

a. Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

b. Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

c. Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; and through-the-blue.

d. Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

e. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

f. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

g. Waste scrap leather from the leather tanning industry, the shoe manufacturing industry and other leather product manufacturing industries.

h. Wastewater treatment sludges from the production of titanium dioxide pigment using chromium-bearing ores by the chloride process.

11. Mining overburden returned to the mine site.

12. Solid waste from the extraction, beneficiation and processing of ores and minerals, including coal, phosphate rock and the overburden from the mining of uranium ore.

13. Until September 30, 1990, bottom ash waste, fly ash waste, slag waste and flue gas emission control waste generated from the combustion of municipal solid waste. After September 30, 1990, bottom ash waste, fly ash waste, slag waste and flue gas emission control waste generated from the combustion of municipal solid waste at a facility approved by the department under s. NR 502.14.

14. By-products exhibiting a characteristic of hazardous waste that are reclaimed and complies with pars. (c) and (d).

Note: This exclusion does not apply to listed by-products included in s. NR 605.09.

15. Domestic sewage.

16. Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(b) The following hazardous wastes are not subject to the requirements of chs. NR 610 to 685 when they are recycled and if the generator complies with pars. (c) and (d):

1. Scrap metal that is legitimately recovered or reclaimed.
2. Industrial ethyl alcohol that is legitimately recovered or reclaimed, except that:

a. A person initiating a shipment for legitimate recovery or reclamation in a foreign country, and any intermediary arranging for the shipment, shall comply with the requirements applicable to a primary exporter in s. NR 615.12 (1) (a), (j) 1. to 4., 6. and 7., and (k) to (n), export the materials only upon consent of the receiving country and conforming with the EPA acknowledgment of consent, and provide a copy of the EPA acknowledgment of consent for the shipment to the transporter transporting the shipment for export;

b. Transporters transporting a shipment for export may not accept a shipment if the transporter knows the shipment does not conform to the EPA acknowledgment of consent, shall ensure that a copy of the EPA acknowledgment of consent accompanies the shipment and shall ensure that it is delivered to the facility designated by the person initiating the shipment.

(c) Generators of wastes that are excluded under pars. (a) 12. and (b) shall demonstrate, at the department's request, compliance with the terms of the exclusions by providing the following information:

1. The name, location and address of the recycling facility;
2. A description of the waste, hazardous waste number and waste quantity;
3. A detailed description of the recycling process and how the waste is used as an ingredient in the process;
4. A demonstration that there is a market or disposition of the waste; and

Note: An example of a demonstration of a market or disposition would be a contract showing the recycling facility uses the recyclable waste material as an ingredient in a production process.

5. Documentation that the recycling facility has the necessary equipment to conduct the recycling activity.

(d) The exclusions included in pars. (a) 12. and (b) do not apply to wastes that are used in a manner constituting disposal or speculatively accumulated. Wastes that are used in a manner constituting disposal or speculatively accumulated are hazardous waste and shall be managed in accordance with all the requirements of chs. NR 600 to 685.

(2) GENERATION OF WASTE IN PRODUCT OR RAW MATERIAL UNITS. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material vehicle, railroad freight car, vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment manufacturing unit, is not subject to regulation under chs. NR 600 to 685 until it exits the unit in which it was generated, unless the unit is a surface impoundment or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to

be operated for manufacturing, or for storage or transportation of product or raw materials. In accordance with s. NR 615.05 (4) (a) 4., the date upon which each period of accumulation begins after the unit ceases to be operated for manufacturing, or for storage or transportation of product

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The second part of the document outlines the various methods used to collect and analyze data, including interviews, surveys, and focus groups. The third part of the document describes the results of the study, which show that there is a significant correlation between the use of accurate records and the reliability of the financial statements. The fourth part of the document discusses the implications of these findings for practice and for future research.

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7. The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(h) The facility keeps, on-site, a copy of the treatability study contract and shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date for each treatability study.

(i) The facility prepares and submits a report to the department by March 15 of each year that estimates the number of studies and amount of waste expected to be used in treatability studies during the current year and includes the following information for the previous calendar year:

1. The name, address and EPA identification number of the facility conducting the treatability studies;

2. The types, by process, of treatability studies conducted;

3. The names and addresses of persons for whom studies have been conducted, including their EPA identification numbers;

4. The total quantity of waste in storage each day;

5. The quantity and types of waste subjected to treatability studies;

6. When each treatability study was conducted;

7. The final disposition of residues and unused sample from each treatability study.

(j) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under s. NR 605.07 and, if so, are subject to chs. NR 600 to 685, unless the residues and unused samples are returned to the sample originator under the s. NR 605.05 (4) exemption.

(k) The facility notifies the department, by letter, when the facility is no longer planning to conduct any treatability studies at the site.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; cr. (1) (a) 13., Register, May, 1992, No. 437, eff. 6-1-92.

NR 605.06 Residues of hazardous waste in empty containers. (1) Any hazardous waste that is remaining in either an empty container or an inner liner removed from an empty container, that meet the criteria in sub. (3), (4) or (5), is not subject to regulation under chs. NR 600 to 685.

(2) Any hazardous waste in either a container that is not empty or an inner liner removed from a container that is not empty, as specified in sub. (3) to (5), is subject to regulation under chs. NR 600 to 685.

(3) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is listed as an acute hazardous waste in s. NR 605.09 (2) (a), table II or (b), table III, or identified in table IV of s. NR 605.09 (3) (b), is empty if all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container; and

Note: Examples of commonly employed practices would be pouring, pumping and aspirating

(a) No more than 2.5 centimeters (one inch) of residue remains on the bottom of the container or inner liner, or

(b) No more than 3% by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

(c) No more than 0.3% by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(4) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric pressure.

(5) A container or an inner liner removed from a container that has held an acute hazardous waste listed in s. NR 605.09 (2) (a), table II or (b), table III, or identified in s. NR 605.09 (3) (b), table IV is empty if:

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

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

(c) In the case of a container, the inner liner, that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

Note: Empty containers and rinsate from the cleaning or reconditioning of empty containers are regulated as solid waste under chs. NR 500 to 522. In addition, any rinsate from the cleaning or reconditioning of empty containers as specified in this section is subject to regulation as a hazardous waste under chs. NR 600 to 695 if it exhibits any of the characteristics in s. NR 605.08.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 605.07 Criteria for identifying the characteristics of hazardous waste and for listing hazardous waste. (1) CRITERIA FOR IDENTIFYING THE CHARACTERISTICS OF HAZARDOUS WASTE. The department shall identify and define a characteristic of hazardous waste only upon determining that:

(a) A solid waste that exhibits the characteristic may:

1. Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

2. Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(b) The characteristic may be:

1. Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

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2. Reasonably detected by generators of solid waste through their knowledge of their waste.

(2) CRITERIA FOR LISTING HAZARDOUS WASTE. (a) The department shall list a solid waste as a hazardous waste under s. NR 605.09 only upon determining that the solid waste meets one of the following criteria:

1. It exhibits any of the characteristics of hazardous waste identified in s. NR 605.08.

2. It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown to have an oral LD50 toxicity measured in rats of less than 50 milligrams per kilogram, an inhalation LC50 toxicity measured in rats of less than 2 milligrams per liter, or a dermal LD50 toxicity measured in rabbits of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness.

3. It contains any of the hazardous constituents listed in Appendix IV unless, after considering any of the following factors, the department concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed or otherwise managed:

a. The nature of the toxicity presented by the constituent.

b. The concentrations of the constituent in the waste.

c. The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in subpar. g.

d. The persistence of the constituent or any toxic degradation product of the constituent.

e. The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

f. The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

g. The plausible types of improper management to which the waste could be subjected.

h. The quantities of the waste generated at individual generation sites or on a regional or statewide basis.

i. The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

j. Actions taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

k. Other factors as may be relevant in a specific case.

(b) The department may list classes or types of solid waste if there is reason to believe that individual wastes, within the class or type of

waste, typically or frequently because their quantity, concentration, or physical, chemical or infectious characteristics, may:

1. Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

2. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.

(c) Hazardous wastes which have been listed in accordance with the criteria in par. (a) 2. are designated as acute hazardous wastes and wastes which have been listed in accordance with the criterion in par. (a) 3. are designated as toxic wastes.

Note: Section 144.62, Stats., requires the department to add any waste listed by U. S. EPA to the lists in s. NR 605.09. The criteria of sub. (2) apply only to wastes listed by Wisconsin.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 605.08 Characteristics of hazardous waste. (1) GENERAL. (a) A solid waste which is not excluded from regulation under s. NR 605.05 (1) is a hazardous waste if it exhibits any of the characteristics identified in this section.

(b) A hazardous waste which is identified by a characteristic in this section, but is not listed as a hazardous waste in s. NR 605.09, is assigned the hazardous waste number for that characteristic in this section. This number shall be used in complying with the notification requirements in s. NR 600.05 and record-keeping and reporting requirements under chs. NR 610, 615, 620 and 630.

(c) For purposes of this section, the department shall consider a sample obtained using any of the applicable sampling methods specified in appendix I to be a representative sample.

(2) CHARACTERISTIC OF IGNITABILITY. (a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

1. It is a liquid, other than an aqueous solution containing less than 24% alcohol by volume, and has a flash point less than 60°C (140°F), as determined by a Pensky-Martens closed cup tester, using the test method specified in ASTM standard D-93-79, or D-93-80, or a Setafash closed cup tester, using the test method specified in ASTM standard D-3278-78, or as determined by an equivalent test method approved by EPA.

Note: The publications containing these standards may be obtained from:

American Society for Testing and Materials
1916 Race Street
Philadelphia, PA 19103

The publications containing these standards are available for inspection at the offices of the department, the secretary of state and the revisor of statutes.

2. It is not a liquid and is capable, at a temperature of 25°C and a pressure of one atmosphere, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

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3. It is an ignitable compressed gas as defined in 49 CFR 173.300 [November 1, 1985], and as determined by the test methods described in that regulation, ASTM standard D-323, or equivalent test methods approved by EPA.

Note: The publication containing this regulation may be obtained from:

The Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

The publication containing this regulation is available for inspection at the offices of the department, the secretary of state and the revisor of statutes.

4. It is an oxidizer, such as a chlorate, permanganate, inorganic peroxide, nitro carbo nitrate or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter.

(b) A solid waste that exhibits the characteristic of ignitability, but is not listed as hazardous waste in s. NR 605.09 (2), has the hazardous waste number of D001.

(3) CHARACTERISTIC OF CORROSIVITY. (a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

1. It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either EPA test method 9040 in SW-846, "Test Methods for Evaluating Solid Waste", 2nd Ed., 1982, as amended by update I in April, 1984 and update II in April, 1985 or an equivalent test method approved by EPA.

Note: This publication may be obtained from:

The Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

This publication is available for inspection at the offices of the department, the secretary of state and the revisor of statutes.

2. It is a liquid and corrodes plain carbon steel with a carbon content of 0.20% at a rate greater than 6.35 mm (0.250-inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) standard TM-01-69 as standardized in SW-846, "Test Methods for Evaluating Solid Waste", second edition, 1982, as amended by update I in April, 1984 and update II in April, 1985, or an equivalent test method approved by EPA.

(b) A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in s. NR 605.09 (2), has the hazardous waste number of D002.

(4) CHARACTERISTIC OF REACTIVITY. (a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

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

2. It reacts violently with water.

3. It forms potentially explosive mixtures with water.

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

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

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

7. It is readily capable of detonation or explosive decomposition or reaction at a temperature of 25°C and a pressure of one atmosphere.

8. It is a forbidden explosive as defined in 49 CFR 173.51 [November 1, 1985], or a Class A explosive as defined in 49 CFR 173.53 [November 1, 1985], or a Class B explosive as defined in 49 CFR 173.88 [November 1, 1985].

Note: The publications containing these regulations may be obtained from:

The Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

The publications containing these regulations are available for inspection at the offices of the department, the secretary of state and the revisor of statutes.

(b) A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in s. NR 605.09 (2), has the hazardous waste number of D003.

(5) CHARACTERISTIC OF EP TOXICITY. (a) A solid waste exhibits the characteristic of extraction procedure (EP) toxicity if, using the test methods described in s. NR 605.11, the extract from a representative sample of the waste contains any of the contaminants listed in table I at a concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5% filterable solids, the waste itself, after filtering, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in s. NR 605.09 (2), has the hazardous waste number specified in table I which corresponds to the toxic contaminant causing it to be hazardous.

Table I
Maximum Concentration of Contaminants for Characteristic
of EP Toxicity

Hazardous Waste Number	Contaminant	Maximum Concentration (milligrams per liter)
D004	Arsenic.....	.5.0
D005	Barium.....	100.0
D006	Cadmium.....	1.0
D007	Chromium.....	.5.0
D008	Lead.....	.5.0
D009	Mercury.....	.0.2
D010	Selenium.....	1.0

Hazardous Waste Number	Contaminant	Maximum Concentration (milligrams per liter)
D011	Silver	5.0
D012	Endrin (1, 2, 3, 4, 10, 10 hexachloro-1,7-epoxy-1, 4, 4a, 5, 6, 7, 8, 8a-octahydro-1, 4-endo, endo-5, 8-dimethano naphthalene)	0.02
D013	Lindane (1, 2, 3, 4, 5, 6 hexachlorocyclohexane, gamma isomer)	0.4
D014	Methoxychlor (1, 1, 1 Trichloro-2, 2-bis (p methoxyphenyl) ethane)	10.0
D015	Toxaphene (C10H10Cl8, Technical chlorinated camphene, 67-69 per cent chlorine)	0.5
D016	2, 4-D, (2, 4 Dichlorophenoxyacetic acid)	10.0
D017	2, 4, 5-TP Silvex (2, 4, 5 Trichlorophenoxypropionic acid)	1.0

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 605.09 Lists of hazardous wastes. (1) GENERAL. (a) A solid waste is a hazardous waste if it is listed in this section, unless it has been excluded from the lists under s. NR 605.10.

(b) The department has indicated the basis for listing the classes or types of wastes listed in this section by employing one or more of the following hazard codes:

1. Ignitable waste (I)
2. Corrosive waste (C)
3. Reactive waste (R)
4. EP toxic waste (E)
5. Acute hazardous waste (H)
6. Toxic waste (T)

Note: Appendix III identifies the constituent which caused the department to list the waste as an EP toxic waste (E) or toxic waste (T) in sub. (2) (a) and (b).

(c) Each hazardous waste listed in subs. (2) and (3) is assigned a hazardous waste number which precedes the name of the waste. This number shall be used in complying with the notification requirements of s. NR 600.05 and recordkeeping requirements under chs. NR 610, 615, 620 and 630.

(d) The following hazardous wastes listed in table II of sub. (2) are acute hazardous wastes subject to the exclusion limits established in s. NR 610.09:

1. Hazardous waste numbers F020, F021, F022 and F023; and
2. Hazardous waste numbers F026 and F027.

(2) HAZARDOUS WASTE SOURCES. (a) Solid waste from nonspecific sources is a hazardous waste if it is listed in table II.

Table II
Hazardous Waste from Nonspecific Sources

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 mixtures and blends of spent solvents used in degreasing containing, before use, a total of 10% 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, ortho-dichlorobenzene, trichlorofluoromethane and 1,1,2-trichloroethane; all mixtures and blends of spent solvents containing, before use, a total of 10% 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 mixtures and blends of spent solvents containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents and a total of 10% 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, cresylic acid, and nitrobenzene; all mixtures and blends of spent solvents containing, before use, a total of 10% 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 mixtures and blends of spent solvents containing, before use, a total of 10% 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. Note: Electroplating operations are considered to include common and precious metals electroplating, anodizing, chemical etching and milling, and cleaning and stripping when associated with these processes. For more information, refer to 51 FR 43350 to 43351, Tuesday, December 2, 1986.	(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)

pressure differential, vacuum filters employing a 0.45 micrometers filter media may be used.

Note: For further guidance on filtration equipment for procedures see SW-846, "Test Methods for Evaluating Solid Waste". This publication is available from: The Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, and is available for inspection at the offices of the department, the secretary of state and the revisor of statutes.

(b) Procedure. 1. Following manufacturer's directions, the filter unit shall be assembled with a filter bed consisting of a 0.45 micrometer filter membrane. For difficult or slow to filter mixtures a prefilter bed consisting of the following prefilters in increasing pore size (0.65 micrometer membrane, fine glass fiber prefilter, and coarse glass fiber prefilter) shall be used.

2. The waste shall be poured into the filtration unit.

3. The reservoir shall be slowly pressurized until liquid begins to flow from the filtrate outlet at which point the pressure in the filter shall be immediately lowered to 10-15 psig. Filtration shall be continued until liquid flow ceases.

4. The pressure shall be increased stepwise in 10 psi increments to 75 psig and filtration continued until flow ceases or the pressurizing gas begins to exit from the filtrate outlet.

5. The filter unit shall then be depressurized, the solid material removed and weighed and then transferred to the extraction apparatus, or, in the case of final filtration prior to analysis, discarded. Do not allow the material retained on the filter pad to dry prior to weighing.

6. The liquid phase shall be stored at 4°C for subsequent use in sub. (1) (h).

Note: This procedure is intended to result in separation of the "free" liquid portion of the waste from any solid matter having a particle size greater than 0.45 µm. If the sample will not filter, various other separation techniques may be used to aid in the filtration. As described above, pressure filtration is employed to speed up the filtration process. This does not alter the nature of the separation. If liquid does not separate during filtration, the waste may be centrifuged. If separation occurs during centrifugation, the liquid portion, the centrifugate, is filtered through the 0.45 µ filter prior to becoming mixed with the liquid portion of the waste obtained from the initial filtration. Any material that does not pass through the filter after centrifugation is considered a solid and is extracted.

(3) STRUCTURAL INTEGRITY PROCEDURE. (a) Equipment. A structural integrity tester having a 3.18 cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) shall be used.

Note: The device may be obtained from Associated Design and Manufacturing Company, Alexandria, VA 22314, as Part No. 125.

(b) Procedure. 1. The sample holder should be filled with the material to be tested. If the sample of waste is a large monolithic block, a portion shall be cut from the block having the dimensions of 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder. For a fixated waste, samples may be cast in the form of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.

2. The sample holder shall be placed into the structural integrity tester, then the hammer shall be raised to its maximum height and dropped. This shall be repeated 15 times.

3. The material shall be removed from the sample holder, weighed and transferred to the extraction apparatus for extraction.

(4) ANALYTICAL PROCEDURES FOR ANALYZING EXTRACT CONTAMINANTS. The test methods for analyzing the extract are as follows:

(a) For arsenic, barium, cadmium, chromium, lead, mercury, selenium or silver: "Methods for Chemical Analysis of Water and Wastes", as contained in SW-846, "Test Methods for Evaluating Solid Waste", second edition, 1982, as amended by update I in April, 1984 and update II in April, 1985.

(b) For endrin; lindane; methoxychlor; toxaphene; 2,4-D; 2,4,5-TP Silvex; in "Methods for Benzidine, Chlorinated Organic Compounds, Pentachlorophenol and Pesticides in Water and Wastewater", as contained in SW-846, "Test Methods for Evaluating Solid Waste", second edition, 1982, as amended by update I in April, 1984 and update II in April, 1985.

(c) For all analyses, the method of standard addition shall be used for the quantification of species concentration. This method is described in SW-846, "Test Methods for Evaluating Solid Waste", second edition, 1982, as amended by update I in April, 1984 and update II in April, 1985.

Note: This publication may be obtained from:

The Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

This publication is available for inspection at the offices of the department, the secretary of state, and the revisor of statutes.

Note: For detailed guidance on conducting the various aspects of the toxic extraction procedure see SW846, "Test Methods for Evaluating Solid Waste", second edition, 1982, as amended by update I in April, 1984, and update II in April, 1985. This publication is available from:

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History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 605.12 Analytical methods. (1) Chemical and physical samples shall be analyzed by a laboratory certified or registered under ch. NR 149. The following tests are excluded from this requirement:

- (a) Physical tests of soil,
- (b) Air quality tests,
- (c) Gas tests,
- (d) Field pH tests,
- (e) Field conductivity,
- (f) Turbidity tests,
- (g) Water elevation,
- (h) Temperature,

Register, May, 1992, No. 437