

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HJ 1241-2022

**Technical specification for pollution control of manganese
residue**

(English Translation)

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Ministry of Ecology and Environment

Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 General requirements	
5 Technical requirements for pollution control of collection, storage and transportation	
6 Technical requirements for pretreatment pollution control	
7 Utilize pollution control technical requirements	
8 Technical requirements for filling or backfilling pollution control	
9 Technical requirements for landfill pollution control	
10 Environmental and Contaminant Monitoring Requirements	
11 Environmental management requirements	

1 Scope of application

This standard specifies the pollution control technology for manganese slag in the process of collection, storage, transportation, pretreatment, utilization, filling, backfilling and landfilling requirements, as well as monitoring and environmental management requirements.

This standard applies to the collection, storage, transportation, pretreatment, utilization, filling, backfilling and landfilling of manganese slag newly generated after the implementation of the standard.

Pollution control in the process of manganese slag can be used as environmental impact assessment, environmental impact assessment, environmental Technical reference for protection facility design, completed environmental protection acceptance, emission permit management, cleaner production review, etc.

The pollution control during the utilization, filling and backfilling of manganese slag stockpiled before the implementation of this standard is applicable to this standard.

2 Normative references

This standard refers to the following documents or clauses thereof. For dated references, only the dated version applies to this standard.

For undated references, the latest edition (including all amendments) applies to this

standard.

GB 8978 Integrated Wastewater Discharge Standard GB 9078 Industrial Furnace Air Pollutant Emission Standard GB 14554 Emission Standard of Odor Pollutants GB 16297 Comprehensive Emission Standard of Air Pollutants GB 18599 General Industrial Solid Waste Storage and Landfill Pollution Control Standard GB 4915 Cement Industry Air Pollutant Emission Standard GB 30485 Cement kiln co-processing solid waste pollution control standard GB 30760 Technical Specification for Co-processing Solid Waste in Cement Kilns GB/T 30810 Determination method of leachable heavy metals in cement mortar GB 34330 General Rules for the Identification Standard of Solid Waste HJ/T 55 Technical guidelines for monitoring fugitive emissions of air pollutants HJ 91.1 Technical Specification for Wastewater Monitoring HJ/T 397 Technical Specification for Stationary Source Waste Gas Monitoring HJ 557 Solid waste leaching toxicity leaching method Horizontal shaking method HJ 662 Technical Specification for Environmental Protection of Solid Waste Co-processing in Cement Kilns HJ 1091 Technical Guidelines for Pollution Prevention and Control of Solid Waste Recycling and Utilization HJ 1209 Technical Guidelines for Self-Monitoring of Soil and Groundwater in Industrial Enterprises (Trial) NY/T 1121.16 Soil Testing Part 16: Determination of Total Soil Water-Soluble Salts TD/T 1036 Land Reclamation Quality Control Standard Technical Policy on Pollution Prevention and Control of Electrolytic Manganese Industry (Huan Fa [2010] No. 150) Feasible Technical Guidelines for Pollution Prevention and Control in Electrolytic Manganese Industry (Trial) (Former Ministry of Environmental Protection Announcement No. 81 [2014]) Guidelines for the formulation of general industrial solid waste management ledger (trial) (Ministry of Ecology and Environment Announcement No. 82 [2021])

3 Terms and Definitions

The following terms and definitions apply to this standard.

manganese residue

In the production process of electrolytic manganese metal, electrolytic manganese dioxide and high-purity manganese sulfate, manganese ore powder (usually manganese carbonate ore powder or manganese oxide ore powder) the solid waste generated after sulfuric acid leaching and solid-liquid separation includes electrolytic manganese metal manganese slag, electrolytic manganese dioxide manganese slag and high-purity manganese sulfate manganese slag.

Electrolytic anode sludge, production wastewater treatment sludge, and chromium-containing sludge generated during production and pollution treatment are not manganese slag.

storage

The activity of placing manganese slag in a specific facility or place with a temporary

storage function.

pre-treatment Through physical, chemical or biological methods, reduce or remove heavy metals, water-soluble salts, corrosiveness and other pollution characteristics in manganese slag or inhibit its leachability or diffusivity enables the treated manganese slag to meet the requirements of utilization, filling, backfilling and landfilling, mainly including washing, solidification, etc.

Pretreatment methods such as chemical stabilization, high temperature sintering and high temperature melting.

water washing

The process of washing manganese slag with clean water or low-concentration manganese-containing solution, and washing out most of the residual leachate in the manganese slag for reuse.

solidification/stabilization Using physical, chemical methods or the synergy of the two, manganese and other heavy metals in manganese slag are converted into stable forms or fixed in a in order to reduce the mobility of manganese and other heavy metals in manganese slag, reduce or eliminate the risk of environmental pollution caused by manganese slag.

process.

high temperature sintering the process in which manganese slag is partially melted by high temperature and cooled to form a sintered body product.

high temperature melting the process in which manganese slag is completely melted by high temperature and forms a dense glass product after cooling.

Utilize recycling

The activity of using manganese slag or its pretreatment products directly as raw materials, or converting them into raw materials.

filling mining with backfilling in order to meet the needs of the mining process, the pretreated manganese slag is used as the filling material for the purpose of supporting the surrounding rock, preventing the rock movement and controlling the ground pressure.

The activity of filling a gob with fill material.

3.10

backfilling

For the purpose of land reclamation, use pretreated manganese slag to replace soil, sand, stone and other production materials to fill underground goaf and open-pit mining Activities in surface excavation areas, borrow pits, underground mining subsidence areas, and

natural potholes.

3.11

landfill

The manganese slag that meets the entry requirements after pretreatment is finally placed in a landfill that meets the requirements of environmental protection regulations for disposal.

4 General requirements

4.1

The prevention and control of environmental pollution by manganese slag should adhere to the principles of reduction, resource utilization and harmlessness, take measures to reduce the amount of manganese slag produced, and treat manganese as much as possible.

Comprehensive utilization of manganese slag to minimize the amount of manganese slag landfill and control environmental risks.

4.2

Discharge of various pollutants such as waste water and waste gas generated in the process of manganese slag collection, storage, pretreatment, utilization, filling, backfilling and landfilling the discharge should comply with the pollutant discharge standards and limit requirements issued by the state; local pollutant discharge standards, environmental impact assessment approval documents or pollutant discharge the license has stricter requirements, from its provisions.

4.3

The manganese slag and its pretreatment products as substitute raw materials shall conform to the product quality standards formulated by the state and local governments or prevailing in the industry.

4.4

The collection, storage, pretreatment, utilization, filling, backfilling and landfilling of manganese slag shall meet the relevant requirements of environmental protection. national security student where laws, regulations and standards on production, occupational health, transportation, fire protection, etc. provide otherwise, such provisions shall apply.

5 Technical requirements for pollution control of collection, storage and transportation