

# Standards for Defining Hazardous Waste

Original 9 articles promulgated by Environmental Protection Administration order on March 7, 2001

Revisions to Articles 4 through 6 and 8 promulgated by Environmental Protection Administration order on January 9, 2002

## Article 1

These Standards are determined pursuant to Article 2, Paragraph 2 of the Waste Disposal Act (herein referred to as "this Act").

## Article 2

Hazardous industrial waste is determined by the following methods, in that order.

1. Substances listed as regulated hazardous industrial waste
2. Hazardous industrial waste determined by hazardous characteristics
3. Other waste officially announced by the central competent authority

## Article 3

Hazardous industrial waste subject to regulatory listing includes the following categories.

1. Hazardous industrial process waste: Process-derived wastes listed in Attached Table 1
2. Mixed hardware waste: May have different hazardous characteristics at different stages of the disposal process, including storage, clearance, treatment, and import or export. Identification methods are listed in Attached Table 2.

## Article 4

Hazardous industrial waste determined by hazardous characteristics includes the following categories.

1. Toxic hazardous industrial waste:
  1. Waste containing Category 1, Category 2, and Category 3 toxic chemical substances announced in the Toxic Chemical Substances Control Act
  2. Waste containers in direct contact with said chemical substances
2. TCLP industrial waste: Waste produced by industry which, when tested using the Toxic Characteristic Leaching Procedure (TCLP), yields any of the following results exceeding standards listed in Attached Table 3:
  1. Results of analysis of any TCLP extract liquid
  2. Results of direct analysis of extract liquid derived using a bottle extractor
  3. Results of analysis of TCLP extract liquid from metal control items
3. Corrosive industrial waste: Waste produced by industry that possesses any of the following characteristics:

1. The pH value of liquid waste is greater than or equal to 12.5, or less than or equal to 2.0. Or, corrodes steel (CNS S20C steel) at a temperature of 55°C at a rate exceeding 6.35 mm per year.
2. pH value of solid waste in solution is greater than or equal to 12.5, or less than or equal to 2.0. Or, corrodes steel (CNS S20C steel) at a temperature of 55°C at a rate exceeding 6.35 mm per year.
4. Inflammable industrial waste: Waste produced by industry that possesses any of the following characteristics:
  1. The flash point of a liquid is less than 60°C. This does not include alcoholic beverage waste in which ethanol concentration is less than 24% by volume.
  2. Solid waste that may ignite and burn at a temperature of 25±2°C at atmospheric pressure (herein referred to as "ambient conditions") due to friction, absorption of water, or spontaneous chemical reaction.
  3. Waste strong oxidizing agents that may directly release oxygen and induce the combustion of other materials.
5. Reactive industrial waste: Waste produced by industry that possesses any of the following characteristics:
  1. Readily explosive at ambient conditions
  2. Forms violently reactive or explosive substances or their mixtures when mixed with water
  3. Contains cyanides, has a pH value between 2.0 and 12.5, and can generate 250 mg/kg or more HCN toxic gas.
  4. Contains sulfides, has a pH value between 2.0 and 12.5, and can generate 500 mg/kg or more H<sub>2</sub>S toxic gas.
6. Infectious industrial waste: The following categories of waste produced by medical organizations, medical testing centers, medical research centers, biotechnology organizations, and other enterprises engaged in medicine, testing, research, or manufacturing processes:
  1. Waste infectious cultures, microbial colonies, and related biological products: Waste cultures generated by medical or pathology laboratories; waste infectious cultures, microbial colonies, biological product manufacturing process waste, and other waste such as live vaccines, culture vessels, or related articles generated by research units and industrial laboratories.
  2. Pathology waste: Tissue, organs, or severed limbs, etc, discarded by surgical or autopsy units.
  3. Blood waste: Waste human blood or blood products, including serum, plasma, and other blood constituents.
  4. Waste sharp implements: Waste sharp implements from medical, research, or industrial laboratories; waste sharp implements used in medical care and that had contacted infectious matter, including hypodermic needles, syringes, infusion tubes, surgical knives; or broken glass vessels that had been in contact with infectious matter.
  5. Contaminated animal carcasses, severed limbs, and related articles: Waste that contacted infectious matter during research, the manufacturing of biological products, or drug

experiments, including quarantine waste or diseased animal carcasses, severed limbs, or related articles.

6. Surgical or autopsy waste: Infectious waste clothing, gauze, coverings, ureters, excretion articles, mattresses, and surgical gloves used for medical, autopsy, or experimental purposes.
  7. Laboratory waste: Waste from medical, pathology, pharmaceutical, commercial, industrial, agricultural, quarantine, or other research laboratories that had contacted infectious matter, including cloths, glass cover slips, gloves, experimental clothing, and face masks, etc.
  8. Dialysis waste: Waste that had contacted the blood of infectious patients during hemodialysis, including tubes, filters, towels, bedsheets, gloves, face masks, and experimental clothing, etc.
  9. Isolation waste: Blood, excrement, secretions, or waste contaminated by these materials from patients or animals isolated due to infectious disease.
  10. Other waste determined by the central competent authority in conjunction with the industry competent authority to be hazardous to human beings or the environment, and publicly announced.
7. Waste asbestos and asbestos products: Waste generated by industry that is readily air dispersed and possesses one of the following characteristics:
1. Readily air dispersed waste produced from asbestos fireproofing, insulation, or heat retention materials or brake linings and other friction materials, etc. through processes including abrasion, trimming, or drilling, etc.
  2. Waste derived from blown asbestos in construction processes
  3. Readily air dispersed waste generated during the replacement or removal for use of fireproofing, insulation, or heat retention materials containing asbestos.
  4. Bags used to hold asbestos raw material
  5. Other readily air dispersed waste containing 1% or more asbestos
8. Polychlorinated biphenyl (PCB) hazardous industrial waste: Waste capacitors, waste transformers, waste oil, and other waste containing at least 50 ppm PCBs by weight
9. Single nonferrous metal hazardous waste:
1. Waste lead, waste cadmium, and waste chromium
  2. Other waste officially announced by the central competent authority.

## **Article 5**

Hazardous industrial waste meeting the following conditions may be relisted or designated as general industrial waste.

1. In the case of hazardous industrial waste listed on Attached Table 1 designated in Article 3, Subparagraph 1, an enterprise may submit the following documents to the local competent authority in application for delisting. The waste may be listed as general industrial waste after approval of delisting:
  1. A photocopy of the enterprise's profit-seeking business license and factory license, or

- registration approval verification documents from a government agency
  - 2. Hazardous industrial waste delisting application form
  - 3. Waste sampling plan
  - 4. Test report stating waste characteristics, composition, and constituent analysis.
  - 5. Other documents designated by the central competent authority.
- 2. If the harmful characteristics of hazardous industrial waste disappear when subjected to intermediate treatment in accordance with Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste, the waste may be designated as general industrial waste.
  - 3. In the case of waste hazardous industrial waste packaging containers, if the enterprise possesses equipment able to effectively wash waste containers, and is able to adequately treat any wastewater or waste liquid so produced, waste containers that have been washed may be designated as general industrial waste.
  - 4. Any waste liquid designated in Article 4, Subparagraph 4, Item 1 that is not of the following nature and has been subjected to incineration or heat treatment may be designated as general industrial waste. Storage and clearance prior to treatment shall comply with relevant hazardous industrial waste regulations, however:
    - 1. Process hazardous industrial waste
    - 2. Toxic hazardous industrial waste
    - 3. TCLP waste
    - 4. Corrosive industrial waste
    - 5. Reactive industrial waste
    - 6. PCB hazardous industrial waste
    - 7. Other wastes designated by the central competent authority
  - 5. Infectious industrial waste designated in Article 4, Subparagraph 6, Items 4, 6, and 7 stored in a yellow container in accordance with the provisions of Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste may be designated as general industrial waste after disinfection treatment. Disinfection treatment standards shall comply with central health competent authority regulations.

## **Article 6**

If industrial waste listed in these Standards constitutes general and hazardous industrial waste at different stages of the storage, clearance, treatment, import, or export process, or is relisted or designated as general industrial waste in accordance with Article 5, the state of production, storage, clearance, treatment, reuse, export, import transit, or transshipment shall be reported in accordance with the provisions of Article 31, Paragraph 1, Subparagraph 2 of this Act. Except when regulations designate online or written reports, the reporting party shall fill out a six-leaf delivery form in accordance with the provisions of Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste.

**Article 7**

Testing methods designated in these Standards shall be testing methods designated by the central competent authority.

**Article 8**

The content of plans approved or authorized prior to March 7, 2001 shall continue to be valid after March 7, 2001.

**Article 9**

These Standards shall take effect from the date of promulgation.