

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

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

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

(b) A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D001.

§ 261.22 Characteristic of corrosivity.

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

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either the test method specified in the "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" ² (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 Administrator under the procedures set forth in §§ 260.20 and 260.21.

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 ³ as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," or an equivalent test method approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21.

(b) A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D002.

²This document is available from Solid Waste Information, U.S. Environmental Protection Agency, 28 W. St. Clair Street, Cincinnati, Ohio 45268.

³The NACE Standard is available from the National Association of Corrosion Engineers, P.O. Box 986, Katy, Texas 77450.

§ 261.23 Characteristic of reactivity.

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

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

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

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

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

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

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

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

(b) A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D003.

§ 261.24 Characteristic of EP Toxicity.

(a) A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II or equivalent methods approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21, 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, the waste itself, after filtering, is considered to be the extract for the purposes of this section.

(b) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in Subpart D, has the EPA 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—Continued

EPA 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,5,8,7,8,8a-octahydro-1,4-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 ₁₂ H ₈ Cl ₆ , Technical chlorinated camphene, 87-89 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

Subpart D—Lists of Hazardous Wastes

§ 261.30 General.

(a) A solid waste is a hazardous waste if it is listed in this Subpart, unless it has been excluded from this list under §§ 260.20 and 260.22.

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this Subpart by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
EP Toxic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in §§ 261.31 and 261.32.

(c) Each hazardous waste listed in this Subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under Parts 262 through 265 and Part 122 of this Chapter.

(d) Certain of the hazardous wastes listed in § 261.31 or § 261.32 have exclusion limits that refer to § 261.5(c)(5).

§ 261.31 Hazardous waste from nonspecific sources.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The spent halogenated solvents used in degreasing, tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.	(T)
F002	The spent halogenated solvents, tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-dichlorobenzene, trichlorofluoromethane and the still bottoms from the recovery of these solvents.	(T)
F003	The spent non-halogenated solvents, xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, n-butyl alcohol, cyclohexanone, and the still bottoms from the recovery of these solvents.	(T)
F004	The spent non-halogenated solvents, creosols and creosylic acid, nitrobenzene, and the still bottoms from the recovery of these solvents.	(T)
F005	The spent non-halogenated solvents, methanol, toluene, methyl ethyl ketone, methyl isobutyl ketone, carbon disulfide, isobutanol, pyridine and the still bottoms from the recovery of these solvents.	(T, U)
F006	Wastewater treatment sludges from electroplating operations.	(T)
F007	Spent plating bath solutions from electroplating operations.	(T, U)
F008	Plating bath sludges from the bottom of plating baths from electroplating operations.	(T, U)
F009	Spent stripping and cleaning bath solutions from electroplating operations.	(T, U)
F010	Quenching bath sludge from oil baths from metal heat treating operations.	(T, U)
F011	Spent solutions from salt bath pot cleaning from metal heat treating operations.	(T, U)
F012	Quenching wastewater treatment sludges from metal heat treating operations.	(T, U)
F013	Flotation tailings from selective flotation from mineral metals recovery operations.	(T, U)
F014	Cyanidation wastewater treatment tailing pond sediment from mineral metals recovery operations.	(T, U)
F015	Spent cyanide bath solutions from mineral metals recovery operations.	(T, U)
F016	Deaerated air pollution control scrubber sludges from coke ovens and blast furnaces.	(T)

§ 261.32 Hazardous waste from specific sources.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood Preservation: K001		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic Pigments:		
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 (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008	Oven residue from the production of chrome oxide green pigments.	(T)
Organic Chemicals:		
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.	(T)
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.	(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 residue from toluene diisocyanate production.	(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)
Pesticides:		
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	Fiber solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosols.	(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)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(T)
K045	Spent carbon from the treatment of wastewater containing explosives.	(T)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations.	(T)
Petroleum Refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(T)
K049	Slip 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 (lead) from the petroleum refining industry.	(T)
Leather Tanning/Finishing:		
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 shearing.	(T)

§ 261.32 Hazardous waste from specific sources.—Continued

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
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 shearing.	(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 shearing.	(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 shearing.	(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)
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)
Iron and Steel:		
K060	Ammonia still line sludge from coking operations	CECECE
K061	Emission control dust/sludge from the electric furnace production of steel	CECECE
K062	Spent pickle liquor from steel finishing operations	CECECE
K063	Sludge from lime treatment of spent pickle liquor from steel finishing operations	CECECE
Primary Copper: K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production	CECECE
Primary Lead: K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities	CECECE
Primary Zinc:		
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production	CECECE
K067	Electrolytic anode slimes/sludges from primary zinc production	CECECE
K068	Cadmium plant leach residue (iron oxide) from primary zinc production	CECECE
Secondary Lead: K069	Emission control dust/sludge from secondary lead smelting	CECECE

§ 261.33 Discarded Commercial Chemical Products, Off-Specification Species, Containers, and Spill Residues Thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this section.

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

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

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

(3) 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.

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical

intermediate having the generic name listed in paragraphs (e) or (f) of this Section.

[Comment: The phrase "commercial chemical 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 paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either §§ 261.31 or 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this Part.]

(e) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in § 261.5(c). These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Substance
1060 see P056	
1061 see P057	
(Acetate)phenylmercury see P062	
Acetone cyanohydrin see P068	
P001	3-(alpha-Acetylbutoxy)-4-hydroxycoumarin and salts
P002	1-Acetyl-2-thiourea
P003	Acroline
Agaric acid see P007	
Agrocin GN 5 see P062	
Aldicarb see P069	
Aldifen see P066	

—Continued

Hazardous waste No.	Substance
P004	Aldrin
Algaric acid see P062	
P005	Allyl alcohol
P006	Aluminum phosphide (R)
ALVIT see P037	
Aminomethylene see P064	
P007	5-(Aminomethyl)-3-isoxazole
P008	4-Aminopyridine
Ammonium metavanadate see P118	
P009	Ammonium picrate (R)
ANTIMUCIN WOR see P062	
ANTURAT see P073	
AQUATHOL see P066	
ARETIT see P020	
P010	Arsonic acid
P011	Arsonic pentoxide
P012	Arsonic trioxide
Athrombin see P001	
AVITROL see P006	
Azidine see P054	
AZOFOS see P061	
Azophos see P061	
BANTU see P072	
P013	Barium cyanide
BASENTE see P020	
BCME see P016	
P014	Benzonethiol
Benzocapin see P050	
P015	Beryllium dust
P016	Bis(chloromethyl) ether
BLADAN-MI see P071	
P017	Bromocetone
P018	Brucine
P019	2-Butanone peroxide
BUFEN see P062	
Butaphene see P020	
P020	2-sec-Butyl-4,6-dinitrophenol
P021	Calcium cyanide
CALDON see P020	
P022	Carbon disulfide
CERESAN see P062	
CERESAN UNIVERSAL see P062	
CHEMOX GENERAL see P020	
CHEMOX P.E. see P020	
CHEM-TOL see P060	
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P025	1-(p-Chlorobenzoyl)-5-methoxy-2-methylindole-3-acetic acid
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P028	alpha-Chlorotoluene
P029	Copper cyanide
CRETOX see P106	
Coumatin see P001	
Coumatin see P001	
P030	Cyanide

Hazardous waste No.	Substance
P102	2-Propyn-1-ol PROTHROMADIN See P001 QUICKSAM See P092 QUINTOX See P037 RAT AND MICE BAIT See P001 RAT-A-WAY See P001 RAT-B-GON See P001 RAT-Q-CIDE #2 See P001 RAT-GUARD See P001 RAT-KILL See P001 RAT-MIX See P001 RATS-NO-MORE See P001 RAT-OLA See P001 RATOREX See P001 RATTUNAL See P001 RAT-TROL See P001 RO-DETH See P001 RO-DEX See P108 ROSEX See P001 ROUGH & READY MOUSE MIX See P001 SANASEED See P108 SANTOBRITE See P090 SANTOPHEN See P090 SANTOPHEN 20 See P090 SCHRADAN See P085
P103	Selenous
P104	Silver Cyanide SMITE See P105 SPARIC See P020 SPOR-KIL See P082 SPRAY-TROL BRAND RODEN-TROL See P001 SPURGE See P020
P105	Sodium azide Sodium coumadin See P001 Sodium cyanide Sodium fluorocarbide See P056 SODIUM WARFARIN See P001 SOLPARIN See P001 SOLFOBLACK BB See P048 SOLFOBLACK SB See P048
P107	Strontium sulfide
P108	Strychnine and salts SUBTEX See P020 SYSTEM See P085 TAG FUNGICIDE See P082 TEKWAISA See P071 TEMIC See P070 TEMK See P070 TERM-L-TROL See P090
P109	Tetraethylthiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane Tetrahydrophosphoric acid, hexaethyl ester See P082 TETROSULFUR BLACK PB See P048 TETROSULPHUR PER See P048
P113	Thaalic oxide Thallium peroxide See P113
P114	Thallium acetate
P115	Thallium (I) sulfate THAFOR See P082 THAMUL See P090 THODAN See P050 THOFOR See P050 THOMUL See P050 THONEX See P050 THOPHENIT See P071
P116	Thiosemicarbazide Thioautan formal See P050
P117	Thiuron THOMPSON'S WOOD FIX See P090 TICVEL See P050
P118	Trichloromethanethiol TWIN LIGHT RAT AWAY See P001 USAF RH-8 See P089 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 P082
P121	Zinc cyanide
P122	Zinc phosphide (R,T) ZOOCCUMARIN See P001

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(f) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a), (b) and (d) of this section, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in § 261.5 (a) and (b). These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance ¹
AAE see U005	
U001.....	Acetaldehyde
U002.....	Acetone (I)
U003.....	Acetonitrile (I,T)
U004.....	Acetophenone
U005.....	2-Acetylaminofluorene
U006.....	Acetyl chloride (C,T)
U007.....	Acrylamide
U008.....	Acetylene tetrachloride see U209
U009.....	Acetylene trichloride see U228
U010.....	Acrylic acid (I)
U011.....	Acrylonitrile
U012.....	AEROTHENE TT see U226
U013.....	3-Amino-5-(p-acetamidophenyl)-1H-1,2,4-triazole, hydrate see U011
U014.....	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)
U015.....	Amtrazole
U016.....	Aniline (I)
U017.....	Asbestos
U018.....	Auramine
U019.....	Azaserine
U020.....	Benz(c)acridine
U021.....	Benzal chloride
U022.....	Benz(a)anthracene
U023.....	Benzene
U024.....	Benzene sulfonfyl chloride (C,R)
U025.....	Benzidine
U026.....	1,2-Benzisothiazolin-3-one, 1,1-dioxide see U202
U027.....	Benzof(a)anthracene see U018
U028.....	Benzof(a)pyrene
U029.....	Benzonitrile (C,R,T)
U030.....	Bis(2-chloroethoxy)methane
U031.....	Bis(2-chloroethyl) ether
U032.....	N,N-Bis(2-chloroethyl)-2-naphthylamine
U033.....	Bis(2-chloropropyl) ether
U034.....	Bis(2-ethylhexyl) phthalate
U035.....	Bromomethane
U036.....	4-Bromophenyl phenyl ether
U037.....	n-Butyl alcohol (I)
U038.....	Calcium chromate
U039.....	Carbolic acid see U188
U040.....	Carbon tetrachloride see U211
U041.....	Carbonyl fluoride
U042.....	Chloral
U043.....	Chlorambucil
U044.....	Chlorane
U045.....	Chlorobenzene
U046.....	Chlorobenzilate
U047.....	p-Chloro-m-cresol
U048.....	Chlorodibromomethane
U049.....	1-Chloro-2,3-epoxypropane
U050.....	CHLOROETHENE NU see U226
U051.....	Chloroethyl vinyl ether
U052.....	Chloroethane
U053.....	Chloroform (I,T)
U054.....	Chloromethane (I,T)
U055.....	Chloromethyl methyl ether
U056.....	2-Chloronaphthalene
U057.....	2-Chlorophenol
U058.....	4-Chloro-o-toluidine hydrochloride
U059.....	Chrysene
U060.....	C.I. 23060 see U073
U061.....	Cresote
U062.....	Cresols
U063.....	Crotonaldehyde
U064.....	Cresylic acid
U065.....	Cumene
U066.....	Cyanomethane see U003
U067.....	Cyclohexane (I)
U068.....	Cyclohexanone (I)
U069.....	Cyclophosphamide
U070.....	Daunomycin
U071.....	DDO

Hazardous Waste No.	Substance ¹
U061.....	DOT
U062.....	Diallate
U063.....	Dibenz(a,h)anthracene
U064.....	Dibenz(a,h)anthracene see U063
U065.....	Dibenz(a,i)pyrene
U066.....	Dibromochloromethane
U067.....	1,2-Dibromo-3-chloropropane
U068.....	1,2-Dibromoethane
U069.....	Dibromomethane
U070.....	Di-n-butyl phthalate
U071.....	1,2-Dichlorobenzene
U072.....	1,3-Dichlorobenzene
U073.....	1,4-Dichlorobenzene
U074.....	3,3'-Dichlorobenzidine
U075.....	1,4-Dichloro-2-butene
U076.....	3,3'-Dichloro-4,4'-diaminobiphenyl see U073
U077.....	Dichlorodifluoromethane
U078.....	1,1-Dichloroethane
U079.....	1,2-Dichloroethane
U080.....	1,3-Dichloroethylene
U081.....	1,2-trans-dichloroethylene
U082.....	Dichloromethane
U083.....	Dichloromethylbenzene see U017
U084.....	2,4-Dichlorophenol
U085.....	2,6-Dichlorophenol
U086.....	1,2-Dichloropropane
U087.....	1,3-Dichloropropane
U088.....	Diopropylamine (I,T)
U089.....	1,2-Diethylhydrazine
U090.....	0,0-Diethyl-S-methyl ester of phosphorodithioic acid
U091.....	Diethyl phthalate
U092.....	Diethylstilbestrol
U093.....	Dihydrostilbestrol
U094.....	3,3'-Dimethoxybenzidine
U095.....	Dimethylamine (I)
U096.....	p-Dimethylaminobenzene
U097.....	7,12-Dimethylbenz(a)anthracene
U098.....	3,3'-Dimethylbenzidine
U099.....	alpha,Alpha-Dimethylbenzylthioperoxide (R)
U100.....	Dimethylcarbamoyl chloride
U101.....	1,1-Dimethylhydrazine
U102.....	1,2-Dimethylhydrazine
U103.....	Dimethyl nitrosamine
U104.....	2,4-Dimethylphenol
U105.....	Dimethyl phthalate
U106.....	Dimethyl sulfate
U107.....	2,4-Dinitrophenol
U108.....	2,4-Dinitrotoluene
U109.....	2,6-Dinitrotoluene
U110.....	Di-n-octyl phthalate
U111.....	1,4-Dioxane
U112.....	1,2-Diphenylhydrazine
U113.....	Dipropylamine (I)
U114.....	Di-n-propyl nitrosamine
U115.....	EBDC see U114
U116.....	1,4-Epoxybutane see U213
U117.....	Ethyl acetate (I)
U118.....	Ethyl acrylate (I)
U119.....	Ethylenebis(dithiocarbamate)
U120.....	Ethyl: o oxide (I,T)
U121.....	Ethylene thioether
U122.....	Ethyl ether (I,T)
U123.....	Ethylmethacrylate
U124.....	Ethyl methanesulfonate
U125.....	Ethyl nitrate see U003
U126.....	Firemaster T23P see U235
U127.....	Fluoranthene
U128.....	Fluorobenzene
U129.....	Fluorobenzene
U130.....	Fluorobenzene
U131.....	Fluorobenzene
U132.....	Fluorobenzene
U133.....	Fluorobenzene
U134.....	Fluorobenzene
U135.....	Fluorobenzene
U136.....	Fluorobenzene
U137.....	Fluorobenzene
U138.....	Fluorobenzene
U139.....	Fluorobenzene
U140.....	Fluorobenzene

Hazardous Waste No.	Substance ¹
U141.....	Isocitrate
U142.....	Kapone
U143.....	Laccocarpine
U144.....	Lead acetate
U145.....	Lead phosphate
U146.....	Lead subacetate
U147.....	Maleic anhydride
U148.....	Maleic hydrazide
U149.....	Malononitrile
U150.....	MEK Peroxide see U160
U151.....	Melphalan
U152.....	Mercury
U153.....	Methacrylonitrile
U154.....	Methanethiol
U155.....	Methanol
U156.....	Methacrylonitrile
U157.....	Methyl alcohol see U154
U158.....	Methyl chlorocarbonate
U159.....	Methyl chloroform see U228
U160.....	3-Methylcholanthrene
U161.....	Methyl chloroformate see U158
U162.....	4,4'-Methylene-bis-(2-chloroaniline)
U163.....	Methyl ethyl ketone (MEK) (I,T)
U164.....	Methyl ethyl ketone peroxide (R)
U165.....	Methyl iodide see U138
U166.....	Methyl isobutyl ketone
U167.....	Methyl methacrylate (R,T)
U168.....	N-Methyl-N'-nitro-N-nitrosoguanidine
U169.....	Methylthiourea
U170.....	Mitomycin C see U010
U171.....	Naphthalene
U172.....	1,4-Naphthoquinone
U173.....	1-Naphthylamine
U174.....	2-Naphthylamine
U175.....	Nitrobenzene (I,T)
U176.....	Nitrobenzyl see U169
U177.....	4-Nitrophenol
U178.....	2-Nitropropane (I)
U179.....	N-Nitrosodi-n-butylamine
U180.....	N-Nitrosodimethanamine
U181.....	N-Nitrosodimethylamine
U182.....	N-Nitrosodi-n-propylamine
U183.....	N-Nitroso-n-ethylurea
U184.....	N-Nitroso-n-methylurea
U185.....	N-Nitroso-n-methylurethane
U186.....	N-Nitrosopiperidine
U187.....	N-Nitrosopyrrolidine
U188.....	5-Nitro-o-toluidine
U189.....	Paraldehyde
U190.....	PCNB see U185
U191.....	Pentachlorobenzene
U192.....	Pentachloroethane
U193.....	Pentachloronitrobenzene
U194.....	1,3-Pentadiene (I)
U195.....	Perc see U210
U196.....	Perchloroethylene see U210
U197.....	Phenacetic acid
U198.....	Phenol
U199.....	Phosphorus sulfide (R)
U200.....	Phthalic anhydride
U201.....	2-Picoline
U202.....	Promazine
U203.....	1,3-Propene sulfone
U204.....	n-Propylamine (I)
U205.....	Pyridine
U206.....	Quinones
U207.....	Reserpine
U208.....	Resorcinol
U209.....	Seocharin
U210.....	Safrole
U211.....	Selenious acid
U212.....	Selenium sulfide (R,T)
U213.....	Silvex see U233
U214.....	Streptozotocin
U215.....	2,4,5-T see U232
U216.....	1,2,4,5-Tetrachlorobenzene
U217.....	1,1,1,2-Tetrachloroethane
U218.....	1,1,2,2-Tetrachloroethane
U219.....	Tetrachloroethene
U220.....	Tetrachloroethylene see U210
U221.....	Tetrachloromethane
U222.....	2,3,4,6-Tetrachlorophenol
U223.....	Tetrahydrofuran (I)
U224.....	Thallium (I) acetate
U225.....	Thallium (I) carbonate
U226.....	Thallium (I) chloride
U227.....	Thallium (I) nitrate
U228.....	Thioacetamide
U229.....	Thiourea
U230.....	Toluene
U231.....	Toluenediamine
U232.....	o-Toluidine hydrochloride

Hazardous Waste No.	Substance ¹
U223.....	Toluene diisocyanate
U224.....	Toxaphene
	2,4,5-TP see U223
U225.....	Tribromomethane
U226.....	1,1,1-Trichloroethane
U227.....	1,1,2-Trichloroethane
U228.....	Trichloroethene
	Trichloroethylene see U228
U229.....	Trichlorofluoromethane
U230.....	2,4,5-Trichlorophenol
U231.....	2,4,6-Trichlorophenol
U232.....	2,4,5-Trichlorophenoxyacetic acid
U233.....	2,4,5-Trichlorophenoxypropionic acid alpha, alpha, alpha-Trichlorotoluene see U023
	TRI-CLENE see U228
U234.....	Trinitrobenzene (R,T)
U235.....	Tri(2,3-dibromopropyl) phosphate
U236.....	Trypan blue
U237.....	Unacil mustard
U238.....	Urethane
	Vinyl chloride see U043
	Vinylidene chloride see U078
U239.....	Xylene

¹ The Agency included those trade names of which it was aware; an omission of a trade name does not imply that it is not hazardous. The material is hazardous if it is listed under its generic name.

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 Agency 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

D2234-78 [ASTM Standards are available

from ASTM, 1916 Race St., Philadelphia,

PA 19103]

Containerized liquid wastes—"COLIWASA"

described in "Test Methods for the

Evaluation of Solid Waste, Physical/

Chemical Methods." ¹ 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, 28

W. St. Clair St., 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." ¹

This manual also contains additional information on application of these protocols.

¹ These methods are also described in "Sampling and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-80-018, January 1980.

Appendix II—EP Toxicity Test Procedure

A. Extraction Procedure (EP)

1. A representative sample of the waste to be tested (minimum size 100 grams) should be obtained using the methods specified in Appendix I or any other methods capable of yielding a representative sample within the meaning of Part 280. [For detailed guidance on conducting the various aspects of the EP see "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," SW-846, U.S. Environmental Protection Agency Office of Solid Waste, Washington, D.C. 20460.]

2. The sample should be separated into its component liquid and solid phases using the method described in "Separation Procedure" below. If the solid residue ² obtained using this method totals less than 0.5% of the original weight of the waste, the residue can be discarded and the operator should treat the liquid phase as the extract and proceed immediately to Step 8.

3. The solid material obtained from the Separation Procedure should be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than, 3.1 cm² or passes through a 9.5 mm (0.375 inch) standard sieve, the operator should proceed to Step 4. If the surface area is smaller or the particle size larger than specified above, the solid material should be prepared for extraction by crushing, cutting or grinding the material so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" described below.

4. The solid material obtained in Step 3 should be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extraction fluid but also insure that all sample surfaces are continuously

¹ Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 28 W. St. Clair Street, Cincinnati, Ohio 45268.

² The percent solids is determined by drying the filter pad at 80° C until it reaches constant weight and then calculating the percent solids using the following equation:

$$\frac{(\text{weight of pad + solid}) - (\text{tare weight of pad})}{\text{initial weight of sample}} \times 100 = \% \text{ solids}$$

brought into contact with well mixed extraction fluid.

5. After the solid material and deionized water are placed in the extractor, the operator should begin agitation and measure the pH of the solution in the extractor. If the pH is greater than 5.0, the pH of the solution should be decreased to 5.0 ± 0.2 by adding 0.5 N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be added. The pH of the solution should be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5N acetic acid should be added to bring the pH down to 5.0 ± 0.2. However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture should be agitated for 24 hours and maintained at 20°-40° C (68°-104° F) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon 97123 or its equivalent, in conjunction with a metering pump and reservoir of 0.5N acetic acid. If such a system is not available, the following manual procedure shall be employed:

(a) A pH meter should be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution should be checked and, if necessary, 0.5N acetic acid should be manually added to the extractor until the pH reaches 5.0 ± 0.2. The pH of the solution should be adjusted at 15, 30 and 60 minute intervals, moving to the next longer interval if the pH does not have to be adjusted more than 0.5N pH units.

(c) The adjustment procedure should be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH should be adjusted to 5.0 ± 0.2 and the extraction continued for an additional four hours, during which the pH should be adjusted at one hour intervals.

6. At the end of the 24 hour extraction period, deionized water should be added to the extractor in an amount determined by the following equation:

$$V = (20)(W) - 16(W) - A$$

V = ml deionized water to be added
W = weight in grams of solid charged to extractor
A = ml of 0.5N acetic acid added during extraction

7. The material in the extractor should be separated into its component liquid and solid phases as described under "Separation Procedure."

8. The liquids resulting from Steps 2 and 7 should be combined. This