

Hazardous Waste Listings

A User-Friendly Reference Document

September 2012

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Introduction

This document is Environmental Protection Agency's (EPA's) first update of the March 2008 web-based reference document on hazardous waste listings. In preparing this update, our key objectives were to identify and include new listing-related materials (e.g., letters, memoranda, and Federal Register notices) issued to the public by EPA since March 2008, provide hyperlinks to websites which include the new listing-related materials, and correct or remove hyperlinks to websites present in the 2008 document that have either changed or no longer exist. Please note that, because there have only been a small number of new listing-related materials issued to the public by EPA since March 2008, the content of this document is not significantly different than the 2008 document.

This document describes EPA's hazardous waste listing regulations under the authority of the Resource Conservation and Recovery Act (RCRA) Subtitle C¹ and includes hyperlinks to information that EPA has generated over the years to explain the listing regulations. The purpose of this document is to consolidate and streamline the information on listing regulations to help Environmental Protection Agency (EPA) staff, state staff, industrial facilities, and the public understand hazardous waste listing regulations.

This document is only a reference document and is not to be used as a substitute for the Code of Federal Regulations (CFR), itself, or the requirements contained in the CFR. This document is not a rulemaking. Additionally, this document only describes wastes that are considered listed hazardous wastes under the federal regulations. Most states are authorized to manage their own hazardous waste identification program. Therefore, states may have their own set of regulations that apply in lieu of federal regulations, and while most state hazardous waste regulations are based on the federal requirements, some states have developed regulations more stringent than the federal program. We direct you to the following website to determine if the state regulatory program is different from the federal program:
<http://www.epa.gov/epawaste/wyl/stateprograms.htm>

This document is organized in a manner similar to the way identification and listing of hazardous waste regulations are presented in Title 40 of the CFR at Part 261. Therefore, following an overview of the hazardous waste identification process, this document will present the four different lists under the RCRA regulations that describe the listed hazardous wastes. At the conclusion of this document, a procedure under the regulations to delist a waste is also described.

Please note that the Title 40 of the CFR at Part 261 information contained in this document is from the Government Printing Office's Electronic Code of Federal Register (e-CFR) website as it existed in July 2012. To help stakeholders better understand specific requirements, we also have provided, where applicable, hyperlinks to Federal Register notices, letters and memoranda issued by EPA, questions and answers (Q&As) on listing issues of concern, as well as guidance documents developed by EPA that help in understanding the hazardous waste listing regulations.

¹ Subtitle C of RCRA has been codified in the United States Code (U.S.C.) as the Solid Waste Disposal Act (SDWA), Subchapter III (Hazardous Waste Management), 42 U.S.C. §§ 6921 through 6939e

The hyperlinks included in this document for Federal Register notices published prior to October 1994 are from HeinOnline and are available by subscription to HeinOnline. By including this material, EPA does not endorse HeinOnline. We have attempted to identify the relevant FAQs, letters, memoranda, etc. on a particular listing-related subject. However, please note that it is possible that not every document developed over the years has been included in this reference document. Finally, once you have navigated to the regulatory “requirement” of interest, we have provided cross-references to other relevant regulations.

Because regulations are promulgated throughout the year, EPA intends to update this document periodically to remain up-to-date with hazardous waste listing regulations. Additionally, the Government Printing Office (GPO) frequently updates the [e-CFR](#) website, which can be accessed through this document.

Information on how to navigate through the document

This document is navigable in several ways. First, stakeholders can use the Summary Chart on page eight to link directly to specific sections of the regulatory requirements for identification and listing of hazardous waste in the ([e-CFR](#)). The hyperlinks in the chart to the e-CFR can be opened by left-clicking on the mouse. This should be followed by clicking on the links to specific parts and then sections of interest. Second, the pages on the Table of Contents can be opened in the same manner as described above to navigate through the body of the document. The information contained in this website is current as of the date shown on the opened page. Finally, hyperlinks are contained within the lists of hazardous wastes following groupings of these wastes and can be opened to obtain further information on these wastes.

Contact Information

This document was developed by the Materials Recovery and Waste Management Division in the Office of Resource Conservation and Recovery. Please send any questions concerning this document to the following email address: chaudhari.narendra@epa.gov.

Overview of the Hazardous Waste Identification Process

EPA's regulations establish two ways of identifying solid wastes as hazardous under RCRA. A waste may be considered hazardous if it exhibits certain hazardous properties (“characteristics”) or if it is included on a specific list of wastes EPA has determined are hazardous (“listing” a waste as hazardous) because we found them to pose substantial present or potential hazards to human health or the environment. EPA's regulations in the Code of Federal Regulations define four hazardous waste characteristic properties: ignitability, corrosivity, reactivity, or toxicity (see 40 CFR 261.21-261.24). This document presents the regulations developed that list wastes as hazardous in §§ 261.31 through 261.33. EPA plans to develop a separate document for characteristic wastes.

In order to list wastes EPA conducts a more specific assessment of a particular waste or category of wastes. The Agency will “list” them if they meet criteria set out in 40 CFR 261.11. As described in § 261.11, we may list a waste as hazardous if the waste:

--exhibits any of the characteristics, i.e., ignitability, corrosivity, reactivity, or toxicity (§261.11(a)(1));

--is “acutely” hazardous (e.g., if it is fatal to humans or animals at low doses, §261.11(a)(2)); or

--it contains any of the toxic constituents listed in 40 CFR part 261, Appendix VIII and, after consideration of various factors described in the regulation, is capable of posing a “substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed” (§261.11(a)(3)).

We place a substance on the list of hazardous constituents in Appendix VIII if scientific studies have shown the substance has toxic effects on humans or other life forms.

Lists of Hazardous Wastes

There are four different lists of hazardous wastes that are located in Title 40 of the CFR at Part 261. These four lists are:

- **The F list (non-specific source wastes)** - The F list designates as hazardous particular solid wastes from certain industrial or manufacturing processes. Because the processes producing these wastes can occur in different sectors of industry, the F list wastes are known as wastes from nonspecific sources. Wastes included on the F list are found in the regulations at 40 CFR § 261.31.
- **The K list (source-specific wastes)** - The K list designates particular solid wastes from certain specific industries as hazardous. Wastes included on the K list are found in the regulations at 40 CFR § 261.32.

- **The P list and the U list (discarded commercial chemical products)** - These two lists are similar in that both list as hazardous certain commercial chemical products when they are discarded or intended to be discarded. These listings consist of commercial chemical products having the generic names listed, off-specification species, container residues, and spill residues. The difference is that the chemicals on the P list are identified as acute hazardous wastes and those on the U list are identified as toxic wastes. Some chemicals on both lists may also be designated to have other properties. Wastes included on the P and U lists can be found in the regulations at 40 CFR § 261.33.

The above four lists each designate anywhere from 30 to a few hundred wastestreams as hazardous. Each waste on the lists is assigned a waste code consisting of the letter associated with the list followed by three numbers. For example, the wastes on the F list are assigned the waste codes F001, F002, and so on. These waste codes are an important part of the RCRA regulatory system. Assigning the correct waste code to a waste has important implications for the management standards that apply to the waste.

The wastes listed on the F and K lists described above can be divided further into subgroups as described below:

F Waste Groupings

It may be helpful to consider that the F waste codes are divided into seven subgroups of wastes, generally depending on the type of manufacturing or industrial operation that creates them. The seven general subgroups of F-listed wastes are:

- spent solvent wastes (F001 - F005)
- wastes from electroplating and other metal finishing operations (F006 - F012, and F019)
- dioxin bearing wastes (F020 - F023 and F026 - F028)
- wastes from production of certain chlorinated aliphatic hydrocarbons (F024 and F025)
- wastes from wood preserving (F032, F034, and F035)
- petroleum refinery wastewater treatment sludges (F037 and F038)
- multisource leachate (F039)

K Waste Groupings

The K waste codes are divided into 13 subgroups of wastes from specific sources. The 13 subgroups of K-listed wastes are:

- wood preservation (K001)
- inorganic pigment manufacturing (K002 - K008)
- organic chemicals manufacturing (K009 - K011, K013 - K030, K083, K085, K093 - K096, K103 - K105, K107 - K118, K136, K149 - K151, K156 - K159, K161,

- K174 - K175, and K181)
- inorganic chemicals manufacturing (K071, K073, K106, and K176 - K178)
 - pesticides manufacturing (K031 - K043, K097 - K099, K123 - K126, and K131 - K132)
 - explosives manufacturing (K044 - K047)
 - petroleum refining (K048 - K052, and K169 - K172)
 - iron and steel production (K061 and K062)
 - primary aluminum production (K088)
 - secondary lead processing (K069 and K100)
 - veterinary pharmaceuticals manufacturing (K084 and K101 - K102)
 - ink formulation (K086)
 - coking (K060, K141 - K145, and K147 - K148)

(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, 268, and part 270 of this chapter.

(d) The following hazardous wastes listed in §261.31 or §261.32 are subject to the exclusion limits for acutely hazardous wastes established in §261.5: EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027.

[45 FR 33119, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 2000, Jan. 14, 1985; 51 FR 40636, Nov. 7, 1986; 55 FR 11863, Mar. 29, 1990]

§ 261.31 Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in appendix IX.

Spent solvent wastes (F001 – F005)

Industry and EPA hazardous Waste No.	Hazardous waste	Hazard code
Generic:		
F001.....	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002.....	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-	(T)

trichloroethane,
chlorobenzene, 1,1,2-
trichloro-1,2,2-
trifluoroethane, ortho-
dichlorobenzene,
trichlorofluoromethane,
and 1,1,2-
trichloroethane; all
spent solvent mixtures/
blends containing,
before use, a total of
ten percent or more (by
volume) of one or more
of the above halogenated
solvents or those listed
in F001, F004, or F005;
and still bottoms from
the recovery of these
spent solvents and spent
solvent mixtures.

F003..... The following spent non- (I)*

halogenated solvents:
Xylene, acetone, ethyl
acetate, ethyl benzene,
ethyl ether, methyl
isobutyl ketone, n-butyl
alcohol, cyclohexanone,
and methanol; all spent
solvent mixtures/blends
containing, before use,
only the above spent non-
halogenated solvents;
and all spent solvent
mixtures/blends
containing, before use,
one or more of the above
non-halogenated
solvents, and, a total
of ten percent or more
(by volume) of one or
more of those solvents
listed in F001, F002,
F004, and F005; and
still bottoms from the
recovery of these spent
solvents and spent
solvent mixtures.

F004..... The following spent non- (T)

halogenated solvents:
Cresols and cresylic
acid, and nitrobenzene;
all spent solvent
mixtures/blends
containing, before use,
a total of ten percent
or more (by volume) of
one or more of the above

F005.....	<p>non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.</p> <p>The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.</p>	(I,T)
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Related Resources for F001 – F005 Wastes:

Federal Register Notice(s)

- Final Rule (F001-F005)
[45 FR 33084; May 19, 1980](#)
- Proposed clarification of the scope of the spent solvent listing
[50 FR 18378; April 30, 1985](#)
- Proposed Rule amending the F002 and F005 Listings
[50 FR 30908; July 30, 1985](#)
- Final clarification of the scope of the spent solvent listing
[50 FR 53315; December 31, 1985](#)
- Final Rule amending the F002 and F005 listings
[51 FR 6537; February 25, 1986](#)
- Clarification of RCRA rules for spent CFCs
[54 FR 31335; July 28, 1989](#)

Letters/Memoranda

- F001: [SOLVENTS USED AS COOLANTS AND APPLICABILITY OF SOLVENT LISTINGS](#)
- F001 & F002: [DISCARDED WASTEWATER AT A CORROSION CONTROL FACILITY](#)

**Wastes from electroplating and other metal finishing operations
(F006 - F012, and F019)**

F006.....	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc- aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F007.....	Spent cyanide plating bath solutions from electroplating operations.	(R, T)
F008.....	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009.....	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010.....	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)
F011.....	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012.....	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)

F019..... Wastewater treatment sludges (T)
from the chemical conversion
coating of aluminum except
from zirconium phosphating
in aluminum can washing
when such phosphating is
an exclusive conversion
coating process. Wastewater
treatment sludges from the
manufacturing of motor
vehicles using a zinc
phosphating process will not
be subject to this listing at
the point of generation
if the wastes are not placed
outside on the land prior to
shipment to a landfill for
disposal and are either:
disposed in a Subtitle D
municipal or industrial
landfill unit that is
equipped with a single clay
liner and is permitted, licensed
or otherwise authorized by
the state; or disposed in a
landfill unit subject to, or
otherwise meeting, the landfill
requirements in §258.40, §264.301
or §265.301. For the purposes
of this listing, motor vehicle
manufacturing is defined in
paragraph(b)(4)(i) of this section
and(b)(4)(ii)of this section
describes the recordkeeping
requirements for motor vehicle
manufacturing facilities

Related Resources for F006 – F012 and F019 Wastes:

Federal Register Notice(s)

- Final Rule (F006 & F019 and F007 – F012)
[45 FR 33084; May 19, 1980](#)
- Interpretive Rule (F006)
[51 FR 43350; December 2, 1986](#)
- Proposed Rule – Amendment to the F019 Listing (exclusion for sludges generated from the zirconium phosphating process)
[54FR 32320; August 4, 1989](#)
- Final Rule – Amendment to the F019 Listing (exclusion for sludges generated from the zirconium phosphating process)
[55FR 5340; February 14, 1990](#)

Dioxin bearing wastes (F020 - F023, and F026 – F028)

F020.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F021.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as	(H)

- a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).
- F026..... Wastes (except wastewater (H)
and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.
- F027..... Discarded unused (H)
formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.).
- F028..... Residues resulting from (T)
the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.
-

Wastes from production of certain chlorinated aliphatic hydrocarbons (F024 and F025)

F024.....	Process wastes, including (T) but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.31 or § 261.32.).
F025.....	Condensed light ends, (T) spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.

Related Resources for F024 and F025 Wastes:

Federal Register Notice(s)

- Proposed Rule (F024-F025)
[49 FR 5313; February 10, 1984](#)

- Final Rule (F024-F025)
[54 FR 50968; December 11, 1989](#)

Wastes from wood preserving (F032, F034 and F035)

F032.....	Wastewaters (except those (T) that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross- contaminated wastes that have had the F032 waste code deleted in accordance with § 261.35 of this chapter or potentially cross- contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.
F034.....	Wastewaters (except those (T) that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote

formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.

F035..... Wastewaters (except those (T) that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.

Related Resources for F032, F034 and F035 Wastes:

Federal Register Notice(s)

- Proposed Rule (F032–F035)
[53 FR 53282; December 30, 1988](#)
- Final Rule (F032 and F034-F035)
[55 FR 50450; December 6, 1990](#)

Letters/Memoranda

- F032: [CLARIFICATION OF WOOD SURFACE PROTECTION AND WOOD PRESERVING DEFINITIONS](#)
- F032: [CLARIFICATION OF HAZARDOUS WASTE LISTINGS PERTAINING TO WOOD PRESERVING OPERATIONS](#)
- F032, F034, and F035: [SCOPE AND APPLICABILITY OF RCRA REGULATIONS AT WOOD PRESERVING FACILITIES](#)
- F032, F034, and F035: [CLARIFICATION OF REQUIREMENTS INVOLVING THE COUNTING OF WOOD PRESERVING WATERS FOR BIENNIAL REPORTING](#)
- F032, F034, and F035: [REGULATORY STATUS OF WOOD STICKERS USED FOR WOOD PRESERVING OPERATIONS](#)
- F032, F034, and F035: [DRIPPAGE IN WOOD PRESERVING STORAGE YARDS](#)

Fact Sheets and Q&As

- Q&A (F032, F034, and F035): [RECLAIMED SPENT WOOD PRESERVATIVE EXCLUSION IN 40 CFR §261.4\(A\)\(9\)](#)
 - Q&A (F032, F034, and F035): [ADMINISTRATIVE STAY FOR WOOD PRESERVING WASTES](#)
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Petroleum refinery wastewater treatment sludges (F037 - F038)

F037..... Petroleum refinery (T)
primary oil/water/solids
separation sludge_Any
sludge generated from
the gravitational
separation of oil/water/
solids during the
storage or treatment of
process wastewaters and
oil cooling wastewaters
from petroleum
refineries. Such sludges
include, but are not
limited to, those
generated in oil/water/
solids separators; tanks
and impoundments;
ditches and other
conveyances; sumps; and
stormwater units
receiving dry weather
flow. Sludge generated
in stormwater units that
do not receive dry
weather flow, sludges
generated from non-
contact once-through
cooling waters
segregated for treatment
from other process or
oily cooling waters,
sludges generated in
aggressive biological
treatment units as
defined in §
261.31(b)(2) (including
sludges generated in one
or more additional units
after wastewaters have
been treated in
aggressive biological
treatment units) and
K051 wastes are not
included in this
listing. This listing

does include residuals
 generated from
 processing or recycling
 oil-bearing hazardous
 secondary materials
 excluded under §
 261.4(a)(12)(i), if
 those residuals are to
 be disposed of..

F038..... Petroleum refinery (T)
 secondary (emulsified)
 oil/water/solids
 separation sludge_Any
 sludge and/or float
 generated from the
 physical and/or chemical
 separation of oil/water/
 solids in process
 wastewaters and oily
 cooling wastewaters from
 petroleum refineries.
 Such wastes include, but
 are not limited to, all
 sludges and floats
 generated in: induced
 air flotation (IAF)
 units, tanks and
 impoundments, and all
 sludges generated in DAF
 units. Sludges generated
 in stormwater units that
 do not receive dry
 weather flow, sludges
 generated from non-
 contact once-through
 cooling waters
 segregated for treatment
 from other process or
 oily cooling waters,
 sludges and floats
 generated in aggressive
 biological treatment
 units as defined in
 § 261.31(b)(2)
 (including sludges and
 floats generated in one
 or more additional units
 after wastewaters have
 been treated in
 aggressive biological
 treatment units) and
 F037, K048, and K051
 wastes are not included
 in this listing.

Related Resources for F037 and F038 Wastes:

Federal Register Notice(s)

- Proposed Rule (F037-F038)
[45 FR 74893; November 12, 1980](#)
- Final Rule (F037-F038)
[55 FR 46354; November 2, 1990](#)

Letters/Memoranda

- F037 & F038: [APPLICABILITY OF THE “MIXTURE” RULE TO PETROLEUM REFINERY WASTEWATER SYSTEMS](#)
- F037 & F038: [DRAFT REGION VIII POLICY ON “AGGRESSIVE BIOLOGICAL TREATMENT”](#)

Fact Sheets and Q&As

- Q&A (F037 & F038): [PETROLEUM REFINERY WASTEWATER TREATMENT SLUDGE CLASSIFICATION](#)

Multisource leachate (F039)

F039..... Leachate (liquids that (T)
have percolated through
land disposed wastes)
resulting from the
disposal of more than
one restricted waste
classified as hazardous
under subpart D of this
part. (Leachate
resulting from the
disposal of one or more
of the following EPA
Hazardous Wastes and no
other Hazardous Wastes
retains its EPA
Hazardous Waste
Number(s): F020, F021,
F022, F026, F027, and/or
F028.).

Related Resources for F039 Wastes:

Federal Register Notice(s)

- Proposed Rule (F039); LDRs for third third scheduled wastes
[54 FR 48372; November 22, 1989](#)
- Final Rule (F039); LDRs for third third scheduled wastes
[55 FR 22520; June 1, 1990](#)

Letters/Memoranda

- F039: [WASTE MINIMIZATION REQUIREMENTS OF SECTION 3002\(B\) OF RCRA FOR HAZARDOUS WASTE DISPOSAL FACILITIES](#)
- F039: [CAPACITY VARIANCES FOR UNDERGROUND INJECTION FACILITIES](#)
- F039: [MULTI-SOURCE LEACHATE AND TREATMENT STANDARDS OF LAND DISPOSAL RESTRICTIONS](#)

Fact Sheets and Q&As

- Q&A (F039): [MULTISOURCE LEACHATE \(F039\) WASTE CODE AS IT APPLIES TO CONTAMINATION FROM SPILLS](#)
- Q&A (F039): [CLASSIFICATION OF LEACHATE CONTAMINATED GROUND WATER](#)

 *(I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.

[NOTE: The following language is continuation of § 261.31]

(b) Listing Specific Definitions: (1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employ a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (A) the unit is an aggressive biological treatment unit as defined in this subsection; and (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit.

(3) (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing, (A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of