Ohio Administrative Code

Rule 3745-51-31 Hazardous waste from non-specific sources.

Effective: October 23, 2022

(A) The following table lists hazardous wastes from non-specific sources, along with industry and EPA hazardous waste numbers and hazard codes for these hazardous wastes:

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
Generic:	F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures or blends used in degreasing containing, before use, a total of ten per cent 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-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures or blends containing, before use, a total of ten per cent 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.

(T)	F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures or blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures or blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten per cent 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.
(I)*	F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures or blends containing, before use, a total of ten per cent or more (by volume) of one or more of the above 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.
(T)	F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures or blends containing, before use, a total of ten per cent 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.

(I,T)	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 or 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 wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.

(T)	F019	Wastewater treatment sludges 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: -disposed in a RCRA subtitle D municipal waste or industrial waste landfill unit that is equipped with a single clay liner, or that meets the requirements of rule 3745-27 -08 or 3745-29-08 of the Administrative Code, and -is permitted, licensed, or otherwise authorized by Ohio, or -is permitted, licensed, or otherwise authorized by another state that has this exemption, or -disposed in a hazardous waste landfill unit subject to, or that otherwise meets, the requirements of rule 3745-57 -03 or 3745-68-05 of the Administrative Code, or -disposed in a municipal waste landfill unit subject to, or that otherwise meets, the requirements of 40 CFR 258.40. For the purposes of this listing, paragraph (B)(4)(a) of this rule defines "motor vehicle manufacturing," and paragraph (B)(4)(b) of this rule describes the recordkeeping requirements for motor vehicle manufacturing facilities.

(T)	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 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.)

(H)	F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor cleanout 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 this rule or in rule 3745-51-32 of the Administrative Code.)
(T)	F025	Condensed light ends, 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.
(T)	F026	Wastes (except wastewater 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.
(H)	F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulation containing Hexachlorophene synthesized from pre-purified 2,4,5-trichlorophenol as the sole component.)

(H)	F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA hazardous waste numbers F020, F021, F022, F023, F026, and F027.
(T)	F032	Wastewaters (except those 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 EPA hazardous waste number deleted in accordance with rule 3745-51-35 of the Administrative Code or potentially crosscontaminated 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 or pentachlorophenol.
(T)	F034	Wastewaters (except those 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 or pentachlorophenol.

(T)	F035	Wastewaters (except those 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 or pentachlorophenol.

(T)	F037	Petroleum refinery primary oil or water or solids separation sludge. Any sludge generated from the gravitational separation of oil or water or solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in oil or water or solids separators, tanks and impoundments, ditches and other conveyances, sumps, and stormwater units receiving dry weather flow. 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 generated in "aggressive biological treatment units" as defined in paragraph (B)(2) of this rule (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 paragraph (A)(12)(a) of rule 3745-51-04 of the Administrative Code, if those residuals are to be disposed of.

(T)	F038	Petroleum refinery secondary (emulsified) oil or water or solids separation sludge. Any sludge or float generated from the physical or chemical separation of oil or water or 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 dissolved air flotation (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 paragraph (B)(2) of this rule (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.
(T)	F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under rules 3745-51-30 to 3745-51-35 of the Administrative Code. (Leachate resulting from the disposal of one or more than one of the following EPA hazardous wastes and no other hazardous wastes retains its EPA hazardous waste numbers: F020, F021, F022, F026, F027, or F028.)

(B) Listing-specific definitions.

(1) For the purposes of the F037 and F038 listings, "oil/water/solids" (the term used by U.S. EPA) is defined as oil or water or solids, and "oil or water or solids" is the term used in the hazardous waste

rules.

(2)

(a) For the purposes of the F037 and F038 listing, "aggresive 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 biologial activity; and

(i) The units employ a minimum of six horse power per million gallons of treatment volume; and either

(ii) The hydraulic retention time of the unit is no longer than five days; or

(iii) The hydraulic retention time of the unit is no longer than thirty days and the unit does not generate a sludge that is a hazardous waste by the toxicity characteristic.

(b) Generators and treatment, storage, and disposal facilities have the burden of proving that sludges from those facilities are exempt from listings as F037 and F038 wastes under this definition. Generators and treatment, storage, and disposal facilities shall maintain, in the operating or other on-site records, documents and the data sufficient to prove that:

(i) The unit is an "aggressive biological treatment unit" as defined in this rule; and

(ii) The sludges sought to be exempted from the definitions of F037 or F038 were actually generated in the aggressive biological treatment unit.

[Comment: For purposes of paragraph (B)(2)(b) of this rule and the F037 and F038 listings in this rule, "exempt" means not included under the definition of F037 or F038 with respect to determining the status of this material as a hazardous waste.]

(3)

(a) 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.

(b) For the purposes of the F038 listing:

(i) 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; and

(ii) Floats are considered to be generated at the moment of formation in the top of the unit.

(4) For the purposes of the F019 listing, the following apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process:

(a) "Motor vehicle manufacturing" is defined to include the manufacture of automobiles and light trucks or utility vehicles (including light duty vans, pickup trucks, minivans, and sport utility vehicles). Facilities shall be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.

(b) Generators shall maintain in on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records shall include the volume of waste generated and disposed of off-site, documentation showing when the waste volumes were generated and sent off-site, the name and address of the receiving facility, and documentation confirming receipt of the waste by the receiving facility. Generators shall maintain these documents on-site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the director.

[Comment: For dates of non-regulatory government publications, publications of recognised organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."