3745-51-03 **Definition of hazardous waste.**

(A) A "waste," as defined in rule 3745-51-02 of the Administrative Code, is a "hazardous waste" if:

(1) ~~It~~The waste is not excluded from regulation as a hazardous waste under paragraph (B) of rule 3745-51-04 of the Administrative Code~~; and~~.

(2) ~~It~~The waste meets any of the following criteria:

(a) ~~It~~The waste exhibits any of the characteristics of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under paragraph (B)(7) of rule 3745-51-04 of the Administrative Code and any other waste exhibiting a characteristic of hazardous waste under rules 3745-51-20 to 3745-51-24 of the Administrative Code is a hazardous waste only if ~~it~~such mixture exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred, or if ~~it~~such mixture continues to exhibit any of the characteristics exhibited by the ~~nonexcluded~~non-excluded wastes prior to mixture. Further, for the purposes of applying the toxicity characteristic leaching procedure to such mixtures, the mixture is also a hazardous waste if ~~it~~such mixture exceeds the maximum concentration for any contaminant listed in the table in rule 3745-51-24 of the Administrative Code that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if ~~it~~such mixture continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

(b) ~~It~~The waste is listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code and has not been excluded from the lists in rules 3745-51-30 to 3745-51-35 of the Administrative Code under 40 CFR 260.20 and 40 CFR 260.22.

~~(c) Reserved.~~

~~(d)~~(c) ~~It~~The waste is a mixture of hazardous wastes as ~~defined in~~described by paragraphs (A)(2)(a) to (A)(2)(c) of this rule and "source material," "special nuclear material," or ~~by product~~"by-product material," as defined by the Atomic Energy Act of 1954, as amended through the date specified in rule 3745-50-11 of the Administrative Code, 42 U.S.C. 2011 ~~et seq.~~, or other radionuclides. However, only the hazardous components of the mixture are subject to regulation for purposes of Chapter 3745-51 of the Administrative Code.

[Comment: See paragraph (H) of this rule for possible exemptions for such mixed wastes.]

~~(e)~~(d) ~~It~~The waste is a mixture of waste and one or more hazardous wastes listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code and has not been excluded from ~~paragraphs (A)(2)(a) to (A)(2)(f)(ii)~~paragraph (A)(2) of this rule under 40 CFR 260.20 and 40 CFR 260.22, paragraphs (G)(1) to (G)(4) of this rule, or paragraphs (H)(1) to (H)(3) of this rule~~; however~~. However, the following mixtures of wastes and hazardous wastes listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code are not hazardous wastes [except by application of paragraph (A)(2)(a) or (A)(2)(b) of this rule] if the generator can demonstrate that the mixture consists of wastewater, the discharge of which is subject to regulation under either Section 402 or Section 307(b) of the Clean Water Act (CWA) (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(i) One or more of the following spent solvents listed in rule 3745-51-31 of the Administrative Code - carbon tetrachloride, tetrachloroethylene, trichloroethylene or the scrubber water derived-from the combustion of these spent solvents- provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million; or the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act~~, as amended,~~ (CAA) at 40 CFR Part 60, 40 CFR Part 61, or 40 CFR Part 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed one part per million on an average weekly basis. Any facility that uses benzene as a solvent and claims this exemption ~~must~~shall use an aerated biological wastewater treatment system and ~~must~~shall use only lined surface impoundments or tanks prior to secondary clarification in the wastewater treatment system. Facilities that choose to measure concentration levels ~~must~~shall file a copy of ~~their~~the facility's sampling and analysis plan with the regional administrator, or the director, as the context requires. A facility ~~must~~shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan ~~must~~shall

include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once ~~they receive~~the facility receives confirmation that the sampling and analysis plan has been received by the director. The director may reject the sampling and analysis plan if ~~he~~the director finds that the sampling and analysis plan fails to include the information required in this paragraph, or if the plan parameters would not enable the facility to accurately calculate the weekly average concentration of these chemicals ~~accurately~~. If the director rejects the sampling and analysis plan, or if the director finds that the facility is not following the sampling and analysis plan, the director ~~will~~shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(ii) One or more of the following spent solvents listed in rule 3745-51-31 of the Administrative Code - methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, 2-ethoxyethanol, or the scrubber waters derived-from the combustion of these spent solvents - provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed twenty-five parts per million, or the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the ~~Clean Air Act, as amended,~~CAA at 40 CFR Part 60, 40 CFR Part 61, or 40 CFR Part 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed twenty-five parts per million on an average weekly basis. Facilities that choose to measure concentration levels ~~must~~shall file a copy of ~~their~~the facility's sampling and analysis plan with the regional administrator, or the director, as the context requires. A facility ~~must~~shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan ~~must~~shall include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once ~~they receive~~the facility receives confirmation that the sampling and

analysis plan has been received by the director. The director may reject the sampling and analysis plan if ~~he~~the director finds that the sampling and analysis plan fails to include the information required in this paragraph, or if the plan parameters would not enable the facility to accurately calculate the weekly average concentration of these chemicals ~~accurately~~. If the director rejects the sampling and analysis plan, or if the director finds that the facility is not following the sampling and analysis plan, the director ~~will~~shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(iii) One of the following wastes listed in rule 3745-51-32 of the Administrative Code, provided that the wastes are discharged to the refinery oil recovery sewer before primary ~~oil/water/solids~~oil or water or solids separation - heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA hazardous waste number K050), crude oil storage tank sediment from petroleum refining operations (EPA hazardous waste number K169), clarified slurry oil tank sediment ~~and/or~~or in-line ~~filter/separation~~filter solids or separation solids from petroleum refining operations (EPA hazardous waste number K170), spent hydrotreating catalyst (EPA hazardous waste number K171), and spent hydrorefining catalyst (EPA hazardous waste number K172); or

(iv) A discarded hazardous waste, commercial chemical product, or chemical intermediate listed in rules 3745-51-31 to 3745-51-33 of the Administrative Code, arising from de minimis losses of these materials. For purposes of this paragraph, "de minimis losses" are inadvertent releases to a wastewater treatment system, including those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves, or other devices used to transfer materials); minor leaks of process equipment, storage tanks, or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing. Any manufacturing facility that claims an exemption for de minimis quantities of wastes listed in rules 3745-51-31 to 3745-51-32 of the Administrative Code, or any non-manufacturing facility that claims an exemption for de minimis quantities of wastes listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, ~~must~~

either shall have eliminated the discharge of wastewaters or shall have included in ~~its Clean Water Act (CWA)~~the facility's CWA permit application or submittal to ~~its~~the facility's pretreatment control authority the constituents for which each waste was listed (in the appendix to rule 3745-51-30 of the Administrative Code); and the constituents in the table "Treatment Standards for Hazardous Wastes" in rule 3745-270-40 of the Administrative Code for which each waste has a treatment standard (i.e., land disposal restriction constituents). A facility is eligible to claim the exemption once the permit writer or control authority has been notified of possible de minimis releases via the CWA permit application or the pretreatment control authority submittal. A copy of the CWA permit application or the submittal to the pretreatment control authority ~~must~~shall be placed in the facility's files; or

(v) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, provided that the annualized average flow of laboratory wastewater does not exceed one per cent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the wastes' combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or

(vi) One or more of the following wastes listed in rule 3745-51-32 of the Administrative Code - wastewaters from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K157) - provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that cannot be demonstrated to be reacted in the process, destroyed through treatment, or recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of five parts per million by weight; or the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the ~~Clean Air Act (CAA), as amended,~~CAA at 40 CFR Part 60, 40 CFR Part 61, or 40 CFR Part 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not

exceed five parts per million on an average weekly basis. Facilities that choose to measure concentration levels ~~must~~shall file a copy of ~~their~~the facility's sampling and analysis plan with the regional administrator, or the director, as the context requires. A facility ~~must~~shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan ~~must~~shall include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once ~~they receive~~the facility receives confirmation that the sampling and analysis plan has been received by the director. The director may reject the sampling and analysis plan if ~~he~~the director finds that the sampling and analysis plan fails to include the information required in this paragraph, or if the plan parameters would not enable the facility to accurately calculate the weekly average concentration of these chemicals ~~accurately~~. If the director rejects the sampling and analysis plan, or if the director finds that the facility is not following the sampling and analysis plan, the director ~~will~~shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(vii) Wastewaters ~~derived from~~derived-from the treatment of one or more of the following wastes listed in rule 3745-51-32 of the Administrative Code - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K156) - provided that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of five milligrams per liter or the total measured concentration of these chemicals entering the headworks of the facility’s wastewater treatment system (at facilities subject to regulation under the ~~Clean Air Act, as amended,~~CAA at 40 CFR Part 60, 40 CFR Part 61, or 40 CFR Part 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed five milligrams per liter on an average weekly basis. Facilities that choose to measure concentration levels ~~must~~shall file a copy of ~~their~~the facility's sampling and analysis plan with the regional administrator, or the director, as the context requires. A facility ~~must~~shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's

operations. The sampling and analysis plan ~~must~~shall include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once ~~they receive~~the facility receives confirmation that the sampling and analysis plan has been received by the director. The director may reject the sampling and analysis plan if ~~he~~the director finds that the sampling and analysis plan fails to include the information required in this paragraph, or if the plan parameters would not enable the facility to accurately calculate the weekly average concentration of these chemicals ~~accurately~~. If the director rejects the sampling and analysis plan, or if the director finds that the facility is not following the sampling and analysis plan, the director ~~will~~shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

~~(f)~~(e) Rebuttable presumption for used oil. Used oil containing more than one thousand parts per million total halogens is presumed to be a hazardous waste because ~~it~~the used oil has been mixed with halogenated hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in the appendix to rule 3745-51-11 of the Administrative Code).

(i) The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils or fluids. The presumption does apply to metalworking oils or fluids if such oils or fluids are recycled in any other manner, or disposed.

(ii) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(B) A waste which is not excluded from regulation under paragraph (A)(1) of this rule becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, when the waste first meets the listing description ~~set forth~~ in rules 3745-51-30 to 3745-51-35 of the Administrative Code.

(2) In the case of a mixture of waste and one or more listed hazardous wastes, when a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code is first added to the waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code.

(C) Unless and until ~~it~~a hazardous waste meets the criteria of paragraph (D) of this rule:

(1) A hazardous waste will remain a hazardous waste.

(2) Regarding waste generated from the treatment, storage, or disposal of a hazardous waste.

(a) Except as otherwise provided in paragraph (C)(2)(b), (G)(1) to (G)(4), or (H)(1) to (H)(3) of this rule, any waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from wastes and that are used beneficially are not wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(b) The following wastes are not hazardous even though ~~they~~the wastes are generated from the treatment, storage, or disposal of a hazardous waste, unless ~~they~~the wastes exhibit one or more of the characteristics of hazardous waste:

(i) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC codes 331X and 332X)~~;~~.

(ii) Waste from burning any of the materials exempted from regulation by paragraphs (A)(3)(c) and (A)(3)(d) of rule 3745-51-06 of the Administrative Code~~;~~.

(iii) Regarding HTMR.

(a) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062, or F006 waste, in units defined as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth ~~furnace/electric~~furnance or electric furnace combinations, or industrial furnaces [as defined in subparagraphs (f), (g), and (m) of "industrial furnace" in rule 3745-50-10 of the Administrative Code], that are disposed in licensed solid waste landfills, provided that these residues meet the generic exclusion levels identified in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements ~~must~~shall be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan~~; at~~. At a minimum, composite samples of residues ~~must~~shall be collected and analyzed quarterly ~~and/or~~or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all the exclusion requirements.

Table	
Constituent	Maximum for any single composite sample - TCLP (~~mg/l~~mg/L)
Generic exclusion levels for K061 and K062 nonwastewater HTMR residues	
Antimony	0.1
Arsenic	0.5
Barium	7.6
Beryllium	0.01
Cadmium	0.05
Chromium (total)	0.33

Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.3
Thallium	0.02
Zinc	70.0
Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.1
Arsenic	0.5
Barium	7.6
Beryllium	0.01
Cadmium	0.05
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.3
Thallium	0.02
Zinc	70.0

(b) A one-time notification and certification ~~must~~shall be placed in the facility's files and sent to the director for K061, K062, or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to licensed solid waste landfills. The notification and certification that is placed in the generator's or treater's files ~~must~~shall be updated if the process or operation generating the waste changes ~~and/or~~or if the licensed solid waste landfill receiving the waste changes. However, the generator or treater need only notify the director on an annual basis if such changes occur. Such notification and certification should be sent to the director by the end of the calendar year, but no later than December thirty-first. The notification ~~must~~shall include the following information:

(i) The name and address of the licensed solid waste landfill receiving the waste shipments~~;~~.

(ii) The EPA hazardous waste ~~number~~numbers and treatability ~~group~~groups at the initial point of generation~~; and~~.

(iii) The treatment standards in Chapter 3745-270 of the Administrative Code applicable to the waste at the initial point of generation.

(iv) The certification ~~must~~shall be signed by an authorized representative and ~~must~~shall state as follows:

"I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristics of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

(iv) Biological treatment sludge from the treatment of one of the following wastes listed in rule 3745-51-32 of the Administrative Code - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA hazardous waste

number K156)., and wastewaters from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K157)~~;~~.

(v) Catalyst inert support media separated from one of the following wastes listed in rule 3745-51-32 of the Administrative Code - spent hydrotreating catalyst (EPA hazardous waste number K171), and spent hydrorefining catalyst (EPA hazardous waste number K172).

(D) Any waste described in paragraph (C) of this rule is not a hazardous waste if ~~it~~the waste meets the following criteria:

(1) In the case of any waste, ~~it~~the waste does not exhibit any of the characteristics of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code. However, wastes that exhibit a characteristic at the point of generation may still be subject to ~~the requirements of~~ Chapter 3745-270 of the Administrative Code, even if ~~they~~the wastes no longer exhibit a characteristic at the point of land disposal.~~).~~

(2) In the case of a waste which is listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, or contains a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, or is derived from a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, the hazardous waste also has been excluded from paragraphs (C) to ~~(C)(2)(b)(iv)~~(C)(2)(b)(v) of this rule pursuant to 40 CFR 260.20 and 40 CFR 260.22.

(E) [Reserved~~;~~.]

(F) Notwithstanding paragraphs (A) to (D) of this rule and provided the "debris" as defined in ~~Chapter 3745-270~~rule 3745-270-02 of the Administrative Code does not exhibit a characteristic identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code, the following materials are not subject to regulation under Chapters 3745-50, 3745-51, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, or 3745-270 of the Administrative Code:

(1) "Hazardous debris" as defined in ~~Chapter 3745-270~~rule 3745-27-02 of the Administrative Code that has been treated using one of the required extraction or destruction technologies identified in the table ~~1 of~~in rule 3745-270-45 of the Administrative Code~~; persons~~. Persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all the exclusion

requirements; or

(2) "Debris" as defined in ~~Chapter 3745-270~~rule 3745-270-02 of the Administrative Code that the director, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

(G) Regarding characteristic mixtures.

(1) A hazardous waste that is listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code solely because ~~it~~the waste exhibits one or more characteristics of ignitability as ~~defined~~identified in rule 3745-51-21 of the Administrative Code, characteristic of corrosivity as ~~defined~~identified in rule 3745-51-22 of the Administrative Code, or characteristic of reactivity as ~~defined~~identified in rule 3745-51-23 of the Administrative Code is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code.

(2) The exclusion described in paragraph (G)(1) of this rule also pertains to of the following:

(a) Any mixture of a waste and a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code solely because ~~it~~the mixture exhibits the ~~characteristics~~characteristic of ignitability, characteristic of corrosivity, or characteristic of reactivity as regulated under paragraph (A)(2)(d) of this rule~~; and~~.

(b) Any waste generated from treating, storing, or disposing of a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code solely because ~~it~~the waste exhibits the ~~characteristics~~characteristic of ignitability, characteristic of corrosivity, or characteristic of reactivity as regulated under paragraph (C)(2)(a) of this rule.

(3) Wastes excluded under this rule are subject to Chapter 3745-270 of the Administrative Code (as applicable), even if ~~they~~such wastes no longer exhibit a characteristic at the point of land disposal.

(4) Any mixture of a waste excluded from regulation under paragraph (B)(7) of rule 3745-51-04 of the Administrative Code and a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code solely because ~~it~~the mixture exhibits one or more of the ~~characteristics~~characteristic of ignitability, characteristic of corrosivity, or characteristic of reactivity as

regulated under paragraph (A)(2)(d) of this rule is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code for which the hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code was listed.

(H) Regarding radioactive mixed waste.

(1) Hazardous waste containing radioactive waste is no longer a hazardous waste when ~~it~~the waste meets the eligibility criteria and conditions of rules 3745-266-210 to 3745-266-335 of the Administrative Code ("eligible radioactive mixed waste").

(2) The exemption described in paragraph (H)(1) of this rule also pertains to the following:

(a) Any mixture of a waste and an eligible radioactive mixed waste~~; and~~.

(b) Any waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(3) Waste exempted under this rule ~~must~~shall meet the eligibility criteria and specified conditions in paragraph (B) of rule 3745-266-220 and paragraph (C) of rule 3745-266-220 of the Administrative Code (for storage and treatment) and in rule 3745-266-310 and paragraph (A) of rule 3745-266-315 of the Administrative Code (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

(I) The director will advise the public of changes to the lists of hazardous wastes in rule 3745-51-30 of the Administrative Code and of exclusions pursuant to 40 CFR 260.22.

[Comment: For dates of non-regulatory government publications, publications of recognized 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."]

Effective: 03/24/2017

Five Year Review (FYR) Dates: 11/29/2016 and 11/29/2021

CERTIFIED ELECTRONICALLY

Certification

02/15/2017

Date

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

(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/blends~~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/blends~~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/blends~~mixtures or blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent ~~mixtures/blends~~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/blends~~mixtures or blends containing, before use, a	(T)

	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.	
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/blends~~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/stripping~~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 sludges 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	(T)

	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 ~~Subtitle~~ 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.	
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~~hexachlorophene from	(H)

	highly purified 2,4,5-trichlorophenol.)	
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 dessicant 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	(T)

	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~~or pentachlorophenol.	
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 ~~and/or~~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 ~~and/or~~or pentachlorophenol.	(T)
F037	Petroleum refinery primary ~~oil/water/solids~~oil or water or solids separation sludge. Any sludge generated from the gravitational separation of ~~oil/water/solids~~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/water/solids~~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/water/solids~~oil or water or solids separation sludge. Any sludge ~~and/or~~or float generated from the physical ~~and/or~~or chemical separation of ~~oil/water/solids~~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 ~~number(s)~~numbers: F020, F021, F022, F026, F027, ~~and/or~~or F028.)	(T)
* (I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.		

(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 ~~and/or~~or water ~~and/or~~or solids, and "oil or water or solids" is the term used in the hazardous waste rules.

(2) For the purposes of the F037 and F038 listings:

(a) ~~For the purposes of the F037 and F038 listings, an~~An "aggressive biological treatment unit" is defined as a unit which employs one of the following four treatment methods:

(i) Activated sludge;

(ii) Trickling filter;

(iii) Rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or

(iv) 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 the unit employs a minimum of six horse power per million gallons of treatment volume~~;~~, and either:

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

(b) 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 leaching procedure.

(b) Generators and treatment, storage, and disposal facilities have the burden of proving that ~~their~~ sludges from those facilities are exempt from listings as F037 and F038 wastes under this definition. Generators and treatment, storage, and disposal facilities ~~must~~shall maintain, in ~~their~~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 ~~and/or~~or F038 were actually generated in the aggressive biological treatment unit.

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

(3) For the purposes of:

(a) ~~For the purposes of the~~ 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~~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 ~~they are formed~~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/utility~~trucks or utility vehicles (including light duty vans, pickup trucks, minivans, and sport utility vehicles). Facilities ~~must~~shall be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.

(b) Generators ~~must~~shall maintain in ~~their~~ 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 ~~must~~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 ~~must~~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.

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CERTIFIED ELECTRONICALLY

Certification

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3745-51-32 **Hazardous waste from specific sources.**

(A) The following wastes are listed hazardous wastes from specific sources unless ~~they~~the wastes are excluded under 40 CFR 260.20 and 40 CFR 260.22 and 40 CFR Part 261 appendix IX.

Industry and EPA Hazardous Waste No.	Hazardous Waste	Code
Wood preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes ~~of~~ that use creosote ~~and/or~~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	(R,T)

K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R,T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	(T)
K018	Heavy ends from the fractionation column 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~~phenol or 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 methy ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R,T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane	(T)
K029	Spent catalyst from the hydrochlorinator reactor in the	(T)

	production of 1,1,1-trichloroethane	
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
K083	Distillation bottoms from aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K093	Distillation light ends from the production of phthalic anhydride from orthoxylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from orthoxylene	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from ~~nitrobenzene/aniline~~nitrobenzene or aniline production	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)

K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride.)	(T)
K150	Organic residuals, excluding spent carbon absorbent, from the spent chlorine gas and hydrochloric acid recovery process associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of	(T)

	wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups~~.~~	
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K158	Bag house dusts and ~~filter/separation~~filter or separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(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~~dithiocarbamate acids salts. (This listing does not include K125 or K126.)	(R,T)
K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (a) ~~they~~The sludges are disposed of in a hazardous waste or non-hazardous waste landfill licensed or permitted by the state or federal government~~;~~. (b) ~~they~~The sludges are not otherwise placed on the land prior to final disposal~~; and~~. (c) ~~the~~The generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the regulations adopted under Chapter 3734. of the Revised Code or ~~subtitle C of~~ RCRA ~~must~~subtitle C, upon a showing by the government that the respondent managed wastewater treatment sludges	(T)

	from the production of vinyl chloride monomer or ethylene dichloride, shall demonstrate that ~~they~~the respondents meet the terms of the exclusion ~~set forth~~provided in this description. In doing so, ~~they must~~the respondents shall provide appropriate documentation (e.g., contracts between the generator and the landfill ~~owner/operator~~owner or operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met.	
K175	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process	(T)
K181	Nonwastewaters from the production of dyes ~~and/or~~or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (C) of this rule that are equal to or greater than the corresponding paragraph (C) levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (a) disposed in a RCRA subtitle D landfill unit subject to the design criteria in 40 CFR 258.40, (b) disposed in a RCRA subtitle C landfill unit subject to either rule 3745-57-03 or rule 3745-68-05 of the Administrative Code, (c) disposed in other RCRA subtitle D landfill units that meet the design criteria in 40 CFR 258.40, rule 3745-57-03 of the Administrative Code, or rule 3745-68-05 of the Administrative Code, or (d) treated in a combustion unit that is permitted under RCRA subtitle C, or an onsite combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, "dyes ~~and/ or~~or pigments production" is defined in paragraph (B)(1) of this rule. Paragraphs (D) to (D)(5) of this rule describe the process for demonstrating that a facility's nonwastewaters are not K181. (This listing does not apply to wastes that are otherwise identified as hazardous under rules 3745-51-21 to 3745-51-24 of the Administrative Code and rules 3745-51-31 to 3745-51-33 of the Administrative Code at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met.)	(T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used	(T)

K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide)	(E)
K177	Slag from the production of antimony oxide that is ~~speculatively~~ accumulated speculatively or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide)	(T)
K178	Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process	(T)
Pesticides:		
K031	By-product salts generated in the production of monosodium acid methanearsonate (MSMA) and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate	(T)

K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts	(C,T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide	(C,T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds	(T)
K047	~~Pink/red~~Pink or red water from trinitrotoluene (TNT)	(R)

	operations	
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
K169	Crude oil storage tank sediment from petroleum refining operations~~.~~	(T)
K170	Clarified slurry oil tank sediment ~~and/or~~or in-line ~~filter/separation~~filter or separation solids from petroleum refining operations~~.~~	(T)
K171	Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (~~this~~This listing does not include inert support media.)~~.~~	(I,T)
K172	Spent hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors. (~~this~~This listing does not include inert support media.)~~.~~	(I,T)
Iron and steel:		
K061	Emission control ~~dust/sludge~~dust or sludge from the primary production of steel in electric furnaces	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332)	(C,T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction	(T)
Secondary lead:		
K069	Emission control ~~dust/sludge~~dust or sludge from secondary	(T)

	lead smelting, except for sludge generated from secondary acid scrubber systems~~.~~	
K100	Waste leaching solution from acid leaching of emission control ~~dust/sludge~~dust or sludge from secondary lead smelting	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
Ink formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. [This listing does not include K087 (decanter tank tar sludges from coking operations).]	(T)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal~~.~~	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal~~.~~	(T)

K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal~~.~~	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal~~.~~	(T)
K147	Tar storage tank residues from coal tar refining~~.~~	(T)
K148	Residues from coal tar distillation, including, but not limited to, still bottoms~~.~~	(T)

(B) Listing specific definitions:

(1) For the purposes of the K181 listing, "dyes ~~and/or~~or pigments production" is defined to include manufacture of the following product classes: dyes, pigments, or "Food and Drug Administration" (FDA) certified colors that are classified as azo, triarylmethane, perylene or anthraquinone classes. Azo products include azo, monoazo, diazo, triazo, polyazo, azoic, benzidine, and pyrazolone products. Triarylmethane products include both triarylmethane and triphenylmethane products. Wastes that are not generated at a dyes ~~and/or~~or pigments manufacturing site, such as wastes from the offsite use, formulation, and packaging of dyes ~~and/or~~or pigments, are not included in the K181 listing.

(2) [Reserved.]

(C) K181 listing levels. Nonwastewaters containing constituents in amounts equal to or exceeding the following levels during any calendar year are subject to the K181 listing, unless the conditions in the K181 listing are met.

Constituent	Chemical abstracts number	Mass levels ~~(kg/yr)~~(kilograms per year)
Aniline	62-53-3	9,300
o-Anisidine	90-04-0	110
4-Chloroaniline	106-47-8	4,800
p-Cresidine	120-71-8	660
2,4-Dimethylaniline	95-68-1	100
1,2-Phenylenediamine	95-54-5	710

1,3-Phenylenediamine	108-45-2	1,200

(D) Procedures for demonstrating that dyes ~~and/or~~or pigment nonwastewaters are not K181. The procedures described in paragraphs (D)(1) to (D)(3)(k)(iii) and (D)(5) of this rule establish when nonwastewaters from the production of ~~dyes/pigments~~dyes or pigments would not be hazardous [these procedures apply to wastes that are not disposed in landfill units or treated in combustion units as specified in paragraph (A) of this rule]. If the nonwastewaters are disposed in landfill units or treated in combustion units as described in paragraph (A) of this rule, then the nonwastewaters are not hazardous. In order to demonstrate that ~~it~~the generator is meeting the landfill disposal or combustion conditions contained in the K181 listing description, the generator ~~must~~shall maintain documentation as described in paragraph (D)(4) of this rule.

(1) Determination based on no K181 constituents. Generators that have knowledge (e.g., knowledge of constituents in wastes based on prior sampling and analysis data ~~and/or~~or information about raw materials used, production processes used, and reaction and degradation products formed) that ~~their~~the generator's wastes contain none of the K181 constituents [see paragraph (C) of this rule] can use ~~their~~the generator's knowledge to determine that ~~their~~the generator's waste is not K181. The generator ~~must~~shall document the basis for all such determinations on an annual basis and keep each annual documentation for three years.

(2) Determination for generated quantities of one thousand metric tons per year or less for wastes that contain K181 constituents. If the total annual quantity of dyes ~~and/or~~or pigment nonwastewaters generated is one thousand metric tons or less, the generator may use knowledge of the wastes (e.g., knowledge of constituents in wastes based on prior analytical data ~~and/or~~or information about raw materials used, production processes used, and reaction and degradation products formed) to conclude that annual mass loadings for the K181 constituents are below the listing levels in paragraph (C) of this rule. To make this determination, the generator ~~must~~shall:

(a) Each year document the basis for determining that the annual quantity of nonwastewaters expected to be generated will be less than one thousand metric tons.

(b) Track the actual quantity of nonwastewaters generated from January ~~1~~first to December ~~31~~thirty-first of each year. If, at any time within the year, the actual waste quantity exceeds one thousand metric tons, the generator ~~must~~shall comply with ~~the requirements of~~ paragraphs (D)(3) to (D)(3)(k)(iii) of this rule for the remainder of the year.

(c) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(d) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

(i) The quantity of dyes ~~and/or~~or pigment nonwastewaters generated.

(ii) The relevant process information used.

(iii) The calculations performed to determine annual total mass loadings for each K181 constituent in the nonwastewaters during the year.

(3) Determination for generated quantities greater than one thousand metric tons per year for wastes that contain K181 constituents. If the total annual quantity of dyes ~~and/or~~or pigment nonwastewaters generated is greater than one thousand metric tons, the generator ~~must~~shall perform all of the steps described in paragraphs (D)(3)(a) to (D)(3)(k)(iii) of this rule in order to make a determination that ~~its~~the generator's waste is not K181.

(a) Determine which K181 constituents [see paragraph (D) of this rule~~)~~] are reasonably expected to be present in the wastes based on knowledge of the wastes (e.g., based on prior sampling and analysis data ~~and/or~~or information about raw materials used, production processes used, and reaction and degradation products formed).

(b) If 1,2-phenylenediamine is present in the wastes, the generator may use either knowledge or sampling and analysis procedures to determine the level of this constituent in the wastes. For determinations based on use of knowledge, the generator ~~must~~shall comply with the procedures for using knowledge described in paragraph (D)(2) of this rule and keep the records described in paragraph (D)(2)(d) of this rule. For determinations based on sampling and analysis, the generator ~~must~~shall comply with the sampling and analysis and recordkeeping requirements described in paragraph (D)(4) of this rule.

(c) Develop a waste sampling and analysis plan (or modify an existing plan) to collect and analyze representative waste samples for the K181 constituents reasonably expected to be present in the wastes. At a minimum, the plan ~~must~~shall include:

(i) A discussion of the number of samples needed to characterize the wastes fully~~;~~.

(ii) The planned sample collection method to obtain representative waste samples~~;~~.

(iii) A discussion of how the sampling plan accounts for potential temporal and spatial variability of the wastes.

(iv) A detailed description of the test methods to be used, including sample preparation, clean up (if necessary), and determinative methods.

(d) Collect and analyze samples in accordance with the waste sampling and analysis plan.

(i) The sampling and analysis ~~must~~shall be unbiased, precise, and representative of the wastes.

(ii) The analytical measurements ~~must~~shall be sufficiently sensitive, accurate, and precise to support any claim that the constituent mass loadings are below the listing levels in paragraph (C) of this rule.

(e) Record the analytical results.

(f) Record the waste quantity represented by the sampling and analysis results.

(g) Calculate constituent-specific mass loadings (product of concentrations and waste quantity).

(h) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(i) Determine whether the mass of any of the K181 constituents listed in paragraph (C) of this rule generated between January ~~1~~first and December ~~31~~thirty-first of any year is below the K181 listing levels.

(j) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made

(i) The sampling and analysis plan.

(ii) The sampling and analysis results (including quality ~~assurance/quality~~assurance or quality control data).

(iii) The quantity of dyes ~~and/or~~or pigment nonwastewaters generated.

(iv) The calculations performed to determine annual mass loadings.

(k) Nonhazardous waste determinations ~~must~~shall be conducted annually to verify that the wastes remain nonhazardous.

(i) The annual testing requirements are suspended after three consecutive successful annual demonstrations that the wastes are nonhazardous. The generator may then use knowledge of the wastes to support subsequent annual determinations.

(ii) The annual testing requirements are reinstated if the manufacturing or waste treatment processes generating the wastes are significantly altered, resulting in an increase of the potential for the wastes to exceed the listing levels.

(iii) If the annual testing requirements are suspended, the generator ~~must~~shall keep records of the process knowledge information used to support a nonhazardous determination. If testing is reinstated, a description of the process change ~~must~~shall be retained.

(4) Recordkeeping for the landfill disposal and combustion exemptions. For the purposes of meeting the landfill disposal and combustion condition ~~set out~~provided in the K181 listing description, the generator ~~must~~shall maintain on site for three years documentation demonstrating that each shipment of waste was received by a landfill unit that is subject to or meets the landfill design standards ~~set out~~provided in the listing description, or was treated in

combustion units as specified in the listing description.

(5) Waste holding and handling. During the interim period (that is, from the point of generation to completion of the hazardous waste determination), the generator is responsible for storing the wastes appropriately. If the wastes are determined to be hazardous and the generator has not complied with the "hazardous waste rules" (as defined in rule 3745-50-10 of the Administrative Code) during the interim period, the generator could be subject to an enforcement action for improper management.

[Comment: For dates of non-regulatory government publications, publications of recognized 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."]

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CERTIFIED ELECTRONICALLY

Certification

02/15/2017

Date

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