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Standard for Pollution Control on Hazardous Waste Storage

危险废物贮存污染控制标准

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Standard for Pollution Control on Hazardous Waste Storage

1 Scope

This Standard specifies the general requirements for pollution control of hazardous waste storage; the requirements for site selection and pollution control of storage facilities; the requirements for pollution control of containers and packaging materials; the requirements for pollution control during storage process; and the requirements for environmental management such as pollutant emissions, environmental monitoring, environmental emergency response, implementation and supervision.

This standard applies to the pollution control and environmental management for site selection, construction and operation of new, rebuilt and expanded hazardous waste storage facilities for organizations that generate, collect, store, utilize and dispose of hazardous wastes; and also applies to the pollution control and environmental management during the operation of existing hazardous waste storage facilities.

This Standard does not apply to temporary storage during the cleanup of historical stockpiled hazardous wastes.

If there are other provisions for the storage of specific hazardous wastes in other national solid waste pollution control standards, the relevant provisions shall be implemented.

2 Normative References

The following documents are essential to the application of this Standard. For the dated documents, only the versions with the dates indicated are applicable to this Standard; for the undated documents, only the latest version (including all the amendments) is applicable to this Standard.

GB 8978 Integrated Wastewater Discharge Standard

GB 12348 Emission Standard for Industrial Enterprises Noise at Boundary

GB 14554 Emission Standards for Odor Pollutants

GB/T 14848 Standard for groundwater quality

GB/T 16157 The determination of particulates and sampling methods of gaseous pollutants emitted from exhaust gas of stationary source

4 General Requirements

4.1 Organizations that generate, collect, store, utilize and dispose of hazardous wastes shall build hazardous waste storage facilities or set up storage sites, and select the type of storage facilities as needed.

4.2 The type and scale of storage facilities or sites for storing hazardous wastes shall be determined based on factors such as the type, quantity, form, physicochemical properties and environmental risks of hazardous wastes.

4.3 Hazardous wastes shall be stored in a classified manner according to the type, form, physicochemical properties and pollution prevention requirements of hazardous wastes; and contact between hazardous wastes and incompatible substances or materials shall be avoided.

4.4 Hazardous wastes shall be stored in a classified manner according to the form, physicochemical properties, packaging form and migration pathway of pollutants; and measures shall be taken to reduce the generation of pollutants such as leachate and its derivative wastes, leaked liquid wastes (referred to as leachate), dust, VOCs, acid mist, toxic and harmful atmospheric pollutants and irritating odor gases to prevent them from polluting the environment.

4.5 Liquid wastes and solid wastes generated during the storage of hazardous wastes shall be collected in sorts and properly handled in accordance with their environmental management requirements.

4.6 Storage facilities or sites, containers and packaging shall be equipped with hazardous waste identification signs such as hazardous waste storage facility or place signs, hazardous waste storage subarea signs and hazardous waste labels in accordance with the requirements of HJ 1276.

4.7 Hazardous waste environmental key supervision organizations specified in HJ 1259 shall use electronic floor scales, electronic labels, electronic management ledgers and other technical means to manage the hazardous waste storage process in an informatization manner to ensure that the data is complete, true and accurate; if video surveillance is used, the surveillance screen shall be clear and the video records shall be kept for at least 3 months.

4.8 When a storage facility is decommissioned, the owner or operator shall assume environmental protection responsibilities in accordance with the law; properly handle and dispose of the remaining hazardous waste in the storage facility before decommissioning; and clean up the storage facility to eliminate pollution; and shall also assume site environmental risk prevention and control responsibilities in accordance with relevant laws and regulations on soil pollution prevention and control.

4.9 Hazardous wastes that are explosive, flammable and emit toxic gases at normal temperature and pressure shall be pre-treated to stabilize them before storage; otherwise, they shall be stored as explosive and flammable hazardous goods.

4.10 In addition to meeting relevant requirements for environmental protection, the storage of hazardous wastes shall also comply with relevant requirements of national laws, regulations and standards on production safety, occupational health, transportation, fire protection, etc.

5 Site Selection Requirements for Storage Facilities

5.1 The site selection of storage facilities shall meet the requirements of ecological and environmental protection laws and regulations, planning and the "three lines and one list" ecological and environmental zoning control; and construction projects shall undergo environmental impact assessment in accordance with the law.

5.2 Centralized storage facilities shall not be located in ecological protection red line areas, permanent basic farmland and other areas that require special protection; and shall not be built in karst areas or areas susceptible to severe natural disasters such as floods, landslides, mudslides, tides, etc.

5.3 Storage facilities shall not be located in rivers, lakes, canals, channels, reservoirs and beaches and slopes below their highest water level, as well as other places where the storage of hazardous wastes is prohibited by laws and regulations.

5.4 The location of the storage facility site and its distance from surrounding environmentally sensitive targets shall be determined based on the environmental impact assessment documents.

6 Pollution Control Requirements for Storage Facilities

6.1 General provisions

6.1.1 Storage facilities shall take necessary wind, sun, rain, leak, seepage, corrosion resistant and other environmental pollution prevention measures according to the form, physicochemical properties, packaging form and migration pathway of hazardous wastes; and hazardous wastes shall not be piled in the open air.

6.1.2 Storage facilities shall set up necessary storage subareas according to the type, quantity, form, physicochemical properties and pollution prevention requirements of hazardous wastes to avoid contact and mixing of incompatible hazardous wastes.

6.1.3 The ground, wall skirts, cofferdams for blocking leakage, partitions and walls in contact with hazardous wastes in storage facilities or storage subareas shall be built with solid materials and have no cracks on the surface.

6.1.4 The ground and skirts of storage facilities shall take surface anti-seepage measures. The surface anti-seepage materials shall be compatible with the materials or pollutants in contact; and can use impermeable concrete, high-density polyethylene membrane, sodium-based

6.3.3 The storage site shall take measures to prevent the dispersion and loss of hazardous wastes.

6.4 Storage pool

6.4.1 The anti-seepage layer of the storage pool shall cover the entire pool body; and the foundation anti-seepage shall be carried out in accordance with the requirements of 6.1.4.

6.4.2 The storage pool shall take measures to prevent the entry of rainwater, surface runoff, etc., to ensure that the local rainstorm with a recurrence period of no less than 25 years can be prevented from flowing into the storage pool.

6.4.3 The storage tank shall take measures to reduce the fugitive emission of air pollutants.

6.5 Storage tank farm

6.5.1 The tank body in the storage tank farm shall be set in the cofferdam; and the anti-seepage and anti-corrosion performance of the cofferdam shall meet the requirements of 6.1.4 and 6.1.5.

6.5.2 The volume of the cofferdam in the storage tank farm shall at least meet the hazardous waste collection volume requirements when the largest storage tank inside it leaks accidentally.

6.5.3 The waste liquid, wastewater and initial rainwater collected in the cofferdam of the storage tank farm shall be treated in time and shall not be discharged directly.

7 Pollution Control Requirements for Container and Packaging

7.1 The materials and linings of containers and packaging shall be compatible with the contained hazardous wastes.

7.2 For hazardous wastes of different types, forms, and physicochemical properties, their containers and packaging shall meet the corresponding requirements of anti-seepage, anti-leakage, anti-corrosion and strength.

7.3 Rigid containers and packaging and their supporting structures shall not be significantly deformed when stacked; and there shall be no damage or leakage.

7.4 Flexible containers and packaging shall be tightly sealed when stacked; and there shall be no damage or leakage.

7.5 When using containers to hold liquid or semi-solid hazardous wastes, appropriate space shall be left inside the container to accommodate contraction and expansion that may be caused by temperature changes, etc., to prevent leakage or permanent deformation of the container.

7.6 The outer surface of containers and packaging shall be kept clean.

8.2.6 The owner or operator of a storage facility shall establish a soil and groundwater pollution risk inspection system in accordance with the relevant provisions of the state on soil and groundwater pollution prevention and control, and in combination with the characteristics of the storage facility; and conduct regular risk inspections. If a risk is found, timely measures shall be taken to eliminate the risk and establish a file.

8.2.7 The owner or operator of a storage facility shall establish a complete file of the storage facility, including design, construction, acceptance, operation, monitoring and environmental emergency response, etc.; and shall organize and archive it in accordance with the relevant laws and regulations on archive management of the state.

8.3 Environmental management requirements for storage spots

8.3.1 Storage spots shall have fixed regional boundaries and shall take measures to isolate them from other areas.

8.3.2 Storage spots shall take measures to resist wind, rain, sun; and prevent the loss and dispersion of hazardous waste.

8.3.3 Hazardous waste stored at storage spots shall be placed in containers or packaging and shall not be directly piled up.

8.3.4 Storage spots shall take pollution prevention measures such as anti-seepage and anti-leakage or use devices with corresponding functions based on the form, physicochemical properties, and packaging form of hazardous waste.

8.3.5 Storage spots shall promptly remove stored hazardous waste; and the actual storage volume shall not exceed 3 tons.

9 Emission Control Requirements for Pollutant

9.1 Wastewater generated by storage facilities (including cleaning wastewater from storage facilities, operating equipment, vehicles, etc.; rainwater accumulated in storage tank areas; storage accident wastewater, etc.) shall be collected and treated; and wastewater discharge shall meet the requirements of GB 8978.

9.2 The emission of waste gas (including fugitive waste gas) generated by storage facilities should meet the requirements of GB 16297 and GB 37822.

9.3 The emission of odorous gases generated by storage facilities shall meet the requirements of GB 14554.

9.4 Solid waste generated and cleaned from storage facilities should be properly handled in accordance with the requirements for solid waste classification management.

9.5 The environmental noise emitted by storage facilities shall meet the requirements of GB 12348.

10 Environmental Monitoring Requirements

10.1 Environmental monitoring of storage facilities should be included in the environmental monitoring plan of the main facilities.

10.2 The owner or operator of the storage facility shall formulate a monitoring plan in accordance with relevant laws such as the *Air Pollution Prevention and Control Law*, *Water Pollution Prevention and Control Law*, *Soil Pollution Prevention and Control Law*, and administrative regulations such as *Regulation on the Administration of Permitting of Pollutant Discharges*, and HJ 819, HJ 1250, etc.; conduct self-monitoring of the pollutant discharge status of the storage facility; preserve the original monitoring records; and publish the monitoring results.

10.3 The monitoring methods and indicators of wastewater pollutant discharge from storage facilities shall meet the requirements of relevant national standards.

10.4 The layout of groundwater environmental monitoring points for storage facilities of key hazardous waste environmental supervision organizations specified in HJ 1259 shall meet the requirements of HJ 164. The monitoring factors shall select, based on the characteristics of the stored waste, the representative indicators that can characterize the characteristics of hazardous wastes. The analysis method of groundwater monitoring factors shall be implemented in accordance with GB/T 14848.

10.5 The monitoring sampling of atmospheric pollutant emissions from storage facilities equipped with collection and purification systems shall be carried out in accordance with the provisions of GB/T 16157, HJ/T 397, and HJ 732.

10.6 The monitoring factors for fugitive gas emissions from storage facilities shall select, based on the characteristics of the stored waste, the representative indicators that can characterize the characteristics of hazardous wastes; the sampling point layout, sampling and monitoring methods may be carried out in accordance with the provisions of HJ/T 55; and the fugitive emission monitoring of VOCs shall also comply with the provisions of GB 37822.

10.7 The emission monitoring of odorous gases from storage facilities shall comply with the provisions of GB 14554 and HJ 905.

11 Environmental Emergency Requirements

11.1 The owner or operator of a storage facility shall prepare an emergency plan for sudden environmental incidents in accordance with relevant national regulations; conduct necessary

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