125 or K126.).							

DISCARDED COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES, AND SPILL RESIDUES THEREOF

- 2, add the following "P"
3 wastes in alphabetic
order (by the third
column)

	261.33(e)					
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Hazardous waste No.	Chemical abstracts No.	Substance
	*	*
P203	1646-88-4	Aldicarb sulfone.
	*	*
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1).
	*	*

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
P189	55285-14-8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester.				
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester.				
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.				
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester.				
P127	1563-66-2	Carbofuran.				
	*	*	*	*	*	*
P189	5285-14-8	Carbosulfan.				
	*	*	*	*	*	*
P202	64-00-6	m-Cumenyl methylcarbamate.				
	*	*	*	*	*	*
P191	644-64-4	Dimetilan.				
	*	*	*	*	*	*
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, 0- [(methylamino)- carbonyl]oxime.				
	*	*	*	*	*	*
P194	23135-22-0	Ethanimidothioc acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.				
	*	*	*	*	*	*
P198	23422-53-9	Formetanate hydrochloride.				
P197	17702-57-7	Formparanate.				
	*	*	*	*	*	*
P192	119-38-0	Isolan.				
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate.				
	*	*	*	*	*	*
P196	15339-36-3	Manganese, bis(dimethylcarbomodithioato-S,S')-,				
P196	15339-36-3	Manganese dimethyldithiocarbamate.				
	*	*	*	*	*	*
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride.				
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyl]oxy]phenyl]-				
P199	2032-65-7	Methiocarb.				
	*	*	*	*	*	*
P190	1129-41-5	Metolcarb.				
	*	*	*	*	*	*
P128	315-18-4	Mexacarbate.				
	*	*	*	*	*	*

**RCRA REVISION CHECKLIST 140: Carbamate Production Identification and
Listing of Hazardous Waste (cont'd)**

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
P194	23135-22-0	Oxamyl.				
	*	*	*	*	*	*
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).				
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate				
	*	*	*	*	*	*
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate.				
	*	*	*	*	*	*
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.				
	*	*	*	*	*	*
P204	57-47-6	Physostigmine.				
P188	57-64-7	Physostigmine salicylate.				
	*	*	*	*	*	*
P201	2631-37-0	Promecarb				
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.				
	*	*	*	*	*	*
P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.				
	*	*	*	*	*	*
P185	26419-73-8	Tirpate.				
	*	*	*	*	*	*
P205	137-30-4	Zinc, bis(dimethylcarbomodithioato-S,S')-,				
	*	*	*	*	*	*
P205	137-30-4	Ziram.				

2 add the following "U"
wastes in alphabetic
order (by the third
column)

261.33(f)

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
Hazardous waste No.	Chemical abstracts No.	Substance				
U394	30558-43-1	A2213.				
	*	*	*	*	*	*
U280	101-27-9	Barban.				
U278	22781-23-3	Bendiocarb.				
U364	22961-82-6	Bendiocarb phenol.				
U271	17804-35-2	Benomyl.				
	*	*	*	*	*	*
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.				
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,				
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-				
	*	*	*	*	*	*
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.				
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester				
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.				
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester.				
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester.				
	*	*	*	*	*	*
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.				
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester.				
U279	63-25-2	Carbaryl.				
U372	10605-21-7	Carbendazim.				
U367	1563-38-8	Carbofuran phenol.				
	*	*	*	*	*	*
U395	5952-26-1	Diethylene glycol, dicarbamate.				
	*	*	*	*	*	*
U404	121-44-8	Ethanamine, N,N-diethyl-				
	*	*	*	*	*	*
U410	59669-26-0	Ethanimidothioic acid, N,N'- [thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester				
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester.				
	*	*	*	*	*	*

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate.				
	*	*	*	*	*	*
U279	63-25-2	1-Naphthalenol, methylcarbamate.				
	*	*	*	*	*	*
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.				
	*	*	*	*	*	*
U373	122-42-9	Propham.				
U411	114-26-1	Propoxur.				
	*	*	*	*	*	*
U410	59669-26-0	Thiodicarb.				
	*	*	*	*	*	*
U409	23564-05-8	Thiophanate-methyl.				
	*	*	*	*	*	*
U389	2303-17-5	Triallate.				
	*	*	*	*	*	*
U404	121-44-8	Triethylamine.				
	*	*	*	*	*	*

APPENDIX VII TO PART 261

BASIS FOR LISTING HAZARDOUS WASTE

1	add in alphanumeric order (by first column)	261, Appendix VII				
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EPA hazardous waste No. Hazardous constituents for which listed

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
K156	Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine.					
K157	Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine.					
K158	Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride.					
K159	Benzene, butylate, eptc, molinate, pebulate, vernolate.					
K161	Antimony, arsenic, metam-sodium, ziram.					

APPENDIX VIII TO PART 261

HAZARDOUS CONSTITUENTS

2 add in alphabetical
order:

261, Appendix VIII

Common Name	Chemical abstracts name	abstracts No.	Chemical	Hazardous waste No.
	* * * * *	* * * * *	*	
A2213	Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy-2-oxo-, methyl ester		30558-43-1	U394
	* * * * *	* * * * *	*	
Aldicarb sulfone	Propanal, 2-methyl-2- (methylsulfonyl) -, O-[(methylamino) carbonyl] oxime		1646-88-4	P203
	* * * * *	* * * * *	*	
Barban	Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester		101-27-9	U280
	* * * * *	* * * * *	*	
Bendiocarb	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate		22781-23-3	U278
Bendiocarb phenol	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,		22961-82-6	U364
Benomyl	Carbamic acid, [1- [(butylamino) carbonyl]-1H-benzimidazol-2-yl] -, methyl ester		17804-35-2	U271
	* * * * *	* * * * *	*	

**RCRA REVISION CHECKLIST 140: Carbamate Production Identification and
Listing of Hazardous Waste (cont'd)**

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
Carbaryl	1-Naphthalenol, methylcarbamate			63-25-2	U279	
Carbendazim	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester			10605-21-7	U372	
Carbofuran	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate			1563-66-2	P127	
Carbofuran phenol	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-			1563-38-8	U367	
*	*	*	*	*	*	*
Carbosulfan	Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester			55285-14-8	P189	
*	*	*	*	*	*	*
m-Cumenyl methylcarbamate	Phenol, 3-(methylethyl)-, methyl carbamate			64-00-6	P202	
*	*	*	*	*	*	*
Diethylene glycol, dicarbamate	Ethanol, 2,2'-oxybis-, dicarbamate			5952-26-1	U395	
*	*	*	*	*	*	*
Dimetilan	Carbamic acid, dimethyl-, 1- [(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester			644-64-4	P191	
*	*	*	*	*	*	*
Formetanate hydrochloride	Methanimidamide, N,N-dimethyl-N'-[3-[(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride			23422-53-9	P198	
*	*	*	*	*	*	*
Formparanate	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[(methylamino) carbonyl]oxy]phenyl]-.			17702-57-7	P197	
*	*	*	*	*	*	*
Isolan	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H- pyrazol-5-yl ester			119-38-0	P192	
*	*	*	*	*	*	*

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
Manganese dimethyldithiocarbamate	Manganese, bis(dimethylcarbamodithioato-S,S')-,			15339-36-3	P196	
*	*	*	*	*	*	*
Methiocarb	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate			2032-65-7	P199	
*	*	*	*	*	*	*
Metolcarb	Carbamic acid, methyl-, 3-methylphenyl ester			1129-41-5	P190	
*	*	*	*	*	*	*
Mexacarbate	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)			315-18-4	P128	
*	*	*	*	*	*	*
Oxamyl	Ethanimidothioc acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester			23135-22-0	P194	
*	*	*	*	*	*	*
Physostigmine	Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-			57-47-6	P204	
Physostigmine salicylate	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis) --1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1).			57-64-7	P188	
*	*	*	*	*	*	*
Promecarb	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate			2631-37-0	P201	
*	*	*	*	*	*	*
Propham	Carbamic acid, phenyl-, 1-methylethyl ester			122-42-9	U373	
Propoxur	Phenol, 2-(1-methylethoxy)-, methylcarbamate			114-26-1	U411	
*	*	*	*	*	*	*
Prosulfocarb	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester			52888-80-9	U387	
*	*	*	*	*	*	*
Thiodicarb	Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester.			59669-26-0	U410	
Thiophanate-methyl	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)] bis-, dimethyl ester			23564-05-8	U409	
*	*	*	*	*	*	*

RCRA REVISION CHECKLIST 140: Carbamate Production Identification and
Listing of Hazardous Waste (cont'd)

FEDERAL REQUIREMENTS	FEDERAL RCRA CITATION	ANALOGOUS STATE CITATION	STATE ANALOG IS:			
			EQUIV- ALENT	LESS STRIN- GENT	MORE STRIN- GENT	BROADER IN SCOPE
Tirpate	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime.			26419-73-8	P185	
Triallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester			2303-17-5	U389	
	*	*	*	*	*	*
Triethylamine	Ethanamine, N,N-diethyl-			121-44-8	U404	
	*	*	*	*	*	*
Ziram	ZInc, bis(dimethylcarbamodithioato-S,S')-, (T-4)-			137-30-4	P205	
	*	*	*	*	*	*

- ¹ K156, K157, and K158 were vacated by the U.S. Court of Appeals (*Dithiocarbamate Task Force v. EPA*, CA DC 95-1249, 11/1/96) to the extent that they encompass 3-iodo-2-propynyl n-butylcarbamate (IPBC), which was listed as product waste U375.
- ² Amended by 60 FR 19165 (April 17, 1995) and 60 FR 25619 (May 12, 1995).
- ³ The May 12, 1995 Federal Register article corrected the CAS No. for "Mexacarbamate." However, on page 25620 of this article, "Mexacarbamate" should be "Mexacarbamate".