# Chapter NR 661

## HAZARDOUS WASTE IDENTIFICATION AND LISTING

| Subchapter A   | A — General   | NR 661.24                           | Toxicity characteristic.  |
|--|---|-------------------------------------|---|
| NR 661.01  | Purpose and scope.  |                                     |   |
| NR 661.02  | Definition of solid waste.  |                                     | D — Lists of Hazardous Wastes   |
| NR 661.03  | Definition of hazardous waste.  | NR 661.30                           | General.  |
| NR 661.04  | Exclusions.   | NR 661.31                           | Hazardous wastes from non–specific sources.   |
| NR 661.06  | Requirements for recyclable materials.  | NR 661.32                           | Hazardous wastes from specific sources.   |
| NR 661.07  | Residues of hazardous waste in empty containers.  | NR 661.33                           | Discarded commercial chemical products, off-specification species,  |
| NR 661.08  | PCB wastes regulated under federal toxic substances control act.  |                                     | container residues and spill residues thereof.  |
| NR 661.09  | Requirements for universal waste.   | NR 661.35                           | Deletion of certain hazardous waste codes following equipment   |
| Subchapter B — Criteria for Identifying the Characteristics of Hazardous         |   |                                     | cleaning and replacement.   |
| Subchapter I   | 5 — Uniteria for Identifying the Unaracteristics of Hazardous   |                                     | 2 1   |
|  |   | Cubabantan                          |   |
| Waste and fo   | r Listing Hazardous Waste   |                                     | E — Exclusions and Exemptions   |
| Waste and fo<br>NR 661.10  | r Listing Hazardous Waste Criteria for identifying the characteristics of hazardous waste.  | NR 661.38                           | E — Exclusions and Exemptions Comparable or syngas fuel exclusion.  |
| Waste and fo   | r Listing Hazardous Waste   |                                     | E — Exclusions and Exemptions Comparable or syngas fuel exclusion. Conditional exclusion for used, broken cathode ray tubes (CRTs) and  |
| Waste and fo<br>NR 661.10<br>NR 661.11   | r Listing Hazardous Waste Criteria for identifying the characteristics of hazardous waste.  | NR 661.38                           | E — Exclusions and Exemptions     Comparable or syngas fuel exclusion.     Conditional exclusion for used, broken cathode ray tubes (CRTs) and processed CRT glass undergoing recycling.  |
| Waste and fo<br>NR 661.10<br>NR 661.11   | r Listing Hazardous Waste Criteria for identifying the characteristics of hazardous waste. Criteria for listing hazardous waste.  | NR 661.38                           | E — Exclusions and Exemptions Comparable or syngas fuel exclusion. Conditional exclusion for used, broken cathode ray tubes (CRTs) and  |
| Waste and fo<br>NR 661.10<br>NR 661.11<br>Subchapter (                           | r Listing Hazardous Waste Criteria for identifying the characteristics of hazardous waste. Criteria for listing hazardous waste. C—Characteristics of Hazardous Waste   | NR 661.38<br>NR 661.39              | E — Exclusions and Exemptions     Comparable or syngas fuel exclusion.     Conditional exclusion for used, broken cathode ray tubes (CRTs) and processed CRT glass undergoing recycling.  |
| Waste and fo<br>NR 661.10<br>NR 661.11<br>Subchapter (<br>NR 661.20              | r Listing Hazardous Waste Criteria for identifying the characteristics of hazardous waste. Criteria for listing hazardous waste. C—Characteristics of Hazardous Waste General.                                | NR 661.38<br>NR 661.39              | E — Exclusions and Exemptions  Comparable or syngas fuel exclusion.  Conditional exclusion for used, broken cathode ray tubes (CRTs) and processed CRT glass undergoing recycling.  Conditional exclusion for used, intact cathode ray tubes (CRTs)                         |
| Waste and fo<br>NR 661.10<br>NR 661.11<br>Subchapter (<br>NR 661.20<br>NR 661.21 | r Listing Hazardous Waste Criteria for identifying the characteristics of hazardous waste. Criteria for listing hazardous waste. C — Characteristics of Hazardous Waste General. Ignitability characteristic. | NR 661.38<br>NR 661.39<br>NR 661.40 | E — Exclusions and Exemptions  Comparable or syngas fuel exclusion.  Conditional exclusion for used, broken cathode ray tubes (CRTs) and processed CRT glass undergoing recycling.  Conditional exclusion for used, intact cathode ray tubes (CRTs) exported for recycling. |

## 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).
- 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 materials. 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 ss. 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).
- 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<br>or fuel (s. NR<br>661.02 (3) (b)) | Reclamation (s.<br>NR 661.02 (3) (c))<br>(except as provided in<br>s. NR 661.04 (1) (q)<br>for mineral processing<br>secondary materials) | Speculative<br>accumulation<br>(s. NR 661.02<br>(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:

17

- 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.
- 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.):
- 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: benzene, carbon tetrachloride, tetrachloroethylene, trichloroethylene, or the scrubber waters derived-from the combustion of these spent solvents, provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million, or the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a state operating permit that minimizes fugitive emissions), does not exceed 1 part per million on an average weekly basis. Any facility that uses benzene as a solvent and claims this exemption shall use an aerated biological wastewater treatment system and shall use only lined surface impoundments or tanks prior to secondary clarification in the wastewater treatment system. Facilities that choose to measure concentration levels shall file a copy of their sampling and analysis plan with the department. A facility shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan shall include the monitoring point location (headworks), the sampling frequency and methodology and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the department. The department may reject the sampling and analysis plan if it finds that the sampling and analysis plan fails to include the above information or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the department rejects the sampling and analysis plan or if the department finds that the facility is not following the sampling and analysis plan, the department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected.
- 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, 2– ethoxyethanol, or the scrubber waters derived—from the combustion of these spent solvents, provided that the maximum total weekly usage of these solvents

corrected.

vents (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, or the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a state operating permit that minimizes fugitive emissions), does not exceed 25 parts per million on an average weekly basis. Facilities that choose to measure concentration levels shall file a copy of their sampling and analysis plan with the department. A facility shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan shall include the monitoring point location (headworks), the sampling frequency and methodology and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the department. The department may reject the sampling and analysis plan if it finds that the sampling and analysis plan fails to include the above information or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the department rejects the sampling and analysis plan or if the department finds that the facility is not following the sampling and analysis plan, the department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are

- 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 hazardous waste, commercial chemical product or chemical intermediate listed in ss. NR 661.31 to 661.33, arising from de minimis losses of these materials. For purposes of this subdivision paragraph, de minimis losses are inadvertent releases to a wastewater treatment system, including those from normal material handling operations (for example, spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves, or other devices used to transfer materials); minor leaks of process equipment, storage tanks, or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing. Any manufacturing facility that claims an exemption for de minimis quantities of wastes listed in s. NR 661.31 or 661.32, or any nonmanufacturing facility that claims an exemption for de minimis quantities of wastes listed in subch. D shall either have eliminated the discharge of wastewaters or have included in its WPDES permit application or submission to its pretreatment control authority the constituents for which each waste was listed (in ch. NR 661 Appendix VII); and the constituents in the table Treatment Standards for Hazardous Wastes in s. NR 668.40 for which each waste has a treatment standard (for instance, land disposal restriction constituents). A facility is eligible to claim the exemption once the department has been notified of possible de minimis releases via the WPDES permit application or the pretreatment control authority submission. A copy of the WPDES permit application or the submission to the pretreatment control authority shall be placed in the facility's on–site files.

- 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 No. K157), provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that cannot be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, for instance, what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilution into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight or the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a state operating permit that minimizes fugitive emissions), does not exceed 5 parts per million on an average weekly basis. Facilities that choose to measure concentration levels shall file copy of their sampling and analysis plan with the department. A facility shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan shall include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the department. The department may reject the sampling and analysis plan if it finds that the sampling and analysis plan fails to include the above information or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the department rejects the sampling and analysis plan or if the department finds that the facility is not following the sampling and analysis plan, the department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected.
- 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 No. K156) provided that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter or the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a state operating permit that minimizes fugitive emissions), does not exceed 5 milligrams per liter on an average weekly basis. Facilities that choose to measure concentration levels shall file copy of their sampling and analysis plan with the department. A facility shall file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan shall include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by

the department. The department may reject the sampling and analysis plan if it finds that the sampling and analysis plan fails to include the above information or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the department rejects the sampling and analysis plan or if the department finds that the facility is not following the sampling and analysis plan, the department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected.

- 5. Used oil containing more than 1,000 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, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in ch. NR 661 Appendix VIII).
- **(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. 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.

|                          | Maximum for any single |  |  |
|--------------------------|------------------------|--|--|
| Constituent              | composite sam-         |  |  |
|                          | ple—TCLP (mg/L)        |  |  |
| Generic exclusion levels | for K061 and K062 non- |  |  |
| wastewater H             | ΓMR 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                   |  |  |
| Rarium                   | 7.6                    |  |  |

| 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:
- 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; CR 16–007: r. and recr. (1) (b) 4. a., b., d., f., g., renum. (1) (b) 5. (intro.) to (1) (b) 5. and am., r. (1) (b) 5. a., b. Register July 2017 No. 739, eff. 8–1–17; correction in (1) (b) 4. d made under s. 35.17, Stats., Register July 2017 No. 739.

**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
- (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:
- 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.
- 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.
- 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.
- 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 until closure of the facility. 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 the 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 refining 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 colocated 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 has been 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 micronutrient 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.
- 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.
- Name and address of the facility that received the excluded material, and documentation confirming receipt of the shipment.
- 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.
- (v) 1. Used, intact CRTs, as defined in s. NR 660.10, are not solid wastes unless they are disposed, or unless they are speculatively accumulated, as defined in s. NR 661.01 (3) (h), by CRT collectors or glass processors.
- 2. Used, intact CRTs, as defined in s. NR 660.10, are not solid wastes when exported for recycling, provided that they meet the requirements of s. NR 661.40.
- 3. Used, broken CRTs, as defined in s. NR 661.10, are not solid wastes, provided that they meet the requirements of s. NR 661.39.
- 4. Glass removed from CRTs is not a solid waste, provided that it meets the requirements of s. NR 661.39 (3).
- (z) Solvent-contaminated wipes that are sent for cleaning and reuse are not solid wastes from the point of generation, provided that:
- 1. The solvent-contaminated wipes, when accumulated, stored, and transported, are contained in non-leaking, closed containers that are labeled "Excluded Solvent-Contaminated Wipes." The containers shall be able to contain free liquids,

- should free liquids occur. During accumulation, a container is considered closed when there is complete contact between the fitted lid and the rim, except when it is necessary to add or remove solvent-contaminated wipes. When the container is full, or when the solvent-contaminated wipes are no longer being accumulated, or when the container is being transported, the container shall be sealed with all lids properly and securely affixed to the container and all openings tightly bound or closed sufficiently to prevent leaks and emissions.
- 2. The solvent-contaminated wipes may be accumulated by the generator for up to 180 days from the start date of accumulation for each container prior to being sent for cleaning.
- 3. At the point of being sent for cleaning on-site or at the point of being transported off-site for cleaning, the solvent-contaminated wipes shall contain no free liquids, as defined in s. NR 660.10.
- 4. Free liquids removed from the solvent-contaminated wipes or from the container holding the wipes shall be managed according to the applicable regulations found in chs. NR 660 to
- 5. Generators shall maintain at their site all of the following documentation:
- a. Name and address of the laundry or dry cleaner that is receiving the solvent-contaminated wipes.
- b. Documentation that the 180-day accumulation time limit in subd. 2. is being met.
- c. Description of the process the generator is using to ensure the solvent-contaminated wipes contain no free liquids at the point of being laundered or dry cleaned on-site or at the point of being transported off-site for laundering or dry cleaning.
- 6. The solvent-contaminated wipes are sent to a laundry or dry cleaner whose discharge, if any, is regulated under 33 USC 1311 and 33 USC 1342 or 33 USC 1317.
- 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 dayuse 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 shearling.
- 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 shearling.
- c. Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/ retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse and through-the-blue.
- d. Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through—the—blue and shearling.
- e. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish, retan/wet finish, no beamhouse, through-the-blue and shearling.
- f. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish, hair save/chrome tan/retan/wet finish and through-the-blue.
- g. Waste scrap leather from the leather tanning industry, the shoe manufacturing industry and other leather product manufacturing industries.
- h. Wastewater treatment sludges from the production of  $TiO_2$  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 chlo-

rination 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.

- 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.
  - 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.
- 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. ATCP 93 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.
- 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:
- 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, K178, and K181 if these wastes had been generated after the effective date of the listing.
- 2. The solid wastes described in subd. 1. were disposed prior to the effective date of the listing.
- 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 regulated under ch. 283, Stats., or 33 USC 1317 (b) or 1342.
- 5. As of February 13, 2001, 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. As of November 21, 2003, leachate or gas condensate derived from K176, K177, and K178 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After February 26, 2007, leachate or gas condensate derived from K181 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. One exception to these requirements is the following: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (for example, 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.
- (r) Solvent-contaminated wipes, except for wipes that are hazardous waste due to the presence of trichloroethylene, that are sent for disposal are not hazardous wastes from the point of generation provided that:
- 1. The solvent-contaminated wipes, when accumulated, stored, and transported, are contained in non-leaking, closed containers that are labeled "Excluded Solvent-Contaminated Wipes." The containers shall be able to contain free liquids, should free liquids occur. During accumulation, a container is considered closed when there is complete contact between the fitted lid and the rim, except when it is necessary to add or remove solvent-contaminated wipes. When the container is full, or when the solvent-contaminated wipes are no longer being accumulated, or when the container is being transported, the container shall be sealed with all lids properly and securely affixed to the container and all openings tightly bound or closed sufficiently to prevent leaks and emissions.
- 2. The solvent–contaminated wipes may be accumulated by the generator for up to 180 days from the start date of accumulation for each container prior to being sent for disposal.
- 3. At the point of being transported for disposal, the solvent–contaminated wipes shall contain no free liquids, as defined in s. NR 660.10.
- 4. Free liquids removed from the solvent-contaminated wipes or from the container holding the wipes shall be managed according to the applicable regulations found in chs. NR 660 to 673.

- 5. Generators shall maintain at their site all of the following documentation:
- a. Name and address of the landfill or combustor that is receiving the solvent-contaminated wipes.
- b. Documentation that the 180 day accumulation time limit in subd. 2. is being met.
- c. Description of the process the generator is using to ensure solvent-contaminated wipes contain no free liquids at the point of being transported for disposal.
- 6. The solvent–contaminated wipes are sent for disposal to any of the following:
- a. To a municipal solid waste landfill regulated under 40 CFR part 258, including 40 CFR 258.40, or to a hazardous waste landfill regulated under ch. NR 664 or 665.
- b. To a municipal waste combustor or other combustion facility regulated under 42 USC 7429, or to a hazardous waste combustor, boiler, or industrial furnace regulated under ch. NR 664 or 665 or subch. H of ch. NR 666.
- (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.
- 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:
- 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 subds. 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 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; correction in (2) (j) made under s. 13.92 (4) (b) 7., Stats., Register October 2013 No. 694; CR 16–007: am. (1) (i) 3. e., cr. (1) (v), (z), r. and recr. (2) (o), cr. (2) (r), am. (6) (j) (intro.) Register July 2017 No. 739, eff. 8–1–17; correction in (2) (o) 5., (r) 6. b. made under s. 35.17, Stats., Register July 2017 No. 739.

#### 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:
- 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
- (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.
  - 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, 667, 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; CR 16–007: am. (1) (a) Register July 2017 No. 739, eff. 8–1–17.

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

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 and mercury-containing equipment 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; CR 16-007; am. (3) Register July 2017 No. 739, eff. 8-1-17.

#### 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 percent 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).
- (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; CR 16–007: am. (1) (a) Register July 2017 No. 739, eff. 8–1–17.

- **NR 661.22 Corrosivity characteristic.** (1) A solid waste exhibits the corrosivity characteristic if a representative sample of the waste has either 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 9040C 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 Method 1110A 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; or Register July 2006 No. 607, eff. 8-1-06; CR 16-007;

History: CR 05–032: cr. Register July 2006 No. 607, eff. 8–1–06; CR 16–007: am. (1) Register July 2017 No. 739, eff. 8–1–17.

**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<br>HW<br>No. <sup>1</sup> | Contaminant          | CAS<br>number <sup>2</sup> | Regu-<br>latory<br>Level (mg/<br>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                    | <sup>4</sup> 200.0                  |
| D024                          | m-Cresol             | 108-39-4                   | <sup>4</sup> 200.0                  |
| D025                          | p-Cresol             | 106-44-5                   | 4200.0                              |

| Cresol                            |   | <sup>4</sup> 200.0  |
|-----------------------------------|---|---|
| 2,4-D                             | 94-75-7   | 10.0  |
| 1,4-Dichlorobenzene               | 106-46-7  | 7.5   |
| 1,2-Dichloroethane                | 107-06-2  | 0.5   |
| 1,1-Dichloroethylene              | 75-35-4   | 0.7   |
| 2,4–Dinitrotoluene                | 121-14-2  | <sup>3</sup> 0.13   |
| Endrin                            | 72-20-8   | 0.02  |
| Heptachlor (and its ep-<br>oxide) | 76–44–8   | 0.008   |
| Hexachlorobenzene                 | 118-74-1  | <sup>3</sup> 0.13   |
| Hexachlorobutadiene               | 87-68-3   | 0.5   |
| Hexachloroethane                  | 67-72-1   | 3.0   |
| Lead                              | 7439-92-1   | 5.0   |
| Lindane                           | 58-89-9   | 0.4   |
| Mercury                           | 7439-97-6   | 0.2   |
| Methoxychlor                      | 72-43-5   | 10.0  |
| Methyl ethyl ketone               | 78-93-3   | 200.0   |
| Nitrobenzene                      | 98-95-3   | 2.0   |
| Pentachlorophenol                 | 87-86-5   | 100.0   |
| Pyridine                          | 110-86-1  | <sup>3</sup> 5.0  |
| Selenium                          | 7782-49-2   | 1.0   |
| Silver                            | 7440-22-4   | 5.0   |
| Tetrachloroethylene               | 127-18-4  | 0.7   |
| Toxaphene                         | 8001-35-2   | 0.5   |
| Trichloroethylene                 | 79-01-6   | 0.5   |
| 2,4,5–Trichlorophenol             | 95-95-4   | 400.0   |
| 2,4,6–Trichlorophenol             | 88-06-2   | 2.0   |
| 2,4,5–TP (Silvex)                 | 93-72-1   | 1.0   |
| Vinyl chloride                    | 75-01-4   | 0.2   |
|                                   | 2,4–D 1,4–Dichlorobenzene 1,2–Dichloroethane 1,1–Dichloroethylene 2,4–Dinitrotoluene Endrin Heptachlor (and its epoxide) Hexachlorobenzene Hexachlorobutadiene Hexachlorobutadiene Hexachloroethane Lead Lindane Mercury Methoxychlor Methyl ethyl ketone Nitrobenzene Pentachlorophenol Pyridine Selenium Silver Tetrachloroethylene Toxaphene Trichloroethylene 2,4,5–Trichlorophenol 2,4,6–Trichlorophenol 2,4,5–TP (Silvex) | 2,4-D       94-75-7         1,4-Dichlorobenzene       106-46-7         1,2-Dichloroethane       107-06-2         1,1-Dichloroethylene       75-35-4         2,4-Dinitrotoluene       121-14-2         Endrin       72-20-8         Heptachlor (and its epoxide)       76-44-8         Hexachlorobenzene       118-74-1         Hexachlorobutadiene       87-68-3         Hexachloroethane       67-72-1         Lead       7439-92-1         Lindane       58-89-9         Mercury       7439-97-6         Methoxychlor       72-43-5         Methyl ethyl ketone       78-93-3         Nitrobenzene       98-95-3         Pentachlorophenol       87-86-5         Pyridine       110-86-1         Selenium       7782-49-2         Silver       7440-22-4         Tetrachloroethylene       127-18-4         Toxaphene       79-01-6         2,4,5-Trichlorophenol       95-95-4         2,4,6-Trichlorophenol       2,4,5-TP (Silvex) |

<sup>&</sup>lt;sup>1</sup> Hazardous waste number.

**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<br>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.

<sup>&</sup>lt;sup>2</sup> Chemical abstracts service number.

 $<sup>^3</sup>$  Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

<sup>&</sup>lt;sup>4</sup> 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.

(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)         |
| 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)       |

| Industry and EPA hazardous waste number | Hazardous waste   | Hazard code |
|---|---|-------------|
| 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)         |
| 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)         |

33

| Industry and EPA hazardous waste number | Hazardous waste  | Hazard code |
|---|--|-------------|
| 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)         |
| 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, F027or 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. (1) LISTED HAZARDOUS WASTE 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)         |
| 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 epi-<br>chlorohydrin.                              | (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)         |

| Industry and EPA hazardous waste number | Hazardous waste  | Hazard code |
|---|--|-------------|
| 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–tri-chloroethane.  | (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)       |
| 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 toluene-<br>diamine 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)         |

| Industry and EPA hazardous waste number | Hazardous waste   | Hazard code |
|---|---|-------------|
| 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)       |
| 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)         |

| Industry and EPA       |   |             |
|------------------------|---|-------------|
| hazardous waste number | Hazardous waste   | Hazard code |
| K181                   | Nonwastewaters from the production of dyes or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters corresponding sub. (3) levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (1) disposed in a solid waste landfill unit subject to the design criteria in 40 CFR 258.40, (2) disposed in a hazardous waste landfill unit subject to either s. NR 664.0301 or 665.0301, (3) disposed in other solid waste landfill units that meet the design criteria in 40 CFR 258.40, s. NR 664.0301 or s. NR 665.0301, or (4) treated in a combustion unit that is licensed under s. 291.25, Stats., or an onsite combustion unit that is licensed under the Clean Air Act, 42 USC 7401 to 7671q. For the purposes of this listing, dyes or pigments production is defined in sub. (2) (a). Subsection (4) describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous under ss. NR 661.21 to 661.24 and ss. NR 661.31 to 661.33 at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met. | (T)         |
| Inorganic chemicals:   |   |             |
| K071                   | Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.   | (T)         |
| K073                   | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.  | (T)         |
| K106                   | Wastewater treatment sludge from the mercury cell process in chlorine production.   | (T)         |
| K176                   | Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).  | (E)         |
| K177                   | Slag from the production of antimony oxide that is speculatively accumulated 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)         |
| K097                   | Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.  | (T)         |

| Industry and EPA hazardous waste number | Hazardous waste  | Hazard code |
|---|--|-------------|
| 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 ethylene-<br>bisdithiocarbamic 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 petro-<br>leum 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)         |
| K100                                    | Waste leaching solution from acid leaching of emission control dust or sludge from secondary lead smelting.  | (T)         |
| Veterinary pharmaceuticals:             |  |             |

| Industry and EPA hazardous waste number | Hazardous waste  | Hazard code |
|---|--|-------------|
| 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)         |

- (2) LISTING SPECIFIC DEFINITIONS. For the purposes of the K181 listing under sub. (3), dyes or pigments production is defined to include manufacture of the following product classes: dyes, pigments, or FDA certified colors that are classified as azo, triarylmethane, perylene, or oranthraquinone classes. Azo products include azo, monoazo, diazo, triazo, polyazo, azoic, benzidine, and pyrazolone products. Triarylmethane products include both triarylmethane and triphenylmethane products. Wastes that are not generated at a dyes or pigments manufacturing site, such as wastes from the offsite use, formulation, and packaging of dyes or pigments, are not included in the K181 listing.
- **(3)** K181 LISTING LEVELS. Nonwastewaters containing constituents in amounts equal to or exceeding the following levels during any calendar year are subject to the K181 listing, unless the conditions in the K181 listing are met:

| Constituent           | Chemical      | Mass Levels |
|-----------------------|---------------|-------------|
|                       | Abstracts No. | (kg/yr)     |
| Aniline               | 62-53-3       | 9,300       |
| o-Anisidine           | 90-04-0       | 110         |
| 4-Chloroaniline       | 106-47-8      | 4,800       |
| p-Cresidine           | 120-71-8      | 660         |
| 2,4-Dimethylaniline   | 95-68-1       | 100         |
| 1,2-Phenylenediamine  | 95-54-5       | 710         |
| 1,3- Phenylenediamine | 108-45-2      | 1,200       |

- (4) PROCEDURES FOR DEMONSTRATING THAT DYES OR PIGMENT NONWASTEWATERS ARE NOT K181. The procedures described in pars. (a) to (c) and (e) establish when nonwastewaters from the production of dyes and pigments would not be hazardous. These procedures apply to wastes that are not disposed in landfill units or treated in combustion units as specified in sub. (1). If the nonwastewaters are disposed in landfill units or treated in combustion units as described in sub. (1), then the nonwastewaters are not hazardous. In order to demonstrate that it is meeting the landfill disposal or combustion conditions contained in the K181 listing description, the generator shall maintain documentation as described in par. (d).
- (a) Determination based on no K181 constituents. Generators that have knowledge (for example, knowledge of constituents in wastes based on prior sampling and analysis data or information about raw materials used, production processes used, and reaction and degradation products formed) that their wastes contain none of the K181 constituents listed in sub. (3) can use their knowledge to determine that their waste is not K181. The generator shall document the basis for all K181 waste determinations on an annual basis and keep each annual documentation for three years.
- (b) Determination for generated quantities of 1,000 metric tons per year or less for wastes that contain K181 constituents. If the total annual quantity of dyes or pigment nonwastewaters generated is 1,000 metric tons or less, the generator may use knowledge of the wastes (for example, knowledge of constituents in wastes based on prior analytical data or information about raw

materials used, production processes used, and reaction and degradation products formed) to conclude that annual mass loadings for the K181 constituents are below the listing levels of sub. (3). To make this determination, the generator shall do all of the following:

- 1. Each year document the basis for determining that the annual quantity of nonwastewaters expected to be generated will be less than 1,000 metric tons.
- 2. Track the actual quantity of nonwastewaters generated from January 1 through December 31 of each year. If, at any time within the year, the actual waste quantity exceeds 1,000 metric tons, the generator shall comply with the requirements of par. (c) for the remainder of the year.
- 3. Keep a running total of the K181 constituent mass loadings over the course of the calendar year.
- 4. Keep all of the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:
- The quantity of dyes or pigment nonwastewaters generated.
  - b. The relevant process information used.
- c. The calculations performed to determine annual total mass loadings for each K181 constituent in the nonwastewaters during the year.
- (c) Determination for generated quantities greater than 1,000 metric tons per year for wastes that contain K181 constituents. If the total annual quantity of dyes or pigment nonwastewaters generated is greater than 1,000 metric tons, the generator shall perform all of the steps described in subds. 1. to 11. in order to make a determination that its waste is not K181.
- 1. Determine which K181 constituents listed in sub. (3) are reasonably expected to be present in the wastes based on knowledge of the wastes (for example, based on prior sampling and analysis data or information about raw materials used, production processes used, and reaction and degradation products formed).
- 2. If 1,2-phenylenediamine is present in the wastes, the generator may use either knowledge or sampling and analysis procedures to determine the level of this constituent in the wastes. For determinations based on use of knowledge, the generator shall comply with the procedures for using knowledge described in par. (b) and keep the records described in par. (b) 4. For determinations based on sampling and analysis, the generator shall comply with the sampling and analysis and recordkeeping requirements described below.
- 3. Develop a waste sampling and analysis plan (or modify an existing plan) to collect and analyze representative waste samples for the K181 constituents reasonably expected to be present in the wastes. At a minimum, the plan shall include all of the following:
- a. A discussion of the number of samples needed to characterize the wastes fully.
- b. The planned sample collection method to obtain representative waste samples.
- A discussion of how the sampling plan accounts for potential temporal and spatial variability of the wastes.
- d. A detailed description of the test methods to be used, including sample preparation, clean up (if necessary) and determinative methods.
- 4. Collect and analyze samples in accordance with the waste sampling and analysis plan.
- a. The sampling and analysis shall be unbiased, precise, and representative of the wastes.
- b. The analytical measurements shall be sufficiently sensitive, accurate, and precise to support any claim that the constituent mass loadings are below the listing levels of sub. (3).
  - 5. Record the analytical results.
- 6. Record the waste quantity represented by the sampling and analysis results.

- 7. Calculate constituent–specific mass loadings (product of concentrations and waste quantity).
- 8. Keep a running total of the K181 constituent mass loadings over the course of the calendar year.
- 9. Determine whether the mass of any of the K181 constituents listed in sub. (3) generated between January 1 and December 31 of any year is below the K181 listing levels.
- 10. Keep all of the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:
  - a. The sampling and analysis plan.
  - b. The sampling and analysis results (including QA/QC data).
- c. The quantity of dyes or pigment nonwastewaters generated.
- d. The calculations performed to determine annual mass loadings.
- 11. Nonhazardous waste determinations shall be conducted annually to verify that the wastes remain nonhazardous.
- a. The annual testing requirements are suspended after three consecutive successful annual demonstrations that the wastes are nonhazardous. The generator can then use knowledge of the wastes to support subsequent annual determinations.
- b. The annual testing requirements are reinstated if the manufacturing or the waste treatment processes are significantly altered, resulting in an increase of the potential for the wastes to exceed the listing levels.
- c. If the annual testing requirements are suspended, the generator shall keep records of the process knowledge information used to support a nonhazardous determination. If testing is reinstated, a description of the process change shall be retained.
- (d) Recordkeeping for the landfill disposal and combustion exemptions. For the purposes of meeting the landfill disposal and combustion condition set out in the K181 listing description, the generator shall maintain on site for three years documentation demonstrating that each shipment of waste was received by a landfill unit that is subject to or meets the landfill design standards set out in the listing description, or was treated in combustion units as specified in the listing description.
- (e) Waste holding and handling. During the interim period, from the point of generation to completion of the hazardous waste determination, the generator is responsible for storing the wastes appropriately. If the wastes are determined to be hazardous and the generator has not complied with the hazardous waste requirements during the interim period, the generator may be subject to an enforcement action for improper management.

History: CR 05–032: cr. Register July 2006 No. 607, eff. 8–1–06; CR 16–007: renum. (intro) to (1) (intro.), am. (1) Table, cr. (2) to (4) Register July 2017 No. 739, eff. 8–1–17; correction in numbering of (2) made under s. 13.92 (4) (b) 1., Stats., and (1) (title) created under s. 13.92 (4) (b) 2., Stats., Register July 2017 No. 739.

- 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

(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 offspecification 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 toxic-

| These wastes a         | 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 <sub>3</sub> AsO <sub>4</sub> |  |
| P012                   | 1327-53-3   | Arsenic oxide As <sub>2</sub> O <sub>3</sub> |  |
| P011                   | 1303-28-2   | Arsenic oxide As <sub>2</sub> O <sub>5</sub> |  |
| 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-                        |  |

| Hazardous<br>waste number | Chemical abstracts number | Substance  |
|---------------------------|---------------------------|--|
| 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–trime-thylpyrrolo[2,3–b]indol–5–yl methylcarbamate ester (1:1) |
| 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) <sub>2</sub>  |
| 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  |

| Hazardous waste number | Chemical abstracts number | Substance  |
|------------------------|---------------------------|--|
| 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)-  |
| 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                   | <sup>1</sup> 534–52–1     | 4,6–Dinitro–o–cresol, & salts  |
| P048                   | 51-28-5                   | 2,4–Dinitrophenol  |
| P020                   | 88-85-7                   | Dinoseb  |
| P085                   | 152-16-9                  | Diphosphoramide, 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                | Ethanimidothioc 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   |

| Hazardous waste number | Chemical abstracts number | Substance   |
|------------------------|---------------------------|---|
| 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  |
| 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]-, monohydrochloride    |
| 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–Methyllactonitrile  |
| 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) <sub>4</sub> , (T–4)–  |
| P074                   | 557-19-7                  | Nickel cyanide  |
| P074                   | 557-19-7                  | Nickel cyanide Ni(CN) <sub>2</sub>  |
| P075                   | <sup>1</sup> 54–11–5      | Nicotine, & salts   |
| P076                   | 10102-43-9                | Nitric oxide  |
| P077                   | 100-01-6                  | p–Nitroaniline  |
| P078                   | 10102-44-0                | Nitrogen dioxide  |

| Hazardous<br>waste number | Chemical abstracts number | Substance  |
|---------------------------|---------------------------|--|
| P076                      | 10102-43-9                | Nitrogen oxide NO  |
| P078                      | 10102-44-0                | Nitrogen oxide NO <sub>2</sub>   |
| P081                      | 55-63-0                   | Nitroglycerine (R)   |
| P082                      | 62-75-9                   | N-Nitrosodimethylamine   |
| P084                      | 4549-40-0                 | N–Nitrosomethylvinylamine  |
| P085                      | 152-16-9                  | Octamethylpyrophosphoramide  |
| P087                      | 20816-12-0                | Osmium oxide OsO <sub>4</sub> , (T–4)–   |
| 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                      | <sup>1</sup> 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                   | Phosphorofluoridic 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  |

| Hazardous waste number | Chemical abstracts number | Substance  |
|------------------------|---------------------------|--|
| 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–  |
| 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                   | <sup>1</sup> 54–11–5      | 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                   | <sup>1</sup> 57-24-9      | Strychnidin–10–one, & salts  |
| P018                   | 357-57-3                  | Strychnidin–10–one, 2,3–dimethoxy–   |
| P108                   | <sup>1</sup> 57-24-9      | 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 <sub>2</sub> O <sub>3</sub>  |
| 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 <sub>2</sub> N)C(S)] <sub>2</sub> NH                                     |
| P014                   | 108-98-5                  | Thiophenol   |
| P116                   | 79–19–6                   | Thiosemicarbazide  |

| Hazardous<br>waste number | Chemical abstracts number | Substance   |
|---------------------------|---------------------------|---|
| 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   |
| P120                      | 1314-62-1                 | Vanadium oxide V <sub>2</sub> O <sub>5</sub>  |
| P120                      | 1314-62-1                 | Vanadium pentoxide  |
| P084                      | 4549-40-0                 | Vinylamine, N–methyl–N–nitroso–   |
| P001                      | <sup>1</sup> 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) <sub>2</sub>  |
| P122                      | 1314-84-7                 | Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations greater than 10% (R,T) |
| P205                      | 137-30-4                  | Ziram   |

<sup>&</sup>lt;sup>1</sup> 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).

NR 661.33

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<br>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                      | <sup>1</sup> 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  |

| Hazardous    | Chemical         |   |
|--------------|------------------|---|
| waste number | abstracts number | Substance   |
| 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-(1aal-pha, 8beta,8aalpha,8balpha)]- |
| U280         | 101-27-9         | Barban  |
| 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)  |

| Hazardous<br>waste number | Chemical abstracts number | Substance   |
|---------------------------|---------------------------|---|
| 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)   |
| 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                      | <sup>1</sup> 81-07-2      | 1,2–Benzisothiazol–3(2H)–one, 1,1–dioxide, & salts  |
| U278                      | 22781-23-3                | 1,3–Benzodioxol–4ol, 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[rst]pentaphene  |
| U248                      | <sup>1</sup> 81–81–2      | 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)  |

| Hazardous waste number | Chemical abstracts number | Substance  |
|------------------------|---------------------------|--|
| 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   |
| 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                   | <sup>1</sup> 111-54-6     | Carbamodithioic acid, 1,2–ethanediylbis–, 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 <sub>2</sub> CrO <sub>4</sub> , calcium salt  |

| Hazardous    | Chemical         | Substance  |
|--------------|------------------|--|
| waste number | abstracts number | Character  |
| U050         | 218-01-9         | Chrysene   |
| U051         | 1210 77 2        | 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)– |
| 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  |

| Hazardous waste number | Chemical abstracts number | Substance   |
|------------------------|---------------------------|---|
| 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   |
| 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  |

| Hazardous waste number | Chemical abstracts number | Substance  |
|------------------------|---------------------------|--|
| 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)   |
| U238                   | 51-79-6                   | Ethyl carbamate (urethane)                                   |
| U117                   | 60-29-7                   | Ethyl ether (I)  |
| U114                   | <sup>1</sup> 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–                                     |

| Hazardous<br>waste number | Chemical abstracts number | Substance  |
|---------------------------|---------------------------|--|
| 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 <sub>2</sub> 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   |
| 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  |

| Hazardous<br>waste number | Chemical abstracts number | Substance   |
|---------------------------|---------------------------|---|
| U142                      | 143-50-0                  | 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,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  |
| 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-hexopy-ranosyl)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'–biphe-nyl]–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  |

| Hazardous<br>waste number | Chemical abstracts number | Substance  |
|---------------------------|---------------------------|--|
| 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)-   |
| 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)   |

| Hazardous waste number | Chemical abstracts number | Substance  |
|------------------------|---------------------------|--|
| 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)                                |
| 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-thioxo-         |
| U180                   | 930-55-2                  | Pyrrolidine, 1–nitroso–                                    |
| U200                   | 50-55-5                   | Reserpine  |
| U201                   | 108-46-3                  | Resorcinol   |
| U202                   | <sup>1</sup> 81-07-2      | 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)                                       |

| Hazardous<br>waste number | Chemical abstracts number | Substance   |
|---------------------------|---------------------------|---|
| 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   |
| U216                      | 7791–12–0                 | Thallium(I) chloride  |
| U216                      | 7791–12–0                 | Thallium chloride TICl  |
| 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 $[(H_2N)C(S)]_2S_2$ , 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                      | <sup>1</sup> 81-81-2      | Warfarin, & salts, when present at concentrations of 0.3% or less |
| U239                      | 1330-20-7                 | Xylene (I)  |

| Hazardous<br>waste number | Chemical abstracts number | Substance   |  |  |  |
|---------------------------|---------------------------|---|--|--|--|
| 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 <sub>3</sub> P <sub>2</sub> , when present at concentrations of 10% or less   |  |  |  |

<sup>1</sup> 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, however, 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 preservations.
- (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. The following analytical requirements:
- a. Test rinses by using an appropriate method, for example by using an analytical method from EPA SW-846, incorporated by reference in s. NR 660.11.
- b. "Not detected" means at or below the following lower method calibration limits (MCLs): the 2,3,7,8-TCDD-based MCL—0.01 parts per trillion (ppt), sample weight of 1,000 g, IS spiking level of 1 ppt, final extraction volume of 10–50  $\mu L$ . For other congeners—multiply the values by 1 for TCDF/PeCDD/PeCDF, by 2.5 for HxCDD/HxCDF/HpCDD/HpCDF and by 5 for OCDD/OCDF.
- 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; CR 16-007: am. (2) (b) 3. Register July 2017 No. 739, eff. 8-1-17.

## Subchapter E — Exclusions and Exemptions

## **NR 661.38** Comparable or syngas fuel exclusion. Wastes that meet the following comparable or syngas fuel require-

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).
- (e) Contain less than one ppmv of each hazardous constituent in the target list of ch. NR 661 Appendix VIII constituents.
- (d) Contain less than 200 ppmv of hydrogen sulfide.

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

| Chemical name                                | CAS number | Composite value (mg/kg) | Heating<br>value<br>(BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum<br>required<br>detection<br>limit (mg/<br>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   |
| 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:                                  |            |                         |                              |  |   |

| Chemical name  | CAS number | Composite value (mg/kg) | Heating<br>value<br>(BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum<br>required<br>detection<br>limit (mg/<br>kg) |
|--|------------|-------------------------|------------------------------|--|---|
| 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-ethylhexyl 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   |   |
| 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 monoethyl 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  |

| Chemical name   | CAS number | Composite value (mg/kg) | Heating<br>value<br>(BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum<br>required<br>detection<br>limit (mg/<br>kg) |
|---|------------|-------------------------|------------------------------|--|---|
| 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-<br>ate [Thionazin] | 297–97–2   | ND                      |                              | ND   | 2400  |
| Dimethoate  | 60-51-5    | ND                      |                              | ND   | 2400  |
| p-(Dimethylamino) azobenzene [4-Dimethylaminoazobenzene]  | 60–11–7    | ND                      |                              | ND   | 2400  |
| 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-Methyllactonitrile, [Acetone cyanohydrin]               | 75–86–5    | ND                      |                              | ND   | 100   |
| Methyl parathion  | 298-00-0   | ND                      |                              | ND   | 2400  |
| MNNG (N-Methyl-N-nitroso-N'-nitroguanidine)               | 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,   Diphenylnitrosamine  | Chemical name                            | CAS number | Composite value (mg/kg) | Heating<br>value<br>(BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum<br>required<br>detection<br>limit (mg/<br>kg) |
|--|--|------------|-------------------------|------------------------------|--|---|
| N-Nitrosomorpholine  |  | 86–30–6    | ND                      |                              | ND   | 2400  |
| N-Nitrosopiperidine  | N-Nitroso-N-methylethylamine             | 10595-95-6 | ND                      |                              | ND   | 2400  |
| N-Nitrosopiperidine  | • •                                      | 59-89-2    | 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-Phenylenediamine]         106-50-3         ND         ND         2400           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         100           Strychnine         57-24-9         ND         ND         100           Strychnine         57-24-9         ND         ND         100           Thioacetamide         62-55-5         ND         ND         100           Thioanox         39196-18-4         ND         ND         57           Toluene-2,4-diamine [2,4-Diaminotolucne]         95-80-7         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotolucne]         95-80-7         ND         ND         ND         57   | •  | 100-75-4   | ND                      |                              | ND   | 2400  |
| Parathion         56–38–2         ND         ND         2400           Phenacetin         62–44–2         ND         ND         2400           1.4–Phenylene diamine, [p–Phenylenediamine]         106–50–3         ND         ND         2400           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           Thioranox         39196–18–4         ND         ND         57           Toluene–2,4–diamine [2,4–Diaminotolucine]         95–80–7         ND         ND         57           Toluene–2,6–diamine [2,6–Diaminotolucine]         823–40–5         ND         ND         57           Toluene–2,6–diamine [2,6–Diaminotolucine]         95–53–4         ND         ND         ND   | N–Nitrosopyrrolidine                     | 930-55-2   | ND                      |                              | ND   | 2400  |
| Phenacetin   | 2–Nitropropane                           | 79–46–9    | ND                      |                              | ND   | 30  |
| 1,4-Phenylene diamine, [p-Phenylenediamine]   106-50-3   ND   ND   2400  |  | 56-38-2    | ND                      |                              | ND   | 2400  |
| mine]         106-50-3         ND         ND         2400           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         ND         100           Pyridine         110-86-1         ND         ND         ND         2400           Strychnine         57-24-9         ND         ND         100           Thioacetamide         62-55-5         ND         ND         100           Thiofanox         39196-18-4         ND         ND         100           Thiourea         62-56-6         ND         ND         57           Toluene-2,4-diamine [2,4-Diaminotolucne]         95-80-7         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotolucne]         823-40-5         ND         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotolucne]         823-40-5         ND         ND         ND         2400           p-Toluidine         95-53-4         ND         ND         ND         100           1,3,5-Trinitrobenzene, [sym-Trinitobenzene]  | Phenacetin                               | 62-44-2    | ND                      |                              | ND   | 2400  |
| N-Phenylthiourea   103-85-5   ND   | 1,4-Phenylene diamine, [p-Phenylenedia-  |            |                         |                              |  |   |
| 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-Diaminotoluene]         95-80-7         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         823-40-5         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         823-40-5         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         823-40-5         ND         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         823-40-5         ND         ND         ND         2400           p-Toluidine         10-40-0         ND         ND         ND         2400           Halogenated Organics:   | mine]                                    | 106-50-3   | ND                      |                              | ND   | 2400  |
| Propylthioracil, [6-Propyl-2-thiouracil]   51-52-5   ND  | N-Phenylthiourea                         | 103-85-5   | ND                      |                              | ND   | 57  |
| 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-Diaminotoluene]         95–80–7         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         823–40–5         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         95–53–4         ND         ND         2400           p-Toluidine         95–53–4         ND         ND         100           1,3,5-Trinitrobenzene, [sym-Trinitobenzene, [sym-Trinitobenzene]         99–35–4         ND         ND         2400           Halogenated Organics:         Allyl chloride         107–05–1         ND         ND         39           Aramite         140–57–8         ND         ND         100           Benzal chloride [Dichloromethyl benzene]         98–87–3         ND         ND         100           Benzyl chloride         100–44–77         ND   | 2-Picoline [alpha-Picoline]              | 109-06-8   | ND                      |                              | ND   | 2400  |
| Strychnine   | Propylthioracil, [6-Propyl-2-thiouracil] | 51-52-5    | 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-Diaminotoluene]         95–80–7         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         823–40–5         ND         ND         ND         57           o-Toluidine         95–53–4         ND         ND         ND         2400           p-Toluidine         106–49–0         ND         ND         100           1,3,5-Trinitrobenzene, [sym-Trinitobenzene]         99–35–4         ND         ND         2400           Halogenated Organics:         ND         ND         ND         39           Aramite         107–05–1         ND         ND         39           Aramite         140–57–8         ND         ND         100           Benzal chloride [Dichloromethyl benzene]         98–87–3         ND         ND         100           Benzyl chloride         100–44–77         ND         ND         100           Berzyl chloride         111–44–4         ND         ND         2400  | Pyridine                                 | 110-86-1   | ND                      |                              | ND   | 2400  |
| Thiofanox         39196–18–4         ND         ND         100           Thiourea         62–56–6         ND         ND         57           Toluene–2,4–diamine [2,4–Diaminotoluene]         95–80–7         ND         ND         57           Toluene–2,6–diamine [2,6–Diaminotoluene]         823–40–5         ND         ND         ND         57           o–Toluidine         95–53–4         ND         ND         ND         2400           p–Toluidine         106–49–0         ND         ND         100           1,3,5–Trinitrobenzene, [sym–Trinitobenzene, [sym–Trinitobenzene]         99–35–4         ND         ND         2400           Halogenated Organics:         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         39           Bromoform [Tribromomethane]         75–25–2         ND         ND         ND         39           4–Bromophenyl phenyl   | Strychnine                               | 57-24-9    | ND                      |                              | ND   | 100   |
| Thiourea         62–56–6         ND         ND         57           Toluene=2,4-diamine [2,4-Diaminotoluene]         95–80–7         ND         ND         57           Toluene=2,6-diamine [2,6-Diaminotoluene]         823–40–5         ND         ND         ND         57           o-Toluidine         95–53–4         ND         ND         ND         2400           p-Toluidine         106–49–0         ND         ND         100           1,3,5-Trinitrobenzene, [sym-Trinitobenzene]         99–35–4         ND         ND         2400           Halogenated Organics:         39         Aramite         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         39           Bromoform [Tribromomethane]         75–25–2         ND         ND         ND         39           Bromophenyl phenyl ether [p–Bromodiphenyl ether]         101–55–3         ND         ND <td< td=""><td>Thioacetamide</td><td>62-55-5</td><td>ND</td><td></td><td>ND</td><td>57</td></td<> | Thioacetamide                            | 62-55-5    | ND                      |                              | ND   | 57  |
| Toluene=2,4-diamine [2,4-Diaminotoluene]         95-80-7         ND         ND         57           Toluene=2,6-diamine [2,6-Diaminotoluene]         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-Trinitobenzene]         99-35-4         ND         ND         2400           Halogenated Organics:         39         Aramite         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           Bromophenyl phenyl ether [p-Bromodiphenyl ether]         101-55-3         ND         ND         ND         2400  | Thiofanox                                | 39196-18-4 | ND                      |                              | ND   | 100   |
| toluene]         95-80-7         ND         ND         57           Toluene-2,6-diamine [2,6-Diaminotoluene]         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-Trinitobenzene]         99-35-4         ND         ND         2400           Halogenated Organics:         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           Bromophenyl phenyl ether [p-Bromo diphenyl ether [p-Bromo diphenyl ether]         101-55-3         ND         ND         2400   | Thiourea                                 | 62-56-6    | ND                      |                              | ND   | 57  |
| toluene]   |  | 95-80-7    | ND                      |                              | ND   | 57  |
| p-Toluidine         106-49-0         ND         ND         100           1,3,5-Trinitrobenzene, [sym-Trinitobenzene]         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-Bromodiphenyl ether]         101-55-3         ND         ND         2400  |  | 823-40-5   | ND                      |                              | ND   | 57  |
| 1,3,5-Trinitrobenzene, [sym-Trinitobenzene]       99-35-4       ND       ND       2400         Halogenated Organics:       107-05-1       ND       ND       39         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       ND       2400   | o-Toluidine                              | 95-53-4    | ND                      |                              | ND   | 2400  |
| zene]       99–35–4       ND       ND       2400         Halogenated Organics:       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       ND       2400  | p–Toluidine                              | 106-49-0   | ND                      |                              | ND   | 100   |
| 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       ND       2400  |  | 99–35–4    | ND                      |                              | ND   | 2400  |
| 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         ND         2400   | Halogenated Organics:                    |            |                         |                              |  |   |
| 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         ND         2400   | Allyl chloride                           | 107-05-1   | ND                      |                              | ND   | 39  |
| 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         ND         2400  | Aramite                                  | 140-57-8   | ND                      |                              | ND   | 2400  |
| 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   | Benzal chloride [Dichloromethyl benzene] | 98-87-3    | ND                      |                              | ND   | 100   |
| 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       ND       2400  | Benzyl chloride                          | 100-44-77  | ND                      |                              | ND   | 100   |
| Bromomethane [Methyl bromide]         74–83–9         ND         ND         39           4–Bromophenyl phenyl ether [p–Bromo diphenyl ether]         101–55–3         ND         ND         ND         2400  |  | 111–44–4   | ND                      |                              | ND   | 2400  |
| 4-Bromophenyl phenyl ether [p-Bromo diphenyl ether]  | Bromoform [Tribromomethane]              | 75-25-2    | ND                      |                              | ND   | 39  |
| diphenyl ether]  | Bromomethane [Methyl bromide]            | 74-83-9    | ND                      |                              | ND   | 39  |
|  |  | 101-55-3   | ND                      |                              | ND   | 2400  |
|  | Carbon tetrachloride                     | 56-23-5    | ND                      |                              | ND   | 39  |
| Chlordane  |  |            |                         |                              |  | 14  |
| p–Chloroaniline  |  |            |                         |                              |  | 2400  |
| Chlorobenzene  | •  |            |                         |                              |  |   |

| Chemical name                                       | CAS number | Composite value (mg/kg) | Heating<br>value<br>(BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum<br>required<br>detection<br>limit (mg/<br>kg) |
|---|------------|-------------------------|------------------------------|--|---|
| 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-Chloronaphthalene]        | 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–Dichlorophenoxyacetic acid]                     | 94–75–7    | ND                      |                              | ND   | 7.0   |
| 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-                 | 75 50 1    | 1,2                     |                              | 1,2  | 2.00  |
| 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 chloride]          | 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 dichloride]          | 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   |

| Chemical name   | CAS number                              | Composite value (mg/kg) | Heating<br>value<br>(BTU/lb) | Concentration limit (mg/kg at 10,000 BTU/lb) | Minimum<br>required<br>detection<br>limit (mg/<br>kg) |
|---|---|-------------------------|------------------------------|--|---|
| 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  |
| 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] [Quintobenzene] [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 chloroform]                   | 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  |
| , - 201.00  | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 1,12                    |                              | 1.12   |   |

NA means not applicable.

ND means nondetect.

 $<sup>^{\</sup>rm 1}$  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.
- 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.
- 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).
- 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:
- 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 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 param-
- 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 deter-
- 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
- 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
- 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.
- 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; CR 16–007: am. (3) (g) (intro.) Register July 2017 No. 739, eff. 8–1–17.

- NR 661.39 Conditional exclusion for used, broken cathode ray tubes (CRTs) and processed CRT glass undergoing recycling. Used, broken CRTs are not solid wastes if they meet the following conditions:
- (1) PRIOR TO PROCESSING. These materials are not solid wastes if they are destined for recycling and if they meet the following requirements:
  - (a) The broken CRTs shall be either:
  - 1. Stored in a building with a roof, floor, and walls.
- 2. Placed in a container (for instance, a package or a vehicle) that is constructed, filled, and closed to minimize releases to the environment of CRT glass (including fine solid materials).
- (b) Labeling. Each container in which the used, broken CRT is contained shall be labeled or marked clearly with one of the following phrases: "Used cathode ray tubes contains leaded glass" or "Leaded glass from televisions or computers." The container shall also be labeled: "Do not mix with other glass materials."
- (c) *Transportation*. The used, broken CRTs shall be transported in a container meeting the requirements of pars. (a) 2. and (b).
- (d) Speculative accumulation and use constituting disposal. The used, broken CRTs are subject to the limitations on speculative accumulation as defined in s. NR 661.01 (3) (h). If they are used in a manner constituting disposal, they are subject to all applicable requirements of subch. C of ch. NR 666 instead of the requirements of this section.
- (e) *Exports*. In addition to the applicable conditions specified in pars. (a) to (d), exporters of used, broken CRTs shall comply with the following requirements:
- 1. Notify EPA of an intended export before the CRTs are scheduled to leave the United States. Submit a complete notification 60 days before the initial shipment is intended to be shipped off-site. This notification may cover export activities extending over a 12 month or lesser period. The notification shall be in writing, signed by the exporter and include the following information:
- Name, mailing address, telephone number and EPA ID number (if applicable) of the exporter of the CRTs.
- b. The estimated frequency or rate at which the CRTs are to be exported and the period of time over which they are to be exported.
- The estimated total quantity of CRTs specified in kilograms.
- d. All points of entry to and departure from each foreign country through which the CRTs will pass.
- e. A description of the means by which each shipment of the CRTs will be transported (for example, mode of transportation vehicle such as air, highway, rail, water and types of containers such as drums, boxes, tanks).
- f. The name and address of the recycler and any alternate recycler.
- g. A description of the manner in which the CRTs will be recycled in the foreign country that will be receiving the CRTs.
- h. The name of any transit country through which the CRTs will be sent and a description of the approximate length of time the CRTs will remain in the country and the nature of their handling while there.
- 2. Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental

Protection Agency, 1200 Pennsylvania Ave., NW, Washington, DC 20460. Hand-delivered notifications should be sent to: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, Ariel Rios Bldg., Room 6144, 1200 Pennsylvania Ave., NW, Washington, DC. In both cases, the following shall be prominently displayed on the front of the envelope: "Attention: Notification of Intent to Export CRTs."

- 3. Upon request by EPA, the exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.
- 4. EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA determines the notification satisfies the requirements of subd. 1. Where a claim of confidentiality is asserted with respect to any notification information required by subd. 1., EPA may find the notification not complete until any claim is resolved in accordance with 40 CFR 260.2.
- 5. The export of CRTs is prohibited unless the receiving country consents to the intended export. When the receiving country consents in writing to the receipt of the CRTs, EPA will forward an acknowledgment of consent to export CRTs to the exporter. Where the receiving country objects to receipt of the CRTs or withdraws a prior consent, EPA will notify the exporter in writing. EPA will also notify the exporter of any responses from transit countries.
- 6. When the conditions specified on the original notification change, the exporter shall provide EPA with a written re-notification of the change, except for changes to the telephone number in subd. 1. a. and decreases in the quantity indicated pursuant to subd. 1. c. The shipment may not take place until consent of the receiving country to the changes has been obtained, except for changes to information about points of entry and departure and transit countries pursuant to subd. 1. d. and h., and the exporter of CRTs receives from EPA a copy of the acknowledgment of consent to export CRTs, reflecting the receiving country seconsent to the changes.
- 7. A copy of the acknowledgment of consent to export CRTs shall accompany the shipment of CRTs. The shipment shall conform to the terms of the acknowledgment of consent.
- 8. If a shipment of CRTs cannot be delivered for any reason to the recycler or the alternate recycler, the exporter of CRTs shall re–notify EPA of a change in the conditions of the original notification to allow shipment to a new recycler in accordance with subd. 6. and obtain another acknowledgment of consent to export CRTs.

- 9. Exporters shall keep copies of notifications and acknowledgments of consent to export CRTs for a period of three years following receipt of the acknowledgment of consent.
- **(2)** REQUIREMENTS FOR USED CRT PROCESSING. Used, broken CRTs undergoing CRT processing as defined in s. NR 660.10 are not solid wastes if they meet the following requirements:
- (a) *Storage*. Used, broken CRTs undergoing processing are subject to the requirement of sub. (1) (d).
- (b) *Processing*. 1. All activities specified in the definition of CRT processing in s. NR 660.10 (19j) (b) and (c) shall be performed within a building with a roof, floor, and walls.
- No activities may be performed that use temperatures high enough to volatilize lead from CRTs.
- (3) PROCESSED CRT GLASS SENT TO CRT GLASS MAKING OR LEAD SMELTING. Glass from used CRTs that is destined for recycling at a CRT glass manufacturer or a lead smelter after processing is not a solid waste unless it is speculatively accumulated as defined in s. NR 661.01 (3) (h).
- **(4)** USE CONSTITUTING DISPOSAL. Glass from used CRTs that is used in a manner constituting disposal is subject to the requirements of subch. C of ch. NR 666 instead of the requirements of this section.

History: CR 16–007: cr. Register July 2017 No. 739, eff. 8–1–17; correction in (2) (b) 1. made under s. 35.17, Stats., Register July 2017.

NR 661.40 Conditional exclusion for used, intact cathode ray tubes (CRTs) exported for recycling. Used, intact CRTs exported for recycling are not solid wastes if they meet the notice and consent conditions of s. NR 661.39 (1) (e), and if they are not speculatively accumulated as defined in s. NR 661.01 (3) (h).

History: CR 16-007: cr. Register July 2017 No. 739, eff. 8-1-17.

## NR 661.41 Notification and recordkeeping for used, intact cathode ray tubes (CRTs) exported for reuse.

- (1) Persons who export used, intact CRTs for reuse shall send a one-time notification to the EPA regional administrator. The notification shall include a statement that the notifier plans to export used, intact CRTs for reuse, the notifier's name, address, and EPA ID number, if applicable, and the name and phone number of a contact person.
- (2) Persons who export used, intact CRTs for reuse shall keep copies of normal business records, such as contracts, demonstrating that each shipment of exported CRTs will be reused. This documentation shall be kept for a period of at least 3 years from the date the CRTs were exported.

History: CR 16-007: cr. Register July 2017 No. 739, eff. 8-1-17.