

Chapter NR 661

HAZARDOUS WASTE IDENTIFICATION AND LISTING

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Subchapter A — General

NR 661.01 Purpose and scope. (1) This chapter identifies those solid wastes which are subject to regulation as hazardous wastes under chs. NR 662 to 665, 668 and 670 and which are subject to the notification requirements of s. NR 660.07. In this chapter:

(a) Subchapter A defines the terms “solid waste” and “hazardous waste”, identifies those wastes which are excluded from regulation under chs. NR 662 to 670 and establishes special management requirements for hazardous waste which is recycled.

(b) Subchapter B sets forth the criteria used by the department to identify characteristics of hazardous waste and to list particular hazardous wastes.

(c) Subchapter C identifies characteristics of hazardous waste.

(d) Subchapter D lists particular hazardous wastes.

(2) (a) The definition of solid waste contained in this chapter applies only to wastes that also are hazardous for purposes of chs. NR 660 to 673. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles or rubber) that are not otherwise hazardous wastes and that are recycled.

(b) This chapter identifies only some of the materials which are solid wastes and hazardous wastes under ss. 291.15, 291.85, 291.91, and 291.93, Stats. A material which is not defined as a solid waste in this chapter, or is not a hazardous waste identified or listed in this chapter, is still a solid waste and a hazardous waste for purposes of these sections if any of the following are met:

1. In the case of ss. 291.15, 291.91 and 291.93, Stats., the department has reason to believe that the material may be a solid waste within the meaning of s. 289.01 (33), Stats., and a hazardous waste within the meaning of s. 291.01 (7), Stats.

2. In the case of s. 291.85, Stats., the statutory elements are established.

(3) For the purposes of ss. NR 661.02 and 661.06:

(a) A “spent material” is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(b) “Sludge” has the same meaning used in s. NR 660.10.

(c) A “by-product” is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public’s use and is ordinarily used in the form it is produced by the process.

(d) A material is “reclaimed” if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(e) A material is “used or reused” if it is one of the following:

1. Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials).

2. Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(f) “Scrap metal” is bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(g) A material is “recycled” if it is used, reused or reclaimed.

(h) A material is “accumulated speculatively” if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that during the calendar year (commencing on January 1) the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75% by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75% requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under s. NR 661.04 (3) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(i) “Excluded scrap metal” is processed scrap metal, unprocessed home scrap metal and unprocessed prompt scrap metal.

(j) “Processed scrap metal” is scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of mate-

rials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Shredded circuit boards being sent for recycling are not processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (s. NR 661.04 (1) (n)).

(k) "Home scrap metal" is scrap metal as generated by steel mills, foundries and refineries such as turnings, cuttings, punchings and borings.

(L) "Prompt scrap metal" is scrap metal as generated by the metal working or fabrication industries and includes scrap metal such as turnings, cuttings, punchings and borings. Prompt scrap is also known as industrial or new scrap metal.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.02 Definition of solid waste. (1) (a) A solid waste is any discarded material that is not excluded by s. NR 661.04 (1) or that is not excluded by a variance granted under s. NR 660.30 and 660.31.

(b) A discarded material is any material which is one of the following:

1. Abandoned, as explained in sub. (2).
2. Recycled, as explained in sub. (3).
3. Considered inherently waste-like, as explained in sub. (4).
4. A military munition identified as a solid waste in s. NR 666.202.

(2) Materials are solid waste if they are abandoned by being one of the following:

- (a) Disposed of.
- (b) Burned or incinerated.

(c) Accumulated, stored or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned or incinerated.

(3) Materials are solid wastes if they are recycled, or accumulated, stored or treated before recycling, according to the following:

(a) *Used in a manner constituting disposal.* 1. Materials noted with a "*" in column 1 of Table 1 are solid wastes when they are:

- a. Applied to or placed on the land in a manner that constitutes disposal.
- b. Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

2. However, commercial chemical products listed in s. NR 661.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(b) *Burned for energy recovery.* 1. Materials noted with a "*" in column 2 of Table 1 are solid wastes when they are:

- a. Burned to recover energy.
- b. Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).
2. However, commercial chemical products listed in s. NR 661.33 are not solid wastes if they are themselves fuels.

(c) *Reclaimed.* Materials noted with a "*" in column 3 of Table 1 are solid wastes when reclaimed (except as provided under s. NR 661.04 (1) (q)). Materials noted with a "—" in column 3 of Table 1 are not solid wastes when reclaimed.

(d) *Accumulated speculatively.* Materials noted with a "*" in column 4 of Table 1 are solid wastes when accumulated speculatively.

Table 1

	Use constituting disposal (s. NR 661.02 (3) (a))	Energy recovery or fuel (s. NR 661.02 (3) (b))	Reclamation (s. NR 661.02 (3) (c)) (except as provided in s. NR 661.04 (1) (q) for mineral processing secondary materials)	Speculative accumulation (s. NR 661.02 (3) (d))
	1	2	3	4
Spent Materials	(*)	(*)	(*)	(*)
Sludges (listed in s. NR 661.31 or 661.32)	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)	—	(*)
By-products (listed in s. NR 661.31 or 661.32)	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)	—	(*)
Commercial chemical products listed in s. NR 661.33	(*)	(*)	—	—
Scrap metal other than excluded scrap metal (see s. NR 661.01 (3) (i))	(*)	(*)	(*)	(*)

Note: The terms spent materials, sludges, by-products, scrap metal and processed scrap metal are defined in s. NR 661.01.

(4) All of the following inherently waste-like materials are solid wastes when they are recycled in any manner:

(a) Hazardous waste numbers F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026 and F028.

(b) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subch. C or D, except for brominated material that meets all of the following criteria:

1. The material contains a bromine concentration of at least 45%.
2. The material contains less than a total of 1% of toxic organic compounds listed in ch. NR 661 Appendix VIII.
3. The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping).

(c) The department will use all of the following criteria to add wastes to that list:

1. Any of the following:
 - a. The materials are ordinarily disposed of, burned or incinerated.
 - b. The materials contain toxic constituents listed in ch. NR 661 Appendix VIII and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process.
2. The material may pose a substantial hazard to human health and the environment when recycled.

(5) (a) Materials are not solid wastes when they can be shown to be recycled by being one of the following:

1. Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed.
2. Used or reused as effective substitutes for commercial products.
3. Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at s. NR 661.04 (1) (q) apply rather than this subsection.

(b) All of the following materials are solid wastes, even if the recycling involves use, reuse or return to the original process (described in par. (a) 1. to 3.):

1. Materials used in a manner constituting disposal, or used to produce products that are applied to the land.
2. Materials burned for energy recovery, used to produce a fuel or contained in fuels.
3. Materials accumulated speculatively.
4. Materials listed in sub. (4) (a) and (b).

(6) Respondents in actions to enforce ch. 291, Stats., and chs. NR 660 to 673 who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, shall demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they shall provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials shall show that they have the necessary equipment to do so.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06; corrections in (4) (b) 2., (c) 1. b. made under s. 13.92 (4) (b) 7., Stats., Register March 2013 No. 687.

NR 661.03 Definition of hazardous waste. (1) A solid waste, as defined in s. NR 661.02, is a hazardous waste if all of the following apply:

(a) It is not excluded from regulation as a hazardous waste under s. NR 661.04 (2).

(b) It meets any of the following criteria:

1. It exhibits any of the characteristics of hazardous waste identified in subch. C. However, any mixture of a waste from the extraction, beneficiation and processing of ores and minerals excluded under s. NR 661.04 (2) (g) and any other solid waste exhibiting a characteristic of hazardous waste under subch. C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if the mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the toxicity characteristic to these mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table 2

that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

2. It is listed in subch. D and has not been excluded from the lists in subch. D under ss. NR 660.20 and 660.22.

4. It is a mixture of solid waste and one or more hazardous wastes listed in subch. D and has not been excluded from this paragraph under ss. NR 660.20 and 660.22, or sub. (7) or (8); however, the following mixtures of solid wastes and hazardous wastes listed in subch. D are not hazardous wastes (except by application of subd. 1. or 2.) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under s. 283.21 (2), 283.31 or 283.33, Stats., (including wastewater at facilities which have eliminated the discharge of wastewater) and one of the following:

a. One or more of the following solvents listed in s. NR 661.31: carbon tetrachloride, tetrachloroethylene, trichloroethylene; if 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.

b. One or more of the following spent solvents listed in s. NR 661.31: methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents; if 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 25 parts per million.

c. One of the following wastes listed in s. NR 661.32, if the wastes are discharged to the refinery oil recovery sewer before primary oil, 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 or in-line filter 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).

d. A discarded commercial chemical product, or chemical intermediate listed in s. NR 661.33, arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subdivision, de minimis losses include 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.

e. Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subch. D if the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or if the waste's combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

f. One or more of the following wastes listed in s. NR 661.32: wastewaters from the production of carbamates and carbamoyl oximes (EPA hazardous waste number K157), if the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride and triethylamine (including all amounts that can not be demonstrated to be reacted in the process, destroyed through treatment, or is 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 5 parts per million by weight.

g. Wastewaters derived from the treatment of one or more of the following wastes listed in s. NR 661.32: 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), if 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 5 milligrams per liter.

5. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subch. D. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in ch. NR 661 Appendix VIII).

a. 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 the oils or fluids are recycled in any other manner, or disposed.

b. 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.

(2) A solid waste which is not excluded from regulation under sub. (1) (a) becomes a hazardous waste when any of the following events occur:

(a) In the case of a waste listed in subch. D, when the waste first meets the listing description set forth in subch. D.

(b) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subch. D is first added to the solid waste.

(c) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subch. C.

(3) Unless and until it meets the criteria of sub. (4):

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

(b) 1. Except as otherwise provided in subd. 2. or sub. (7) or (8), any solid 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 solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this subdivision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

2. All of the following solid wastes are not hazardous even though they are generated from the treatment, storage or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

a. Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (standard industrial classification (SIC) codes 331 and 332).

b. Waste from burning any of the materials exempted from regulation by s. NR 661.06 (1) (c) 3. and 4.

c. 1) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace or electric furnace combinations or industrial furnaces (as defined in the definition for industrial furnace in s. NR 660.10 (60) (f), (g) and (m)), that are disposed in approved solid waste disposal facilities, if these residues meet the generic exclusion levels identified in the following tables for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements shall be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues shall be collected and analyzed quarterly 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 of the exclusion requirements.

Constituent	Maximum for any single composite sample—TCLP (mg/L)
Generic exclusion levels for K061 and K062 non-wastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70
Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70

2) A one-time notification and certification shall be placed in the facility's files and sent to the department 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 approved solid waste disposal facilities. The notification and certification that is placed in the generators or treaters files shall be updated if the process or operation generating the waste changes or if the approved solid waste disposal facility receiving the waste changes. However, the generator or treater need only notify the department on an annual basis if those changes occur. The notification and certification shall be sent to the department by the end of the calendar year, but no later than December 31. The notification shall include the following information: the name and address of the approved solid waste disposal facility receiving the waste shipments; the EPA hazardous waste numbers and treatability groups at the initial point of generation; and the treatment standards applicable to the waste at the initial point of generation. The certification shall be signed by an authorized representative and 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 characteristic 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."

d. Biological treatment sludge from the treatment of one of the following wastes listed in s. NR 661.32: 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).

e. Catalyst inert support media separated from one of the following wastes listed in s. NR 661.32: spent hydrotreating catalyst (EPA hazardous waste number K171), and spent hydrorefining catalyst (EPA hazardous waste number K172).

(4) Any solid waste described in sub. (3) is not a hazardous waste if it meets the following criteria:

(a) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subch. C. (However, wastes that exhibit a characteristic at the point of generation may still be subject to ch. NR 668, even if they no longer exhibit a characteristic at the point of land disposal.)

(b) In the case of a waste which is a listed waste under subch. D, contains a waste listed under subch. D or is derived from a waste listed in subch. D, it also has been excluded from sub. (3) under ss. NR 660.20 and 660.22.

(6) Notwithstanding subs. (1) to (4) and provided the debris as defined in ch. NR 668 does not exhibit a characteristic identified at subch. C, all of the following materials are not subject to regulation under chs. NR 660, 661 to 666, 668 or 670:

(a) Hazardous debris as defined in ch. NR 668 that has been treated using one of the required extraction or destruction technologies specified in Table 1 of s. NR 668.45; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

(b) Debris as defined in ch. NR 668 that the department, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

(7) (a) A hazardous waste that is listed in subch. D solely because it exhibits one or more characteristics of ignitability as defined under s. NR 661.21, corrosivity as defined under s. NR 661.22, or reactivity as defined under s. NR 661.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in subch. C.

(b) The exclusion described in par. (a) also pertains to all of the following:

1. Any mixture of a solid waste and a hazardous waste listed in subch. D solely because it exhibits the characteristics of ignitability, corrosivity or reactivity as regulated under sub. (1) (b) 4.

2. Any solid waste generated from treating, storing or disposing of a hazardous waste listed in subch. D solely because it exhibits the characteristics of ignitability, corrosivity or reactivity as regulated under sub. (3) (b) 1.

(c) Wastes excluded under this section are subject to ch. NR 668 (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(d) Any mixture of a solid waste excluded from regulation under s. NR 661.04 (2) (g) and a hazardous waste listed in subch. D solely because it exhibits one or more of the characteristics of ignitability, corrosivity or reactivity as regulated under sub. (1) (b) 4, is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in subch. C for which the hazardous waste listed in subch. D was listed.

(8) (a) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of subch. N of ch. NR 666 (eligible radioactive mixed waste).

(b) The exemption described in par. (a) also pertains to all of the following:

1. Any mixture of a solid waste and an eligible radioactive mixed waste.

2. Any solid waste generated from treating, storing or disposing of an eligible radioactive mixed waste.

(c) Waste exempted under this section shall meet the eligibility criteria and specified conditions in ss. NR 666.225 and 666.230 (for storage and treatment) and in ss. NR 666.310 and 666.315 (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

History: CR 05-032; cr. Register July 2006 No. 607, eff. 8-1-06; correction in (1) (b) 5. made under s. 13.92 (4) (b) 7., Stats., Register March 2013 No. 687.

NR 661.04 Exclusions. (1) MATERIALS WHICH ARE NOT SOLID WASTES. All of the following materials are not solid wastes for the purpose of this chapter:

(a) All of the following:

1. Domestic sewage.

2. 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) Industrial wastewater discharges that are point source discharges subject to regulation under ss. 283.31 and 283.33, Stats.

Note: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.

(c) Irrigation return flows.

(d) Source, special nuclear or by-product material as defined by 42 USC 2011 to 2114.

Note: Title 42 USC 2011 to 2114 is also known as the atomic energy act of 1954, as amended.

(e) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(f) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in s. NR 661.01 (3).

(g) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in s. NR 661.01 (3).

(h) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided all of the following are met:

1. Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance.

2. Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces or incinerators).

3. The secondary materials are never accumulated in the tanks for over 12 months without being reclaimed.

4. The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(i) All of the following:

1. Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose.

2. Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

3. Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in subds. 1. and 2., so long as they meet all of the following conditions:

a. The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose.

b. Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both.

c. Any unit used to manage wastewaters or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent the releases.

d. Any drip pad used to manage the wastewaters or spent wood preserving solutions prior to reuse complies with the standards in subch. W of ch. NR 665, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste.

e. Prior to operating under this exclusion, the plant owner or operator submits to the department a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion and containing the following language: "I have read the applicable rule establishing an exclusion for wood preserving wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the rule." The plant shall maintain a copy of that document in its on-site records for a period of no less than 3 years from the date specified in the notice. The exclusion applies only so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the department for reinstatement. The department may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that violations are not likely to recur.

(j) EPA hazardous waste numbers K060, K087, K141, K142, K143, K144, K145, K147 and K148, and any wastes from the coke by-products processes that are hazardous only because they exhibit the toxicity characteristic (TC) specified in s. NR 661.24 when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(k) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(L) All of the following:

1. Oil-bearing hazardous secondary materials (i.e., sludges, byproducts or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refin-

ing process (SIC code 2911—including, but not limited to, distillation, catalytic cracking, fractionation or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this subdivision, provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this subdivision. Except as provided in subd. 2., oil-bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this section. Residuals generated from processing or recycling materials excluded under this subdivision, where the materials as generated would have otherwise met a listing under subch. D, are designated as F037 listed wastes when disposed of or intended for disposal.

2. Recovered oil that is recycled in the same manner and with the same conditions as described in subd. 1. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater) generated from normal petroleum industry practices, including refining, exploration and production, bulk storage and transportation incident to those practices (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171 and 5172). Recovered oil does not include oil-bearing hazardous wastes listed in subch. D; however, oil recovered from these wastes may be considered recovered oil. Recovered oil does not include used oil as defined in s. NR 679.01.

(m) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal and unprocessed prompt scrap metal) being recycled.

(n) Shredded circuit boards being recycled if they are all of the following:

1. Stored in containers sufficient to prevent a release to the environment prior to recovery.

2. Free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries.

(o) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with s. NR 464.06 (5). The exemption applies only to combustion at the mill generating the condensates.

(p) Comparable fuels or comparable syngas fuels that meet s. NR 661.38.

(q) Spent materials (as defined in s. NR 661.01) (other than hazardous wastes listed in subch. D) generated within the primary mineral processing industry from which minerals, acids, cyanide, water or other values are recovered by mineral processing or by beneficiation, if all of the following are met:

1. The spent material is legitimately recycled to recover minerals, acids, cyanide, water or other values.

2. The spent material is not accumulated speculatively.

3. Except as provided in subd. 4., the spent material is stored in tanks, containers or buildings meeting the following minimum integrity standards: a building shall be an engineered structure with a floor, walls and a roof all of which are made of non-earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the spent material is stored on the non-earthen portion), and have a roof suitable for diverting rainwater away from the foundation; a tank shall be free standing, not be a surface impoundment (as defined in s. NR 660.10), and be manufactured of a material suitable for containment of its contents; a container shall be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the owner or operator shall operate these units in a manner which controls fugitive dust. Tanks, containers and buildings shall be designed, constructed and operated to prevent significant releases to the environment of these materials.

4. The department may make a site-specific determination, after public review and comment, that only solid mineral processing spent material may be placed on pads, rather than in tanks, containers or buildings. Solid mineral processing spent materials do not contain any free liquid. The department shall affirm that pads are designed, constructed and operated to prevent significant releases of the spent material into the environment. Pads shall provide the same degree of containment as tanks, containers and buildings that meet the design, construction and operating requirements in subd. 3.

a. The department shall also consider if storage on pads poses the potential for significant releases via groundwater, surface water and air exposure pathways. Factors to be considered for assessing the groundwater, surface water and air exposure pathways are: the volume and physical and chemical properties of the spent material, including its potential for migration off the pad; the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

b. Pads shall meet the following minimum standards: be designed of non-earthen material that is compatible with the chemical nature of the mineral processing spent material, capable of withstanding physical stresses associated with placement and removal, have run on and runoff controls, be operated in a manner which controls fugitive dust and have integrity assurance through inspections and maintenance programs.

c. Before making a determination under this subdivision, the department shall provide notice and the opportunity for comment to all persons potentially interested in the determination. This can be accomplished by placing notice of this action in major local newspapers, or broadcasting notice over local radio stations.

5. The owner or operator provides notice to the department providing the following information: the types of materials to be recycled, the type and location of the storage units and recycling processes and the annual quantities expected to be placed in land-based units. This notification shall be updated when there is a change in the type of materials recycled or the location of the recycling process.

6. For purposes of sub. (2) (g), mineral processing spent materials shall be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non-mineral processing industries are not eligible for this conditional exclusion from the definition of solid waste.

(r) Petrochemical recovered oil from an associated organic chemical manufacturing facility, where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams, if all of the following are met:

1. The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in s. NR 661.21) or toxicity for benzene (s. NR 661.24, waste code D018).

2. The oil generated by the organic chemical manufacturing facility is not placed on the land, or speculatively accumulated before being recycled into the petroleum refining process. An "associated organic chemical manufacturing facility" is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822 and 2865; and is physically co-located with a petroleum refinery; and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. "Petrochemical recovered oil" is oil that was reclaimed from secondary materials (i.e., sludges, byproducts or spent materials, including wastewater) from normal organic chemical manufacturing operations, as well as oil recovered from organic chemical manufacturing processes.

(s) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material is placed on the land, or accumulated speculatively as defined in s. NR 661.01 (3).

(t) Hazardous secondary materials used to make zinc fertilizers, provided that all of the following conditions are met:

1. Hazardous secondary materials used to make zinc micro-nutrient fertilizers may not be accumulated speculatively, as defined in s. NR 661.01 (3) (h).

2. Generators and intermediate handlers of zinc-bearing hazardous secondary materials that are to be incorporated into zinc fertilizers shall do all of the following:

a. Submit a one-time notice to the department, which contains the name, address and EPA identification number of the generator or intermediate handler facility, provides a brief description of the secondary material that will be subject to the exclusion and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph.

b. Store the excluded secondary material in tanks, containers or buildings that are constructed and maintained in a way that prevents releases of the secondary materials into the environment. At a minimum, any building used for this purpose shall be an engineered structure made of non-earthen materials that provide structural support, and shall have a floor, walls and a roof that prevent wind dispersal and contact with rainwater. Tanks used for this purpose shall be structurally sound and, if outdoors, shall have roofs or covers that prevent contact with wind and rain. Containers used for this purpose shall be kept closed except when it is necessary to add or remove material, and shall be in sound condition. Containers that are stored outdoors shall be managed within storage areas that do all of the following:

1) Have containment structures or systems sufficiently impervious to contain leaks, spills and accumulated precipitation.

2) Provide for effective drainage and removal of leaks, spills and accumulated precipitation.

3) Prevent run-on into the containment system.

c. With each off-site shipment of excluded hazardous secondary materials, provide written notice to the receiving facility that the material is subject to the conditions of this paragraph.

d. Maintain at the generator's or intermediate handlers' facility for no less than 3 years records of all shipments of excluded hazardous secondary materials. For each shipment these records shall at a minimum contain all of the following information:

1) Name of the transporter and date of the shipment.

2) Name and address of the facility that received the excluded material, and documentation confirming receipt of the shipment.

3) Type and quantity of excluded secondary material in each shipment.

3. Manufacturers of zinc fertilizers or zinc fertilizer ingredients made from excluded hazardous secondary materials shall do all of the following:

a. Store excluded hazardous secondary materials according to the storage requirements for generators and intermediate handlers, as specified in subd. 2. b.

b. Submit a one-time notification to the department that, at a minimum, specifies the name, address and EPA identification number of the manufacturing facility, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph.

c. Maintain for a minimum of 3 years records of all shipments of excluded hazardous secondary materials received by the manufacturer, which shall at a minimum identify for each shipment the name and address of the generating facility, name of transporter and date the materials were received, the quantity received and a

brief description of the industrial process that generated the material.

d. Submit to the department an annual report that identifies the total quantities of all excluded hazardous secondary materials that were used to manufacture zinc fertilizers or zinc fertilizer ingredients in the previous year, the name and address of each generating facility, and the industrial processes from which they were generated.

4. Nothing in this section preempts, overrides or otherwise negates s. NR 662.011, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

5. Licensed storage units that have been used to store only zinc-bearing hazardous wastes prior to the submission of the one-time notice described in subd. 2. a., and that afterward will be used only to store hazardous secondary materials excluded under this paragraph, are not subject to the closure requirements of chs. NR 664 and 665.

(u) Zinc fertilizers made from hazardous wastes, or hazardous secondary materials that are excluded under par. (t), provided that all of the following are met:

1. The fertilizers meet all of the following contaminant limits:
 - a. For metal contaminants:

Constituent	Maximum Allowable Total Concentration in Fertilizer, per Unit (1%) of Zinc (ppm)
Arsenic	0.3
Cadmium	1.4
Chromium	0.6
Lead	2.8
Mercury	0.3

b. For dioxin contaminants the fertilizer shall contain no more than 8 parts per trillion of dioxin, measured as toxic equivalent (TEQ).

2. The manufacturer performs sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every 6 months, and for dioxins no less than every 12 months. The manufacturer shall also perform testing whenever changes occur to manufacturing processes or ingredients that could significantly affect the amounts of contaminants in the fertilizer product. The manufacturer may use any reliable analytical method to demonstrate that no constituent of concern is present in the product at concentrations above the applicable limits. It is the responsibility of the manufacturer to ensure that the sampling and analysis are unbiased, precise and representative of the products introduced into commerce.

3. The manufacturer maintains for no less than 3 years records of all sampling and analyses performed for purposes of determining compliance with subd. 2. The records shall at a minimum include all of the following:

- a. The dates and times product samples were taken, and the dates the samples were analyzed.
- b. The names and qualifications of the persons taking the samples.
- c. A description of the methods and equipment used to take the samples.
- d. The name and address of the laboratory facility at which analyses of the samples were performed.
- e. A description of the analytical methods used, including any cleanup and sample preparation methods.
- f. All laboratory analytical results used to determine compliance with the contaminant limits specified in this paragraph.

(2) SOLID WASTES WHICH ARE NOT HAZARDOUS WASTES. All of the following solid wastes are not hazardous wastes:

(a) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused, except if the hazardous waste in

this waste stream is separated for management at a collection facility regulated under subch. HH of ch. NR 666. "Household waste" means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal solid waste may not be deemed to be treating, storing, disposing of or otherwise managing hazardous wastes for the purposes of regulation under chs. NR 660 to 673, if the facility does all of the following:

1. Receives and burns only all of the following:
 - a. Household waste (from single and multiple dwellings, hotels, motels and other residential sources).
 - b. Solid waste from commercial or industrial sources that does not contain hazardous waste.
 2. Does not accept hazardous wastes and the owner or operator of the facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in the facility.
 - (b) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:
 1. The growing and harvesting of agricultural crops.
 2. The raising of animals, including animal manures.
 - (c) Mining overburden returned to the mine site.
 - (d) Fly ash waste, bottom ash waste, slag waste and flue gas emission control waste, generated primarily from the combustion of coal or other fossil fuels, except as provided by s. NR 666.112 for facilities that burn or process hazardous waste.
 - (e) Drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal energy.
 - (f) All of the following:
 1. Wastes which fail the test for the toxicity characteristic because chromium is present or are listed in subch. D due to the presence of chromium, which do not fail the test for the toxicity characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that all of the following apply:
 - a. The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium.
 - b. The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium.
 - c. The waste is typically and frequently managed in non-oxidizing environments.
- Note:** See the preamble to the October 30, 1980 federal register starting at 45 FR 72035 for more information.
2. Specific wastes which meet the standard in subd. 1. a. to c. (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are any of the following:
 - 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 shearing.
 - b. Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearing.
 - 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 TiO₂ pigment using chromium-bearing ores by the chloride process.

(g) Solid waste from the extraction, beneficiation and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by s. NR 666.112 for facilities that burn or process hazardous waste.

1. For purposes of this paragraph beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water or carbon dioxide; roasting, autoclaving, or chlorination in preparation for leaching (except where the roasting (or autoclaving or chlorination) or leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank and in situ leaching.

2. For the purposes of this paragraph, solid waste from the processing of ores and minerals includes only the following wastes as generated:

- a. Slag from primary copper processing.
- b. Slag from primary lead processing.
- c. Red and brown muds from bauxite refining.
- d. Phosphogypsum from phosphoric acid production.
- e. Slag from elemental phosphorus production.
- f. Gasifier ash from coal gasification.
- g. Process wastewater from coal gasification.
- h. Calcium sulfate wastewater treatment plant sludge from primary copper processing.
- i. Slag tailings from primary copper processing.
- j. Fluorogypsum from hydrofluoric acid production.
- k. Process wastewater from hydrofluoric acid production.
- L. Air pollution control dust or sludge from iron blast furnaces.
- m. Iron blast furnace slag.
- n. Treated residue from roasting or leaching of chrome ore.
- o. Process wastewater from primary magnesium processing by the anhydrous process.
- p. Process wastewater from phosphoric acid production.
- q. Basic oxygen furnace and open hearth furnace air pollution control dust or sludge from carbon steel production.
- r. Basic oxygen furnace and open hearth furnace slag from carbon steel production.
- s. Chloride process waste solids from titanium tetrachloride production.
- t. Slag from primary zinc processing.

3. A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or

with normal mineral processing raw materials remains excluded under sub. (2) if the owner or operator does all of the following:

a. Processes at least 50% by weight normal beneficiation raw materials or normal mineral processing raw materials.

b. Legitimately reclaims the secondary mineral processing materials.

(h) Cement kiln dust waste, except as provided by s. NR 666.112 for facilities that burn or process hazardous waste.

(i) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the toxicity characteristic for hazardous waste codes D004 to D017 and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood product for the intended end use of these materials.

(j) Petroleum-contaminated media and debris that fail the test for the toxicity characteristic of s. NR 661.24 for any of the hazardous waste codes D018 to D043 only, and are subject to the corrective action rules under chs. SPS 310 and NR 706.

(L) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

(m) Non-terne plated used oil filters that are not mixed with wastes listed in subch. D if these oil filters have been gravity hot-drained using one of the following methods:

1. Puncturing the filter anti-drain back valve or the filter dome end and hot-draining.
2. Hot-draining and crushing.
3. Dismantling and hot-draining.
4. Any other equivalent hot-draining method that will remove used oil.

(n) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(o) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that all of the following are met:

1. The solid wastes disposed would meet one or more of the listing descriptions for hazardous waste codes K169, K170, K171, K172, K174, K175, K176, K177 and K178, if these wastes had been generated after August 1, 2006.

2. The solid wastes described in subd. 1. were disposed prior to August 1, 2006.

3. The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste.

4. Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail or dedicated pipe, is subject to regulation under s. 283.21 (2), 283.31 or 283.33, Stats.

5. After August 1, 2006, leachate or gas condensate derived from K169 to K172 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After August 1, 2006, leachate or gas condensate derived from K176, K177 and K178 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system), provided the impoundment has a double liner, and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this subdivision after the emergency ends.

(3) HAZARDOUS WASTES WHICH ARE EXEMPTED FROM CERTAIN RULES. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle

or 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 662 to 665, 668 and 670 or to the notification requirements of s. NR 660.07 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.

(4) SAMPLES. (a) Except as provided in par. (b), a sample of solid waste or a sample of water, soil or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to this chapter, chs. NR 662 to 670 or the notification requirements of s. NR 660.07, when one of the following occurs:

1. The sample is being transported to a laboratory for the purpose of testing.
2. The sample is being transported back to the sample collector after testing.
3. The sample is being stored by the sample collector before transport to a laboratory for testing.
4. The sample is being stored in a laboratory before testing.
5. The sample is being stored in a laboratory after testing but before it is returned to the sample collector.
6. The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(b) In order to qualify for the exemption in par. (a) 1. and 2., a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector shall do one of the following:

1. Comply with U.S. department of transportation (DOT), U.S. postal service (USPS) or any other applicable shipping requirements.
2. Comply with all of the following requirements if the sample collector determines that DOT, USPS or other shipping requirements do not apply to the shipment of the sample:
 - a. Assure that all of the following information accompanies the sample:
 - 1) The sample collector's name, mailing address and telephone number.
 - 2) The laboratory's name, mailing address and telephone number.
 - 3) The quantity of the sample.
 - 4) The date of shipment.
 - 5) A description of the sample.
 - b. Package the sample so that it does not leak, spill or vaporize from its packaging.

(c) This exemption does not apply if the laboratory determines that the waste is hazardous and the laboratory is no longer meeting any of the conditions in par. (a).

(5) TREATABILITY STUDY SAMPLES. (a) Except as provided in par. (b), persons who generate or collect samples for the purpose of conducting treatability studies as defined in s. NR 660.10, are not subject to chs. NR 661 to 663 or to the notification requirements of s. NR 660.07, nor are the samples included in the quantity determinations of ss. NR 662.192 (1) and 662.220 when one of the following applies:

1. The sample is being collected and prepared for transportation by the generator or sample collector.
2. The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility.

3. The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(b) The exemption in par. (a) is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies if all of the following apply:

1. The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste for each process being evaluated for each generated waste stream.

2. The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste and 1 kg of acute hazardous waste.

3. The sample shall be packaged so that it will not leak, spill or vaporize from its packaging during shipment and one of the following requirements is met:

- a. The transportation of each sample shipment complies with U.S. department of transportation (DOT), U.S. postal service (USPS) or any other applicable shipping requirements.
- b. If the DOT, USPS or other shipping requirements do not apply to the shipment of the sample, all of the following information shall accompany the sample:
 - 1) The name, mailing address and telephone number of the originator of the sample.
 - 2) The name, address and telephone number of the facility that will perform the treatability study.
 - 3) The quantity of the sample.
 - 4) The date of shipment.
 - 5) A description of the sample, including its EPA hazardous waste number.

4. The sample is shipped to a laboratory or testing facility which is exempt under s. NR 661.04 (6) or has an appropriate RCRA permit or interim status, or hazardous waste license under s. 291.25, Stats.
5. The generator or sample collector maintains all of the following records for a period ending 3 years after completion of the treatability study:
 - a. Copies of the shipping documents.
 - b. A copy of the contract with the facility conducting the treatability study.
 - c. Documentation showing all of the following:
 - 1) The amount of waste shipped under this exemption.
 - 2) The name, address and EPA identification number of the laboratory or testing facility that received the waste.
 - 3) The date the shipment was made.
 - 4) Whether or not unused samples and residues were returned to the generator.

6. The generator reports the information required under subd. 5. c. in its annual report.

(c) The department may grant requests on a case-by-case basis for up to an additional 2 years for treatability studies involving bioremediation. The department may grant requests on a case-by-case basis for quantity limits in excess of those specified in par. (b) 1. and 2. and sub. (6) (d), for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste:

1. In response to requests for authorization to ship, store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing the requests include the nature of the technology, the

type of process (e.g., batch versus continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time and quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

2. In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when any of the following apply: there has been an equipment or mechanical failure during the conduct of a treatability study, there is a need to verify the results of a previously conducted treatability study, there is a need to study and analyze alternative techniques within a previously evaluated treatment process or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

3. The additional quantities and timeframes allowed in subs. 1. and 2. are subject to all the provisions in pars. (a) and (b) 3. to 6. The generator or sample collector shall apply to the department and provide in writing all of the following information:

a. The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed.

b. Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped and the available results on each treatability study.

c. A description of the technical modifications or change in specifications which will be evaluated and the expected results.

d. If further study is being required due to equipment or mechanical failure, the applicant shall include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns.

e. Other information that the department considers necessary.

(6) SAMPLES UNDERGOING TREATABILITY STUDIES AT LABORATORIES AND TESTING FACILITIES. Samples undergoing treatability studies and the laboratory or testing facility conducting the treatability studies (to the extent the facilities are not otherwise subject to chs. NR 660 to 670) are not subject to this chapter, chs. NR 662 and 666 to 670, or to s. NR 660.07 if the conditions of pars. (a) to (k) are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to pars. (a) to (k). Where a group of MTUs are located at the same site, the limitations specified in pars. (a) to (k) apply to the entire group of MTUs collectively as if the group were one MTU.

(a) No less than 45 days before conducting treatability studies, the facility notifies the department in writing that it intends to conduct treatability studies under this subsection.

(b) The laboratory or testing facility conducting the treatability study has an EPA identification number.

(c) No more than a total of 10,000 kg of "as received" media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other "as received" hazardous waste is subject to initiation of treatment in all treatability studies in any single day. "As received" waste refers to the waste as received in the shipment from the generator or sample collector.

(d) The quantity of "as received" hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media and 1 kg of acute hazardous waste. This quantity limitation does not

include treatment materials (including nonhazardous solid waste) added to "as received" hazardous waste.

(e) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (2 years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date occurs first. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to 5 years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(f) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(g) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. All of the following specific information shall be included for each treatability study conducted:

1. The name, address and EPA identification number of the generator or sample collector of each waste sample.

2. The date the shipment was received.

3. The quantity of waste accepted.

4. The quantity of "as received" waste in storage each day.

5. The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day.

6. The date the treatability study was concluded.

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 all 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 of 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 the amount of waste expected to be used in treatability studies during the current year, and includes all of 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 661.03 and, if so, are subject to this chapter and chs. NR 662 to 670, unless the residues and unused samples are returned to the sample originator under the sub. (5) exemption.

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

Note: Special requirements for very small quantity generators are in s. NR 662.220.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06; correction in (2) (j) made under s. 13.92 (4) (b) 7., Stats., Register February 2012 No. 674.

NR 661.06 Requirements for recyclable materials.

(1) (a) Hazardous wastes that are recycled are subject to the requirements for generators, transporters and storage facilities of subs. (2) and (3), except for the materials listed in pars. (b) and (c).

Hazardous wastes that are recycled will be known as “recyclable materials”.

(b) All of the following recyclable materials are not subject to this section but are regulated under subchs. C to N of ch. NR 666 and all applicable provisions in ch. NR 670:

1. Recyclable materials used in a manner constituting disposal (subch. C of ch. NR 666).
2. Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under subch. O of ch. NR 664 or subch. O of ch. NR 665 (subch. H of ch. NR 666).
3. Recyclable materials from which precious metals are reclaimed (subch. F of ch. NR 666).
4. Spent lead–acid batteries that are being reclaimed (subch. G of ch. NR 666).

(c) All of the following recyclable materials are not regulated under chs. NR 662 to 670, and are not subject to s. NR 660.07:

1. Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement specified in s. NR 662.058:

a. A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, shall comply with the requirements applicable to a primary exporter in ss. NR 662.053, 662.056 (1) (a) to (d), (f) and (2), and 662.057, export the materials only upon consent of the receiving country and in conformance with the EPA acknowledgment of consent as defined in subch. E of ch. NR 662, and provide a copy of the EPA acknowledgment of consent to 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.

2. Scrap metal that is not excluded under s. NR 661.04 (1) (m).

3. Fuels produced from the refining of oil–bearing hazardous waste along with normal process streams at a petroleum refining facility if the wastes result from normal petroleum refining, production and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil–bearing hazardous waste, where the recovered oil is already excluded under s. NR 661.04 (1) (L)).

4. All of the following:

a. Hazardous waste fuel produced from oil–bearing hazardous wastes from petroleum refining, production or transportation practices, or produced from oil reclaimed from the hazardous wastes, where the hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under s. NR 679.11 and so long as no other hazardous wastes are used to produce the hazardous waste fuel.

b. Hazardous waste fuel produced from oil–bearing hazardous waste from petroleum refining production, and transportation practices, where the hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under s. NR 679.11.

c. Oil reclaimed from oil–bearing hazardous wastes from petroleum refining, production and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under s. NR 679.11.

(d) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to chs. NR 660 to 668, but is regulated under ch. NR 679. Used oil that is recycled includes any used oil which is reused, following

its original use, for any purpose (including the purpose for which the oil was originally used). This term includes, but is not limited to, oil which is re–refined, reclaimed, burned for energy recovery or reprocessed.

(e) Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in s. NR 662.058 (1) (a)) for purpose of recovery is subject to subch. H of ch. NR 662 if it is subject to either the manifesting requirements of ch. NR 662 or to the universal waste management standards of ch. NR 673.

(2) Generators and transporters of recyclable materials are subject to the applicable requirements of chs. NR 662 and 663 and the notification requirements under s. NR 660.07, except as provided in sub. (1).

(3) (a) Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subchs. A to L, AA, BB and CC of ch. NR 664 and subchs. A to L, AA, BB and CC of ch. NR 665, and under chs. NR 666 to 670 and s. NR 660.07, except as provided in sub. (1). (The recycling process itself is exempt from regulation except as provided in sub. (4).)

(b) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to all of the following requirements, except as provided in sub. (1):

1. Section NR 660.07.
2. Sections NR 665.0071 and 665.0072 (dealing with the use of the manifest and manifest discrepancies).
3. Subsection (4).

(4) Owners or operators of facilities subject to s. 291.25, Stats., licensing requirements with hazardous waste management units that recycle hazardous wastes are subject to subchs. AA and BB of ch. NR 664 or subchs. AA and BB of ch. NR 665.

History: CR 05–032: cr. Register July 2006 No. 607, eff. 8–1–06; correction in (1) (b) (intro.) made under s. 13.92 (4) (b) 7., Stats., Register February 2012 No. 674; corrections in (1) (b) 2., (3) (a), (4) made under s. 13.92 (4) (b) 7., Stats., Register March 2013 No. 687.

NR 661.07 Residues of hazardous waste in empty containers. (1) (a) Any hazardous waste remaining in either an empty container or an inner liner removed from an empty container, as defined in sub. (2), is not subject to this chapter, chs. NR 662 to 665, 668 or 670, or s. NR 660.07.

(b) Any hazardous waste in either a container that is not empty or an inner liner removed from a container that is not empty, as defined in sub. (2), is subject to this chapter, chs. NR 662 to 665, 668 and 670 and s. NR 660.07.

(2) (a) 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 identified as an acute hazardous waste listed in s. NR 661.31, 661.32 or 661.33 (5) is empty if subds. 1. and 2. or 3. are met:

1. All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping and aspirating.

2. No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner.

3. One of the following:

a. 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 119 gallons in size.

b. 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 119 gallons in size.

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

(c) A container or an inner liner removed from a container that has held an acute hazardous waste listed in s. NR 661.31, 661.32 or 661.33 (5) is empty if any of the following are met:

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

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

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

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06; CR 06-102: am. (2) (a) 3. a. and b. Register March 2007 No. 615, eff. 4-1-07.

NR 661.08 PCB wastes regulated under federal toxic substances control act. The disposal of PCB-containing dielectric fluid and electric equipment containing that fluid authorized for use and regulated under 40 CFR part 761 and that are hazardous only because they fail the test for the toxicity characteristic (hazardous waste codes D018 to D043 only) are exempt from this chapter, chs. NR 662 to 665, 668 and 670 and s. NR 660.07.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.09 Requirements for universal waste. The wastes listed in this section are exempt from chs. NR 662 to 670 except as specified in ch. NR 673 and, therefore are not fully regulated as hazardous waste. All of the following wastes are subject to ch. NR 673:

- (1) Batteries as described in s. NR 673.02.
- (2) Pesticides as described in s. NR 673.03.
- (3) Thermostats as described in s. NR 673.04.
- (4) Lamps as described in s. NR 673.05.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

Subchapter B — Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

NR 661.10 Criteria for identifying the characteristics of hazardous waste. The department shall identify and define a characteristic of hazardous waste in subch. C only upon determining that all of the following are met:

(1) A solid waste that exhibits the characteristic may do any of the following:

(a) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.

(b) 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.

(2) The characteristic can be any of the following:

(a) 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.

(b) Reasonably detected by generators of solid waste through their knowledge of their waste.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.11 Criteria for listing hazardous waste. (1) The department may list a solid waste as a listed hazardous waste upon determining that the solid waste meets one of the following criteria:

(a) It exhibits any of the characteristics of hazardous waste identified in subch. C.

(b) 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 in studies to have an oral lethal dose 50 toxicity measured in rats of less than 50 milligrams per kilogram, an inhalation lethal concentration 50 toxicity measured in rats of less than 2 milligrams per liter, or a dermal lethal dose 50 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. (Waste listed in accordance with these criteria will be designated acute hazardous waste.)

(c) It contains any of the toxic constituents listed in ch. NR 661 Appendix VIII and, after considering the following factors, the department concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

1. The nature of the toxicity presented by the constituent.
2. The concentration of the constituent in the waste.
3. 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 subd. 7.
4. The persistence of the constituent or any toxic degradation product of the constituent.
5. The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.
6. The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.
7. The plausible types of improper management to which the waste could be subjected.
8. The quantities of the waste generated at individual generation sites or on a regional or national basis.
9. 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.
10. Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.
11. Such other factors as may be appropriate.

Note: Substances will be listed in ch. NR 661 Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms. Wastes listed in accordance with these criteria will be designated toxic wastes.

(2) The department may list classes or types of solid waste as hazardous waste if there is reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in s. 291.01 (7), Stats.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

Subchapter C — Characteristics of Hazardous Waste

NR 661.20 General. (1) A solid waste, as defined in s. NR 661.02, which is not excluded from regulation as a hazardous waste under s. NR 661.04 (2), is a hazardous waste if it exhibits any of the characteristics identified in this subchapter.

Note: Section NR 662.011 sets forth the generator's responsibility to determine whether the generator's waste exhibits one or more of the characteristics identified in this subchapter.

(2) A hazardous waste which is identified by a characteristic in this subchapter is assigned every EPA hazardous waste number that is applicable as set forth in this subchapter. This number shall be used in complying with s. NR 660.07 and all applicable record-keeping and reporting requirements under chs. NR 662 to 665, 668 and 670.

(3) For purposes of this subchapter, the department will consider a sample obtained using any of the applicable sampling methods specified in ch. NR 661 Appendix I to be a representative sample within the meaning of s. NR 660.10.

Note: Since the ch. NR 661 Appendix I sampling methods are not being formally adopted by the department, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of the alternative method under the procedures set forth in ss. NR 660.20 and 660.21.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06; **correction in (3) made under s. 13.92 (4) (b) 7., Stats., Register March 2013 No. 687.**

NR 661.21 Ignitability characteristic. (1) A solid waste exhibits the ignitability characteristic if a representative sample of the waste has any of the following properties:

(a) 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 D93-79 or D93-80 (incorporated by reference in s. NR 660.11), or a Setaflash closed cup tester, using the test method specified in ASTM D3278-78 (incorporated by reference in s. NR 660.11), or as determined by an equivalent test method approved by the department under procedures set forth in ss. NR 660.20 and 660.21.

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

(c) It is a flammable gas as defined in 49 CFR 173.115(a) and as determined by the test methods described in that regulation or equivalent test methods approved by the department under ss. NR 660.20 and 660.21.

(d) It is an oxidizer as defined in 49 CFR 173.127(a).

(2) A solid waste that exhibits the ignitability characteristic has the EPA hazardous waste number D001.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.22 Corrosivity characteristic. (1) A solid waste exhibits the corrosivity characteristic if a representative sample of the waste has any of the following properties:

(a) 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 Method 9040 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

(b) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (national association of corrosion engineers) Standard TM-01-69 as standardized in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11.

(2) A solid waste that exhibits the corrosivity characteristic has the EPA hazardous waste number D002.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.23 Reactivity characteristic. (1) A solid waste exhibits the reactivity characteristic if a representative sample of the waste has any of the following properties:

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

(b) It reacts violently with water.

(c) It forms potentially explosive mixtures with water.

(d) 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.

(e) 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.

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

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

(h) It is a forbidden explosive as defined in 49 CFR 173.54, or would have been a Class A or Class B explosive as defined in 49 CFR 173.52 and 173.53.

(2) A solid waste that exhibits the reactivity characteristic has the EPA hazardous waste number D003.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.24 Toxicity characteristic. (1) A solid waste (except manufactured gas plant waste) exhibits the toxicity characteristic if, using the toxicity characteristic leaching procedure, Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA SW-846, incorporated by reference in s. NR 660.11, the extract from a representative sample of the waste contains any of the contaminants listed in Table 2 at the 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 using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(2) A solid waste that exhibits the toxicity characteristic has the EPA hazardous waste number specified in Table 2 which corresponds to the toxic contaminant causing it to be hazardous.

Table 2
Maximum Concentration of Contaminants
for the Toxicity Characteristic

EPA HW No. ¹	Contaminant	CAS number ²	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	4200.0
D024	m-Cresol	108-39-4	4200.0
D025	p-Cresol	106-44-5	4200.0
D026	Cresol		4200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	³ 0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	³ 0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0

D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	³ 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

¹ Hazardous waste number.

² Chemical abstracts service number.

³ Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

⁴ If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/L.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

Subchapter D — Lists of Hazardous Wastes

NR 661.30 General. (1) A solid waste is a hazardous waste if it is listed in this subchapter, unless it has been excluded from this list under ss. NR 660.20 and 660.22.

(2) The department will indicate the basis for listing the classes or types of wastes listed in this subchapter by employing one or more of the following hazard codes:

- Ignitable Waste (I)
- Corrosive Waste (C)
- Reactive Waste (R)
- Toxicity Characteristic Waste (E)
- Acute Hazardous Waste (H)
- Toxic Waste (T)

Ch. NR 661 Appendix VII identifies the constituent which caused the department to list the waste as a toxicity characteristic waste (E) or toxic waste (T) in ss. NR 661.31 and 661.32.

(3) Each hazardous waste listed in this subchapter is assigned an EPA hazardous waste number which precedes the name of the waste. This number shall be used in complying with s. NR 660.07 and certain recordkeeping and reporting requirements under chs. NR 662 to 665, 668 and 670.

(4) The following hazardous wastes listed in s. NR 661.31 or 661.32 are subject to the exclusion limits for acutely hazardous wastes established in s. NR 662.220: EPA hazardous waste numbers F020, F021, F022, F023, F026 and F027.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06; correction in (2) made under s. 13.92 (4) (b) 7., Stats., Register March 2013 No. 687.

NR 661.31 Hazardous wastes from non-specific sources. (1) LISTED HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under ss. NR 660.20 and 660.22 and listed in 40 CFR part 261, appendix IX:

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures or blends used in degreasing containing, before use, a total of 10% or more (by volume) of one or more of these 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 spent solvent mixtures or blends containing, before use, a total of 10% or more (by volume) of one or more of these halogenated solvents or those listed in F001, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone and methanol; all spent solvent mixtures or blends containing, before use, only these spent non-halogenated solvents; all spent solvent mixtures or blends containing, before use, one or more of these 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 and cresylic acid, and nitrobenzene; all spent solvent mixtures or blends containing, before use, a total of 10% or more (by volume) of one or more of these non-halogenated solvents or those solvents listed in F001, F002 and F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	(T)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures or blends containing, before use, a total of 10% or more (by volume) of one or more of these non-halogenated solvents or those solvents listed in F001, F002 or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning or stripping associated with tin, zinc and aluminum plating on carbon steel and (6) chemical etching and milling of aluminum.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations.	(R,T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R,T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R,T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R,T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R,T)
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when the phosphating is an exclusive conversion coating process.	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tetra-, penta- or hexachlorobenzenes under alkaline conditions.	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F024	Process wastes, including, but not limited to, distillation residues, heavy ends, tars and reactor cleanout wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, with varying amounts and positions of chlorine substitution. [This listing does not include wastewater, wastewater treatment sludges, spent catalysts and wastes listed in s. NR 661.31 or 661.32].	(T)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including 5, 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 formulations 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 waste code deleted according to s. NR 661.35 or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)
F037	Petroleum refinery primary oil or water or solids separation sludge—Any sludge generated from the gravitational separation of oil or water or solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. These sludges include, but are not limited to: those generated in oil or water or solids separators; tanks and impoundments; ditches and other conveyances; sumps and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in s. NR 661.31 (2) (b) (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 s. NR 661.04 (1) (L) 1., if those residuals are to be disposed of.	(T)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
F038	Petroleum refinery secondary (emulsified) oil or water or solids separation sludge—Any sludge or float generated from the physical or chemical separation of oil or water or solids in process wastewaters and oily cooling wastewaters from petroleum refineries. These wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in s. NR 661.31 (2) (b) (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 subch. D. (Leachate resulting from the disposal of one or more of the following hazardous wastes and no other hazardous wastes retains its EPA hazardous waste numbers: F020, F021, F022, F023, F026, F027 or F028.)	(T)

(2) LISTING SPECIFIC DEFINITIONS. (b) 1. For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following 4 treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and the units employ a minimum of 6 hp per million gallons of treatment volume; and meet one of the following:

- a. The hydraulic retention time of the unit is no longer than 5 days.
- b. The hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the toxicity characteristic.

2. Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities shall maintain, in their operating or other onsite records, documents and data sufficient to prove all of the following:

a. The unit is an aggressive biological treatment unit as defined in this subsection.

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

(c) 1. For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

2. For the purposes of the F038 listing, all of the following apply:

a. Sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

b. Floats are considered to be generated at the moment they are formed in the top of the unit.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.32 Hazardous wastes from specific sources. The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under ss. NR 660.20 and 660.22 and listed in 40 CFR part 261, appendix IX:

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
Wood preservation: K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote 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)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
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 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	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
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 ortho-xylene.	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	(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 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 hydrazines.	(C,T)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
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 adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes 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 wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides and compounds with mixtures of these functional groups.	(T)
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 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 salts. (This listing does not include K125 or K126.)	(R,T)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
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 are disposed of in a hazardous waste or non-hazardous waste landfill licensed or permitted by the state or federal government; they are not otherwise placed on the land prior to final disposal; and 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 chs. NR 660 to 670 shall, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion in the previous sentence. In doing so, they shall provide appropriate documentation (e.g., contracts between the generator and the landfill owner or operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met.	(T)
K175	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.	(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 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 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)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
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 or red water from TNT operations.	(R)
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 or in-line 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 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 listing does not include inert support media.)	(I,T)
Iron and Steel:		
K061	Emission control 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 or sludge from secondary lead smelting. This listing does not include sludge generated from secondary acid scrubber systems.	(T)

Industry and EPA hazardous waste number	Hazardous waste	Hazard code
K100	Waste leaching solution from acid leaching of emission control 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)

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.33 Discarded commercial chemical products, off-specification species, container residues and spill residues thereof. All of the following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in s. NR 661.02 (1) (b) 1., when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel or burned as a fuel:

- (1) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in sub. (5) or (6).
- (2) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in sub. (5) or (6).
- (3) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the

generic name listed in sub. (5) or (6), unless the container is empty as defined in s. NR 661.07 (2).

Note: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to its use, re-use, recycling or reclamation, the department considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.

(4) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in sub. (5) or (6), or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in sub. (5) or (6).

Note: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in ..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the

chemical that are produced or marketed and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in sub. (5) or (6). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in sub. (5) or (6), the waste will be listed in either s. NR 661.31 or 661.32 or will be identified as a hazardous waste by the characteristics in subch. C.

(5) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical

products or manufacturing chemical intermediates referred to in subs. (1) to (4), are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in s. NR 662.220 (5).

Note: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (toxicity), and R (reactivity). Absence of a letter indicates the compound is only listed for acute toxicity.

These wastes and their corresponding EPA hazardous waste numbers are:

Hazardous waste number	Chemical abstracts number	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P203	1646-88-4	Aldicarb sulfone
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H ₃ AsO ₄
P012	1327-53-3	Arsenic oxide As ₂ O ₃
P011	1303-28-2	Arsenic oxide As ₂ O ₅
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha, alpha-dimethyl-
P014	108-98-5	Benzenethiol
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1, 3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)

Hazardous waste number	Chemical abstracts number	Substance
P001	181-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium powder
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide Ca(CN) ₂
P022	75-15-0	Carbon disulfide
P189	55285-14-8	Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester
P127	1563-66-2	Carbofuran
P095	75-44-5	Carbonic dichloride
P189	55285-14-8	Carbosulfan
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P202	64-00-6	m-Cumenyl methylcarbamate
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-

Hazardous waste number	Chemical abstracts number	Substance
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octa-hydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-
P051	172-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octa-hydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P191	644-64-4	Dimetilan
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P047	1534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramidate, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P194	23135-22-0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester
P066	16752-77-5	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P198	23422-53-9	Formetanate hydrochloride
P197	17702-57-7	Formparanate
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P192	119-38-0	Isolan

Hazardous waste number	Chemical abstracts number	Substance
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S')-
P196	15339-36-3	Manganese dimethyldithiocarbamate
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro- (R)
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)-carbonyl]oxy]phenyl]-, mono-hydrochloride
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyl]oxy]phenyl]-
P199	2032-65-7	Methiocarb
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methylactonitrile
P071	298-00-0	Methyl parathion
P190	1129-41-5	Metolcarb
P128	315-18-4	Mexacarbate
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl Ni(CO) ₄ , (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide Ni(CN) ₂
P075	154-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO ₂
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramidate
P087	20816-12-0	Osmium oxide OsO ₄ , (T-4)-

Hazardous waste number	Chemical abstracts number	Substance
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135-22-0	Oxamyl
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	¹ 534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoric acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
P204	57-47-6	Physostigmine
P188	57-64-7	Physostigmine salicylate
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P201	2631-37-0	Promecarb
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-

Hazardous waste number	Chemical abstracts number	Substance
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	154-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P108	157-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	157-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl ₂ O ₃
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide [(H ₂ N)C(S)] ₂ NH
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P185	26419-73-8	Tirpate
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt

Hazardous waste number	Chemical abstracts number	Substance
P120	1314-62-1	Vanadium oxide V ₂ O ₅
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	¹ 81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide Zn(CN) ₂
P122	1314-84-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10% (R,T)
P205	137-30-4	Ziram

¹ CAS number given for parent compound only.

(6) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products referred to in subs. (1) to (4), are identified as toxic wastes (T), unless otherwise designated and are subject to the

small quantity generator exclusion defined in s. NR 662.220 (1).
Note: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (toxicity), R (reactivity), I (ignitability) and C (corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.

These wastes and their corresponding EPA hazardous waste numbers are:

Hazardous waste number	Chemical abstracts number	Substance
U394	30558-43-1	A2213
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-
U240	¹ 94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt
See F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine
U010	50-07-7	Azirino[2',3':3,4]pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[[amino-carbonyl]oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	101-27-9	Barban

Hazardous waste number	Chemical abstracts number	Substance
U278	22781-23-3	Bendiocarb
U364	22961-82-6	Bendiocarb phenol
U271	17804-35-2	Benomyl
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U017	98-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I,T)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)

Hazardous waste number	Chemical abstracts number	Substance
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U202	181-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[rs]t]pentaphene
U248	181-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate

Hazardous waste number	Chemical abstracts number	Substance
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U097	79-44-7	Carbamic chloride, dimethyl-
U114	¹ 111-54-6	Carbamodithioic acid, 1,2-ethanediybis-, salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester
U279	63-25-2	Carbaryl
U372	10605-21-7	Carbendazim
U367	1563-38-8	Carbofuran phenol
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazin
U037	108-90-7	Chlorobenzene
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H ₂ CrO ₄ , calcium salt
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-

Hazardous waste number	Chemical abstracts number	Substance
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	194-75-7	2,4-D, salts & esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U395	5952-26-1	Diethylene glycol, dicarbamate
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine

Hazardous waste number	Chemical abstracts number	Substance
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U404	121-44-8	Ethanamine, N,N-diethyl-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis- (I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)

Hazardous waste number	Chemical abstracts number	Substance
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)
U114	¹ 111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro- (I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H ₂ S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione

Hazardous waste number	Chemical abstracts number	Substance
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I,T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I,T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I,T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachloroocta-hydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene

Hazardous waste number	Chemical abstracts number	Substance
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U279	63-25-2	1-Naphthalenol, methylcarbamate
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	Alpha-Naphthylamine
U168	91-59-8	Beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-

Hazardous waste number	Chemical abstracts number	Substance
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)

Hazardous waste number	Chemical abstracts number	Substance
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U373	112-42-9	Propham
U411	114-26-1	Propoxur
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U387	52888-80-9	Prosulfocarb
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thio-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	181-07-2	Saccharin, & salts
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS ₂ (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate

Hazardous waste number	Chemical abstracts number	Substance
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride TlCl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U410	59669-26-0	Thiodicarb
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl-
U409	23564-05-8	Thiophanate-methyl
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U389	2303-17-5	Triallate
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U404	121-44-8	Triethylamine
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	¹ 81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less

¹ CAS number given for parent compound only.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement.

(1) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of subs. (2) and (3). These wastes may, how-

ever, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

(2) Generators shall either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to,

treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage or hazardous waste decomposition products to the groundwater, surface water or atmosphere.

(a) *General requirements.* Generators shall do one of the following:

1. Prepare and follow an equipment cleaning plan and clean equipment according to this section.
2. Prepare and follow an equipment replacement plan and replace equipment according to this section.
3. Document cleaning and replacement according to this section, carried out after termination of use of chlorophenolic preservatives.

(b) *Cleaning requirements.* Generators shall do all of the following:

1. Prepare and sign a written equipment cleaning plan that describes all of the following:
 - a. The equipment to be cleaned.
 - b. How the equipment will be cleaned.
 - c. The solvent to be used in cleaning.
 - d. How solvent rinses will be tested.
 - e. How cleaning residues will be disposed.
2. Clean equipment according to all of the following:
 - a. Remove all visible residues from process equipment.
 - b. Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.
3. All of the following analytical requirements:
 - a. Test rinses according to Method 8290 in EPA SW-846, incorporated by reference in s. NR 660.11.
 - b. "Not detected" means at or below the lower method calibration limit (MCL) in Method 8290, Table 1.
4. Manage all residues from the cleaning process as F032 waste.

(c) *Replacement requirements.* Generators shall do all of the following:

1. Prepare and sign a written equipment replacement plan that describes all of the following:
 - a. The equipment to be replaced.
 - b. How the equipment will be replaced.
 - c. How the equipment will be disposed.
2. Manage the discarded equipment as F032 waste.

(d) *Documentation requirements.* Generators shall document that previous equipment cleaning or replacement was performed according to this section and occurred after cessation of use of chlorophenolic preservatives.

(3) The generator shall maintain all of the following records documenting the cleaning and replacement as part of the facility's operating record:

- (a) The name and address of the facility.
- (b) Formulations previously used and the date on which their use ceased in each process at the plant.
- (c) Formulations currently used in each process at the plant.
- (d) The equipment cleaning or replacement plan.
- (e) The name and address of any persons who conducted the cleaning and replacement.
- (f) The dates on which cleaning and replacement were accomplished.
- (g) The dates of sampling and testing.
- (h) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation and chain-of-custody of the samples.
- (i) A description of the tests performed, the date the tests were performed and the results of the tests.
- (j) The name and model numbers of the instruments used in performing the tests.
- (k) QA/QC documentation.
- (L) The following statement signed by the generator or the generator's authorized representative:

I certify under penalty of law that all process equipment required to be cleaned or replaced under s. NR 661.35, Wis. Adm. Code was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06.

NR 661.38 Comparable or syngas fuel exclusion.

Wastes that meet the following comparable or syngas fuel requirements are not solid wastes:

- (1) **COMPARABLE FUEL SPECIFICATIONS.** (a) *Physical specifications.* 1. 'Heating value.' The heating value shall exceed 5,000 BTU/lbs. (11,500 J/g).
 2. 'Viscosity.' The viscosity may not exceed 50 cs, as-fired.
 (b) *Constituent specifications.* For compounds listed in Table 3 the specification levels and, where non-detect is the specification, minimum required detection limits are in Table 3.
- (2) **SYNTHESIS GAS FUEL SPECIFICATIONS.** Synthesis gas fuel (i.e., syngas fuel) that is generated from hazardous waste shall meet all of the following:
 (a) Have a minimum Btu value of 100 Btu/Scf.
 (b) Contain less than one ppmv of total halogen.
 (c) Contain less than 300 ppmv of total nitrogen other than diatomic nitrogen (N₂).
 (d) Contain less than 200 ppmv of hydrogen sulfide.
 (e) Contain less than one ppmv of each hazardous constituent in the target list of ch. NR 661 Appendix VIII constituents.

**Table 3
Detection and Detection Limit Values for Comparable Fuel Specification**

Chemical name	CAS number	Composite value (mg/kg)	Heating value (BTU/lb)	Concentration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
Total Nitrogen as N	NA	9000	18400	4900	. . . . .
Total Halogens as Cl	NA	1000	18400	540	. . . . .
Total Organic Halogens as Cl	NA		. . . . .	(1)	. . . . .
Polychlorinated biphenyls, total [Arocolors, total]	1336-36-3	ND	. . . . .	ND	1.4

Chemical name	CAS number	Compos- ite value (mg/kg)	Heating value (BTU/lb)	Concentra- tion limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/ kg)
Cyanide, total	57-12-5	ND	.....	ND	1.0
Metals:					
Antimony, total	7440-36-0	ND	.....	12	.....
Arsenic, total	7440-38-2	ND	.....	0.23	.....
Barium, total	7440-39-3	ND	.....	23	.....
Beryllium, total	7440-41-7	ND	.....	1.2	.....
Cadmium, total	7440-43-9	ND	.....	1.2	.....
Chromium, total	7440-47-3	ND	.....	2.3	.....
Cobalt	7440-48-4	ND	.....	4.6	.....
Lead, total	7439-92-1	57	18100	31	.....
Manganese	7439-96-5	ND	.....	1.2	.....
Mercury total	7439-97-6	ND	.....	0.25	.....
Nickel, total	7440-02-0	106	18400	58	.....
Selenium, total	7782-49-2	ND	.....	0.23	.....
Silver, total	7440-22-4	ND	.....	2.3	.....
Thallium, total	7440-28-0	ND	.....	23	.....
Hydrocarbons:					
Benzo[a]anthracene	56-55-3	ND	.....	2400	.....
Benzene	71-43-2	8000	19600	4100	.....
Benzo[b]fluoranthene	205-99-2	ND	.....	2400	.....
Benzo[k]fluoranthene	207-08-9	ND	.....	2400	.....
Benzo[a]pyrene	50-32-8	ND	.....	2400	.....
Chrysene	218-01-9	ND	.....	2400	.....
Dibenzo[a,h]anthracene	53-70-3	ND	.....	2400	.....
7,12-Dimethylbenz[a]anthracene	57-97-6	ND	.....	2400	.....
Fluoranthene	206-44-0	ND	.....	2400	.....
Indeno(1,2,3-cd)pyrene	193-39-5	ND	.....	2400	.....
3-Methylcholanthrene	56-49-5	ND	.....	2400	.....
Naphthalene	91-20-3	6200	19400	3200	.....
Toluene	108-88-3	69000	19400	36000	.....
Oxygenates:					
Acetophenone	98-86-2	ND	.....	2400	.....
Acrolein	107-02-8	ND	.....	39	.....
Allyl alcohol	107-18-6	ND	.....	30	.....
Bis(2-ethylhexyl)phthalate [Di-2-ethyl- hexyl phthalate]	117-81-7	ND	.....	2400	.....
Butyl benzyl phthalate	85-68-7	ND	.....	2400	.....
o-Cresol [2-Methyl phenol]	95-48-7	ND	.....	2400	.....
m-Cresol [3-Methyl phenol]	108-39-4	ND	.....	2400	.....
p-Cresol [4-Methyl phenol]	106-44-5	ND	.....	2400	.....

Chemical name	CAS number	Compos- ite value (mg/kg)	Heating value (BTU/lb)	Concentra- tion limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/ kg)
Di-n-butyl phthalate	84-74-2	ND	.....	2400	.....
Diethyl phthalate	84-66-2	ND	.....	2400	.....
2,4-Dimethylphenol	105-67-9	ND	.....	2400	.....
Dimethyl phthalate	131-11-3	ND	.....	2400	.....
Di-n-octyl phthalate	117-84-0	ND	.....	2400	.....
Endothall	145-73-3	ND	.....	100	.....
Ethyl methacrylate	97-63-2	ND	.....	39	.....
2-Ethoxyethanol [Ethylene glycol mono- ethyl ether]	110-80-5	ND	.....	100	.....
Isobutyl alcohol	78-83-1	ND	.....	39	.....
Isosafrole	120-58-1	ND	.....	2400	.....
Methyl ethyl ketone [2-Butanone]	78-93-3	ND	.....	39	.....
Methyl methacrylate	80-62-6	ND	.....	39	.....
1,4-Naphthoquinone	130-15-4	ND	.....	2400	.....
Phenol	108-95-2	ND	.....	2400	.....
Propargyl alcohol [2-Propyn-1-ol]	107-19-7	ND	.....	30	.....
Safrole	94-59-7	ND	.....	2400	.....
Sulfonated Organics:					
Carbon disulfide	75-15-0	ND	.....	ND	39
Disulfoton	298-04-4	ND	.....	ND	2400
Ethyl methanesulfonate	62-50-0	ND	.....	ND	2400
Methyl methanesulfonate	66-27-3	ND	.....	ND	2400
Phorate	298-02-2	ND	.....	ND	2400
1,3-Propane sultone	1120-71-4	ND	.....	ND	100
Tetraethyldithiopyrophosphate [Sulfotepp]	3689-24-5	ND	.....	ND	2400
Thiophenol [Benzenethiol]	108-98-5	ND	.....	ND	30
O,O,O-Triethyl phosphorothioate	126-68-1	ND	.....	ND	2400
Nitrogenated Organics:					
Acetonitrile [Methyl cyanide]	75-05-8	ND	.....	ND	39
2-Acetylaminofluorene [2-AAF]	53-96-3	ND	.....	ND	2400
Acrylonitrile	107-13-1	ND	.....	ND	39
4-Aminobiphenyl	92-67-1	ND	.....	ND	2400
4-Aminopyridine	504-24-5	ND	.....	ND	100
Aniline	62-53-3	ND	.....	ND	2400
Benzidine	92-87-5	ND	.....	ND	2400
Dibenz[a,j]acridine	224-42-0	ND	.....	ND	2400
O,O-Diethyl O-pyrazinyl phosphorothio- ate [Thionazin]	297-97-2	ND	.....	ND	2400
Dimethoate	60-51-5	ND	.....	ND	2400
p-(Dimethylamino) azobenzene [4-Dime- thylaminoazobenzene]	60-11-7	ND	.....	ND	2400

Chemical name	CAS number	Compos- ite value (mg/kg)	Heating value (BTU/lb)	Concentra- tion limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/ kg)
3,3'-Dimethylbenzidine	119-93-7	ND	.....	ND	2400
á,á-Dimethylphenethylamine	122-09-8	ND	.....	ND	2400
3,3'-Dimethoxybenzidine	119-90-4	ND	.....	ND	100
1,3-Dinitrobenzene [m-Dinitrobenzene]	99-65-0	ND	.....	ND	2400
4,6-Dinitro-o-cresol	534-52-1	ND	.....	ND	2400
2,4-Dinitrophenol	51-28-5	ND	.....	ND	2400
2,4-Dinitrotoluene	121-14-2	ND	.....	ND	2400
2,6-Dinitrotoluene	606-20-2	ND	.....	ND	2400
Dinoseb [2-sec-Butyl-4,6-dinitrophenol]	88-85-7	ND	.....	ND	2400
Diphenylamine	122-39-4	ND	.....	ND	2400
Ethyl carbamate [Urethane]	51-79-6	ND	.....	ND	100
Ethylenethiourea (2-Imidazolidinethione)	96-45-7	ND	.....	ND	110
Famphur	52-85-7	ND	.....	ND	2400
Methacrylonitrile	126-98-7	ND	.....	ND	39
Methapyrilene	91-80-5	ND	.....	ND	2400
Methomyl	16752-77-5	ND	.....	ND	57
2-Methylactonitrile, [Acetone cyano- hydrin]	75-86-5	ND	.....	ND	100
Methyl parathion	298-00-0	ND	.....	ND	2400
MNNG (N-Methyl-N-nitroso-N'-nitro- guanidine)	70-25-7	ND	.....	ND	110
1-Naphthylamine, [á-Naphthylamine] ..	134-32-7	ND	.....	ND	2400
2-Naphthylamine, [â-Naphthylamine] ..	91-59-8	ND	.....	ND	2400
Nicotine	54-11-5	ND	.....	ND	100
4-Nitroaniline, [p-Nitroaniline]	100-01-6	ND	.....	ND	2400
Nitrobenzene	98-95-3	ND	.....	ND	2400
4-Nitrophenol, [p-Nitrophenol]	100-02-7	ND	.....	ND	2400
5-Nitro-o-toluidine	99-55-8	ND	.....	ND	2400
N-Nitrosodi-n-butylamine	924-16-3	ND	.....	ND	2400
N-Nitrosodiethylamine	55-18-5	ND	.....	ND	2400
N-Nitrosodiphenylamine, [Diphenylnitro- samine]	86-30-6	ND	.....	ND	2400
N-Nitroso-N-methylethylamine	10595-95-6	ND	.....	ND	2400
N-Nitrosomorpholine	59-89-2	ND	.....	ND	2400
N-Nitrosopiperidine	100-75-4	ND	.....	ND	2400
N-Nitrosopyrrolidine	930-55-2	ND	.....	ND	2400
2-Nitropropane	79-46-9	ND	.....	ND	30
Parathion	56-38-2	ND	.....	ND	2400
Phenacetin	62-44-2	ND	.....	ND	2400
1,4-Phenylene diamine, [p-Phenylenedia- mine]	106-50-3	ND	.....	ND	2400

Chemical name	CAS number	Compos- ite value (mg/kg)	Heating value (BTU/lb)	Concentra- tion limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/ kg)
N-Phenylthiourea	103-85-5	ND	.....	ND	57
2-Picoline [alpha-Picoline]	109-06-8	ND	.....	ND	2400
Propylthioracil, [6-Propyl-2-thiouracil]	51-52-5	ND	.....	ND	100
Pyridine	110-86-1	ND	.....	ND	2400
Strychnine	57-24-9	ND	.....	ND	100
Thioacetamide	62-55-5	ND	.....	ND	57
Thiofanox	39196-18-4	ND	.....	ND	100
Thiourea	62-56-6	ND	.....	ND	57
Toluene-2,4-diamine [2,4-Diamino- toluene]	95-80-7	ND	.....	ND	57
Toluene-2,6-diamine [2,6-Diamino- toluene]	823-40-5	ND	.....	ND	57
o-Toluidine	95-53-4	ND	.....	ND	2400
p-Toluidine	106-49-0	ND	.....	ND	100
1,3,5-Trinitrobenzene, [sym-Trinitoben- zene]	99-35-4	ND	.....	ND	2400
Halogenated Organics:					
Allyl chloride	107-05-1	ND	.....	ND	39
Aramite	140-57-8	ND	.....	ND	2400
Benzal chloride [Dichloromethyl benzene]	98-87-3	ND	.....	ND	100
Benzyl chloride	100-44-77	ND	.....	ND	100
bis(2-Chloroethyl)ether [Dichoroethyl ether]	111-44-4	ND	.....	ND	2400
Bromoform [Tribromomethane]	75-25-2	ND	.....	ND	39
Bromomethane [Methyl bromide]	74-83-9	ND	.....	ND	39
4-Bromophenyl phenyl ether [p-Bromo diphenyl ether]	101-55-3	ND	.....	ND	2400
Carbon tetrachloride	56-23-5	ND	.....	ND	39
Chlordane	57-74-9	ND	.....	ND	14
p-Chloroaniline	106-47-8	ND	.....	ND	2400
Chlorobenzene	108-90-7	ND	.....	ND	39
Chlorobenzilate	510-15-6	ND	.....	ND	2400
p-Chloro-m-cresol	59-50-7	ND	.....	ND	2400
2-Chloroethyl vinyl ether	110-75-8	ND	.....	ND	39
Chloroform	67-66-3	ND	.....	ND	39
Chloromethane [Methyl chloride]	74-87-3	ND	.....	ND	39
2-Chloronaphthalene [beta-Chlo- ronaphthalene]	91-58-7	ND	.....	ND	2400
2-Chlorophenol [o-Chlorophenol]	95-57-8	ND	.....	ND	2400
Chloroprene [2-Chloro-1,3-butadiene]	1126-99-8	ND	.....	ND	39
2,4-D [2,4-Dichlorophenoxyacetic acid]	94-75-7	ND	.....	ND	7.0

Chemical name	CAS number	Compos- ite value (mg/kg)	Heating value (BTU/lb)	Concentra- tion limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/ kg)
Diallate	2303-16-4	ND	.....	ND	2400
1,2-Dibromo-3-chloropropane	96-12-8	ND	.....	ND	39
1,2-Dichlorobenzene [o-Dichlorobenzene]	95-50-1	ND	.....	ND	2400
1,3-Dichlorobenzene [m-Dichloroben- zene]	541-73-1	ND	.....	ND	2400
1,4-Dichlorobenzene [p-Dichlorobenzene]	106-46-7	ND	.....	ND	2400
3,3'-Dichlorobenzidine	91-94-1	ND	.....	ND	2400
Dichlorodifluoromethane [CFC-12]	75-71-8	ND	.....	ND	39
1,2-Dichloroethane [Ethylene dichloride]	107-06-2	ND	.....	ND	39
1,1-Dichloroethylene [Vinylidene chlo- ride]	75-35-4	ND	.....	ND	39
Dichloromethoxy ethane [Bis(2-chloroe- thoxy)methane]	111-91-1	ND	.....	ND	2400
2,4-Dichlorophenol	120-83-2	ND	.....	ND	2400
2,6-Dichlorophenol	87-65-0	ND	.....	ND	2400
1,2-Dichloropropane [Propylene dichlo- ride]	78-87-5	ND	.....	ND	39
cis-1,3-Dichloropropylene	10061-01-5	ND	.....	ND	39
trans-1,3-Dichloropropylene	10061-02-6	ND	.....	ND	39
1,3-Dichloro-2-propanol	96-23-1	ND	.....	ND	30
Endosulfan I	959-98-8	ND	.....	ND	1.4
Endosulfan II	33213-65-9	ND	.....	ND	1.4
Endrin	72-20-8	ND	.....	ND	1.4
Endrin aldehyde	7421-93-4	ND	.....	ND	1.4
Endrin ketone	53494-70-5	ND	.....	ND	1.4
Epichlorohydrin [1-Chloro-2,3-epoxy propane]	106-89-8	ND	.....	ND	30
Ethylidene dichloride [1,1-Dichloroethane]	75-34-3	ND	.....	ND	39
2-Fluoroacetamide	640-19-7	ND	.....	ND	100
Heptachlor	76-44-8	ND	.....	ND	1.4
Heptachlor epoxide	1024-57-3	ND	.....	ND	2.8
Hexachlorobenzene	118-74-1	ND	.....	ND	2400
Hexachloro-1,3-butadiene [Hexachlorobutadiene]	87-68-3	ND	.....	ND	2400
Hexachlorocyclopentadiene	77-47-4	ND	.....	ND	2400
Hexachloroethane	67-72-1	ND	.....	ND	2400
Hexachlorophene	70-30-4	ND	.....	ND	59000
Hexachloropropene [Hexachloropropylene]	1888-71-7	ND	.....	ND	2400
Isodrin	465-73-6	ND	.....	ND	2400
Kepone [Chlordecone]	143-50-0	ND	.....	ND	4700

Chemical name	CAS number	Compos- ite value (mg/kg)	Heating value (BTU/lb)	Concentra- tion limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/ kg)
Lindane [gamma-BHC] [gamma-Hexachlorocyclohexane]	58-89-9	ND	.....	ND	1.4
Methylene chloride [Dichloromethane] ..	75-09-2	ND	.....	ND	39
4,4'-Methylene-bis(2-chloroaniline) ...	101-14-4	ND	.....	ND	100
Methyl iodide [Iodomethane]	74-88-4	ND	.....	ND	39
Pentachlorobenzene	608-93-5	ND	.....	ND	2400
Pentachloroethane	76-01-7	ND	.....	ND	39
Pentachloronitrobenzene [PCNB] [Quin- tobenzene] [Quintozene]	82-68-8	ND	.....	ND	2400
Pentachlorophenol	87-86-5	ND	.....	ND	2400
Pronamide	23950-58-5	ND	.....	ND	2400
Silvex [2,4,5-Trichlorophenoxypropionic acid]	93-72-1	ND	.....	ND	7.0
2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]	1746-01-6	ND	.....	ND	30
1,2,4,5-Tetrachlorobenzene	95-94-3	ND	.....	ND	2400
1,1,2,2-Tetrachloroethane	79-34-5	ND	.....	ND	39
Tetrachloroethylene [Perchloroethylene]	127-18-4	ND	.....	ND	39
2,3,4,6-Tetrachlorophenol	58-90-2	ND	.....	ND	2400
1,2,4-Trichlorobenzene	120-82-1	ND	.....	ND	2400
1,1,1-Trichloroethane [Methyl chloro- form]	71-55-6	ND	.....	ND	39
1,1,2-Trichloroethane [Vinyl trichloride]	79-00-5	ND	.....	ND	39
Trichloroethylene	79-01-6	ND	.....	ND	39
Trichlorofluoromethane [Trichloromonofluoromethane]	75-69-4	ND	.....	ND	39
2,4,5-Trichlorophenol	95-95-4	ND	.....	ND	2400
2,4,6-Trichlorophenol	88-06-2	ND	.....	ND	2400
1,2,3-Trichloropropane	96-18-4	ND	.....	ND	39
Vinyl chloride	75-01-4	ND	.....	ND	39

NA means not applicable.

ND means nondetect.

¹ Twenty-five or individual halogenated organics listed at the end of Table 3.

(3) IMPLEMENTATION. Waste that meets the comparable or syngas fuel specifications provided by sub. (1) or (2) (these constituent levels shall be achieved by the comparable fuel when generated, or as a result of treatment or blending, as provided in par. (c) or (d)) is excluded from the definition of solid waste provided that all of the following requirements are met:

(a) *Notices.* For purposes of this section, the person claiming and qualifying for the exclusion is called the comparable or syngas fuel generator and the person burning the comparable or syngas fuel is called the comparable or syngas burner. The person who generates the comparable fuel or syngas fuel shall claim and certify to the exclusion.

1. 'Department directors of the bureaus of air management and waste management.'

a. The generator shall submit a one-time notice to the department directors of the bureaus of air management and waste management, in whose jurisdiction the exclusion is being claimed and where the comparable or syngas fuel will be burned, certifying compliance with the conditions of the exclusion and providing documentation as required by subd. 1. c.

b. If the generator is a company that generates comparable or syngas fuel at more than one facility, the generator shall specify at which sites the comparable or syngas fuel will be generated.

c. A comparable or syngas fuel generator's notification to the department directors of the bureaus of air management and waste management shall contain all of the following items:

1) The name, address and RCRA identification number of the person or facility claiming the exclusion.

2) The applicable EPA hazardous waste codes for the hazardous waste.

3) Name and address of the units, meeting the requirements of par. (b), that will burn the comparable or syngas fuel.

4) The following statement is signed and submitted by the person claiming the exclusion or the person's authorized representative:

Under penalty of criminal and civil prosecution for making or submitting false statements, representations or omissions, I certify that the requirements of s. NR 661.38, Wis. Adm. Code, have been met for all waste identified in this notification. Copies of the records and information required at s. NR 661.38 (3) (j), Wis. Adm. Code, are available at the comparable or syngas fuel generator's facility. Based on my inquiry of the individuals immediately responsible for obtaining the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Note: Mail 2 copies of the notice (one addressed to the department director of the bureau of air management and one addressed to the department director of the bureau of waste management) to the following address:

Wisconsin Department of Natural Resources
101 S Webster St
PO Box 7921
Madison WI 53707-7921

2. 'Public notice.' Prior to burning an excluded comparable or syngas fuel, the burner shall publish in a major newspaper of general circulation local to the site where the fuel will be burned, a notice entitled "Notification of Burning a Comparable or Syngas Fuel Excluded Under the Resource Conservation and Recovery Act" containing all of the following information:

a. Name, address and RCRA identification number of the generating facility.

b. Name and address of the units that will burn the comparable or syngas fuel.

c. A brief, general description of the manufacturing, treatment or other process generating the comparable or syngas fuel.

d. An estimate of the average and maximum monthly and annual quantity of the waste claimed to be excluded.

e. Name and mailing address of the department directors of the bureaus of air management and waste management.

(b) *Burning.* The comparable or syngas fuel exclusion for fuels meeting the requirements of sub. (1) or (2) and par. (a) applies only if the fuel is burned in the following units that also shall be subject to federal, state and local air emission requirements, including all applicable CAA MACT requirements:

1. Industrial furnaces as defined in s. NR 660.10.

2. Boilers, as defined in s. NR 660.10, that are further defined as any of the following:

a. Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

b. Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

3. Hazardous waste incinerators subject to regulation under subch. O of ch. NR 664 or subch. O of ch. NR 665 or applicable CAA MACT standards.

4. Gas turbines used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

(c) *Blending to meet the viscosity specification.* A hazardous waste blended to meet the viscosity specification shall do all of the following:

1. As generated and prior to any blending, manipulation or processing meet the constituent and heating value specifications of sub. (1) (a) 1. and (b).

2. Be blended at a facility that is subject to the applicable requirements of chs. NR 664 and 665, or s. NR 662.034 or 662.192.

3. Not violate the dilution prohibition of par. (f).

(d) *Treatment to meet the comparable fuel exclusion specifications.* 1. A hazardous waste may be treated to meet the exclusion specifications of sub. (1) (a) and (b) provided the treatment does all of the following:

a. Destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying hazardous constituents or materials.

b. Is performed at a facility that is subject to the applicable requirements of chs. NR 664 and 665, or s. NR 662.034 or 662.192.

c. Does not violate the dilution prohibition of par. (f).

2. Residuals resulting from the treatment of a hazardous waste listed in subch. D to generate a comparable fuel remain a hazardous waste.

(e) *Generation of a syngas fuel.* 1. A syngas fuel can be generated from the processing of hazardous wastes to meet the exclusion specifications of sub. (2) provided the processing does all of the following:

a. Destroys or removes the constituent listed in the specification or raises the heating value by removing or destroying constituents or materials.

b. Is performed at a facility that is subject to the applicable requirements of chs. NR 664 and 665, or s. NR 662.034 or 662.192 or is an exempt recycling unit under s. NR 661.06 (3).

c. Does not violate the dilution prohibition of par. (f).

2. Residuals resulting from the treatment of a hazardous waste listed in subch. D to generate a syngas fuel remain a hazardous waste.

(f) *Dilution prohibition for comparable and syngas fuels.* No generator, transporter, handler or owner or operator of a treatment, storage or disposal facility shall in any way dilute a hazardous waste to meet the exclusion specifications of sub. (1) (a) 1. or (b) or (2).

(g) *Waste analysis plans.* The generator of a comparable or syngas fuel shall develop and follow a written waste analysis plan which describes the procedures for sampling and analysis of the hazardous waste to be excluded. The waste analysis plan shall be developed according to the applicable sections of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA SW-846, incorporated by reference in s. NR 660.11. The plan shall be followed and retained at the facility excluding the waste.

1. At a minimum, the plan shall specify all of the following:

a. The parameters for which each hazardous waste will be analyzed and the rationale for the selection of those parameters.

b. The test methods which will be used to test for these parameters.

c. The sampling method which will be used to obtain a representative sample of the waste to be analyzed.

d. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date.

e. If process knowledge is used in the waste determination, any information prepared by the generator in making the determination.

2. The waste analysis plan shall also contain records of all of the following:

a. The dates and times waste samples were obtained, and the dates the samples were analyzed.

b. The names and qualifications of the persons who obtained the samples.

c. A description of the temporal and spatial locations of the samples.

d. The name and address of the laboratory facility at which analyses of the samples were performed.

e. A description of the analytical methods used, including any clean-up and sample preparation methods.

f. All quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred.

g. All laboratory results demonstrating that the exclusion specifications have been met for the waste.

h. All laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in par. (k) and also provides for the availability of the documentation to the claimant upon request.

3. Syngas fuel generators shall submit for approval, prior to performing sampling, analysis or any management of a syngas fuel as an excluded waste, a waste analysis plan containing the elements of subd. 1. to the department. The approval of waste analysis plans shall be stated in writing and received by the facility prior to sampling and analysis to demonstrate the exclusion of a syngas. The approval of the waste analysis plan may contain provisions and conditions that the department deems appropriate.

(h) *Comparable fuel sampling and analysis*. 1. For each waste for which an exclusion is claimed, the generator of the hazardous waste shall test for all the constituents in ch. NR 661 Appendix VIII, except those that the generator determines, based on testing or knowledge, should not be present in the waste. The generator is required to document the basis of each determination that a constituent should not be present. The generator may not determine that any of the following categories of constituents should not be present:

a. A constituent that triggered the toxicity characteristic for the waste constituents that were the basis of the listing of the waste stream, or constituents for which there is a treatment standard for the waste code in s. NR 668.40.

b. A constituent detected in previous analysis of the waste.

c. Constituents introduced into the process that generates the waste.

d. Constituents that are byproducts or side reactions to the process that generates the waste.

Note: Any claim under this paragraph shall be valid and accurate for all hazardous constituents; a determination not to test for a hazardous constituent will not shield a generator from liability should that constituent later be found in the waste above the exclusion specifications.

2. For each waste for which the exclusion is claimed where the generator of the comparable or syngas fuel is not the original generator of the hazardous waste, the generator of the comparable or syngas fuel may not use process knowledge pursuant to subd. 1. and shall test to determine that all of the constituent specifications of subs. (1) (a) and (2) have been met.

3. The comparable or syngas fuel generator may use any reliable analytical method to demonstrate that no constituent of concern is present at concentrations above the specification levels. It is the responsibility of the generator to ensure that the sampling and analysis are unbiased, precise and representative of the waste. For the waste to be eligible for exclusion, a generator shall demonstrate all of the following:

a. Each constituent of concern is not present in the waste above the specification level at the 95% upper confidence limit around the mean.

b. The analysis could have detected the presence of the constituent at or below the specification level at the 95% upper confidence limit around the mean.

4. Nothing in this paragraph preempts, overrides or otherwise negates s. NR 662.011, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

5. In an enforcement action, the burden of proof to establish conformance with the exclusion specification shall be on the generator claiming the exclusion.

6. The generator shall conduct sampling and analysis according to their waste analysis plan developed under par. (g).

7. Syngas fuel and comparable fuel that has not been blended in order to meet the kinematic viscosity specifications shall be analyzed as generated.

8. If a comparable fuel is blended in order to meet the kinematic viscosity specifications, the generator shall do all of the following:

a. Analyze the fuel as generated to ensure that it meets the constituent and heating value specifications.

b. After blending, analyze the fuel again to ensure that the blended fuel continues to meet all comparable or syngas fuel specifications.

9. Excluded comparable or syngas fuel shall be re-tested, at a minimum, annually and shall be re-tested after a process change that could change the chemical or physical properties of the waste.

(i) *Speculative accumulation*. Any persons handling a comparable or syngas fuel are subject to the speculative accumulation test under s. NR 661.02 (3) (d).

(j) *Records*. The generator shall maintain records of all of the following information on-site:

1. All information required to be submitted to the department as part of the notification of the claim.

a. The owner or operator name, address and RCRA facility identification number of the person claiming the exclusion.

b. The applicable EPA hazardous waste codes for each hazardous waste excluded as a fuel.

c. The certification signed by the person claiming the exclusion or the person's authorized representative.

2. A brief description of the process that generated the hazardous waste and process that generated the excluded fuel, if not the same.

3. An estimate of the average and maximum monthly and annual quantities of each waste claimed to be excluded.

4. Documentation for any claim that a constituent is not present in the hazardous waste as required under par. (h) 1.

5. The results of all analyses and all detection limits achieved as required under par. (h).

6. If the excluded waste was generated through treatment or blending, documentation as required under par. (c) or (d).

7. If the waste is to be shipped off-site, a certification from the burner as required under par. (L).

8. A waste analysis plan and the results of the sampling and analysis that includes all of the following:

a. The dates and times waste samples were obtained, and the dates the samples were analyzed.

b. The names and qualifications of the persons who obtained the samples.

c. A description of the temporal and spatial locations of the samples.

d. The name and address of the laboratory facility at which analyses of the samples were performed.

e. A description of the analytical methods used, including any clean-up and sample preparation methods.

f. All quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in

the plan or from any other activity written in the plan which occurred.

g. All laboratory analytical results demonstrating that the exclusion specifications have been met for the waste.

h. All laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in par. (k) and also provides for the availability of the documentation to the claimant upon request.

9. If the generator ships comparable or syngas fuel off-site for burning, the generator shall retain for each shipment all of the following information on-site:

a. The name and address of the facility receiving the comparable or syngas fuel for burning.

b. The quantity of comparable or syngas fuel shipped and delivered.

c. The date of shipment or delivery.

d. A cross-reference to the record of comparable or syngas fuel analysis or other information used to make the determination that the comparable or syngas fuel meets the specifications required under par. (h).

e. A one-time certification by the burner as required by par. (L).

(k) *Records retention.* Records shall be maintained for the period of 3 years. A generator shall maintain a current waste analysis plan during that 3 year period.

(L) *Burner certification.* Prior to submitting a notification to the department directors of the bureaus of air management and waste management, a comparable or syngas fuel generator who intends to ship its fuel off-site for burning shall obtain a one-time written, signed statement from the burner which does all of the following:

1. Certifies that the comparable or syngas fuel will only be burned in an industrial furnace or boiler, utility boiler or hazardous waste incinerator, as required under par. (b).

2. Identifies the name and address of the units that will burn the comparable or syngas fuel.

3. Certifies that the state in which the burner is located is authorized to exclude wastes as comparable or syngas fuel under this section, or 40 CFR 261.38-equivalent requirements of another state.

(m) *Ineligible waste codes.* Wastes that are listed because of presence of dioxins or furans, as set out in ch. NR 661 Appendix VII, are not eligible for this exclusion, and any fuel produced from or otherwise containing these wastes remains a hazardous waste subject to chs. NR 660 to 670.

History: CR 05-032: cr. Register July 2006 No. 607, eff. 8-1-06; **corrections in 2 (e), (3) (b) 3., (h), (m) made under s. 13.92 (4) (b) 7., Stats., Register March 2013 No. 687.**