

ICS 13.100
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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

HJ 513-2009

Cleaner production standard. Lead electrorefining industry

清洁生产标准 铅电解业

(English Translation)

Issued on: November 13, 2009

Implemented on: February 1, 2010

Issued by: Ministry of Ecology and Environment

Table of Contents

Foreword

1 Scope of application

2 Normative references

3 Terms and definitions

3.1 Cleaner production cleaner production

3.2 Cleaner production standard cleaner production standard

3.4 Lead electrolysis lead electrolysis

3.5 Residual anodic residual rate

4 Normative technical requirements

4.1 Indicator classification

4.2 Indicator requirements

5 Production process environmental management

5.1 Sampling

5.2 Calculation method

6 Standard implementation

Foreword

To protect the environment and lead electricity for the implementation of the Environmental Protection Law of the People's Republic of China and the Cleaner Production Promotion Law of the People's Republic of China Decommissioning enterprises provide technical support and guidance for clean production, and develop this standard.

This standard stipulates that on the basis of meeting national and local pollutant discharge standards, according to current industry technology, equipment level and management water Ping, lead electrolysis industry, the general requirements for cleaner production. This standard is divided into three levels, one level represents the international advanced level of cleaner production, the second generation

Table shows the advanced level of domestic clean production, and the third level represents the basic level of domestic clean production. With the continuous advancement and development of technology, this standard will be suitable

Revised.

This standard is the first release.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard was drafted. Changsha Nonferrous Metallurgy Design and Research Institute, China Academy of Environmental Sciences.

This standard was approved by the Ministry of Environmental Protection on November 13, 2009.

This standard has been implemented since February 1, 2010.

This standard is interpreted by the Ministry of Environmental Protection.

Clean production standard lead electrolysis industry

1 Scope of application

This standard specifies the general requirements for cleaner production in lead electrolysis enterprises. This standard divides the clean production indicators of lead electrolysis enterprises into five categories, namely Production process and equipment requirements, resource and energy utilization indicators, product indicators, pollutant production indicators (before end treatment) and environmental management requirements.

This standard applies to the clean production audit of lead electrolysis enterprises, the judgment of clean production potential and opportunities, and the evaluation of clean production performance.

The system for setting and reporting clean production performance is also applicable to environmental management systems such as environmental impact assessment and pollutant discharge permits.

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

GB/T 469 lead ingot

GB/T 16157-1996 Determination of particulate matter in fixed pollution source exhaust gas and sampling method of gaseous pollutants GB/T 24001 Environmental Management System Requirements and User Guide HJ/T 425 Technical Guidelines for the Development of Cleaner Production Standards Interim Measures for Clean Production Audit (National Development and Reform Commission, State Environmental Protection Administration Order No. 16)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Cleaner production cleaner production

Refers to continuous improvement of design, use of clean energy and raw materials, adoption of advanced process technology and equipment, improvement of management, and comprehensive utilization and other measures to reduce pollution from the source, improve resource utilization efficiency, reduce or avoid the production of pollutants in production, service and product use.

Health and emissions to mitigate or eliminate harm to human health and the environment.

3.2 Cleaner production standard cleaner production standard

Refers to the principle of life cycle analysis, from production process and equipment, resource and energy utilization, products, pollutant generation, waste recycling and six aspects of environmental management, giving staged indicators to the clean production level of the industry, guiding the company's clean production and pollution Process control.

Note: Quoted from HJ/T 425 Technical Guidelines for Cleaner Production Standards.

3.3 pollutant generation indicators (before end treatment) pollutants generation indicators (before end-of-pipe treatment) that is, the coefficient of pollution generation refers to the amount of pollutants produced before the production (or processing) of a unit product (before end treatment). Refers to lead product Dust production index.

3.4 Lead electrolysis lead electrolysis

The process of producing lead metal by wet electrolysis using crude lead as raw material.

3.5 Residual anodic residual rate

The percentage of the weight of the residual portion of the lead anode plate after electrolysis to the weight of the anode plate loaded before electrolysis.

4.1 Indicator classification

This standard gives three levels of technical indicators for the clean production level of the production process of lead electrolysis enterprises.

Level 1. International advanced level of cleaner production;

Level 2. advanced level of domestic clean production;

Level 3. The basic level of domestic cleaner production.

4.2 Indicator requirements

See Table 1 for the technical requirements for clean production of lead electrolysis enterprises.

Table 1 Technical requirements for clean production of lead electrolysis industry

Clean production index level First, the production process and equipment requirements 1. The process adopts large plate process (single anode plate ≥ 300 kg) Single anode plate ≥ 90 kg

2.1 Fire refining process Smelting and producing crude lead does not require ingot casting, direct liquid into the pot, melting lead pot pot surface fixed smelting production of crude lead ingots after cold state into the pot

2.2 Melting lead pan/t ≥ 100 ≥ 75 ≥ 60 2. Equipment

2.3 Mechanization and automation Level the whole process is highly automated. The molten lead pot is fixed, Automatic dosing, residual pole continuous mechanical joining, continuous Mechanical fishing copper scum; automatic casting of cathode and anode, the anode and cathode are automatically arranged and placed in the electrolytic cell at the same time;

Electric lead pan machine slag; waste generated in the production process Gas has effective collection and treatment measures the level of automation is higher. Yin and anode Automatic casting, automatic discharge of anode and cathode Distance; electric lead pan machine slag; production the exhaust gas produced by the process is effective Collection and treatment the level of automation is average. yin and yang Extremely automatic casting, automatic spacing;

Exhaust gas produced during the production process Prepare effective collection and treatment measures Second, resource and energy utilization indicators 1. Lead recovery rate /% ≥ 99 ≥ 98 2. Unit product DC power consumption /(kW·h/t) ≤ 120 3. Residual rate /% ≤ 38 ≤ 40 ≤ 45 4. Unit product silicic acid consumption/(kg/t) ≤ 2.5 ≤ 3.5 ≤ 4.0 Third, product indicators the quality requirements of electric lead meet the quality requirements of lead No. 1 in GB/T 469 and meet the quality requirements of corresponding grade lead in GB/T 469.

Fourth, the pollutant production index (before the end treatment) Lead dust production per unit of product (with Pb Meter)/(kg/t) ≤ 8 ≤ 12 ≤ 20 V. Environmental management requirements 1. Environmental laws, regulations and standards comply with national and local environmental laws and regulations, and pollutant discharge meets national and local emission standards, total amount control and discharge permit management requirements.

2. The organization has a sound environmental management agency and professional environmental management personnel.