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

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**Cleaner production standard. Waste lead-acid battery recycling
industry**

清洁生产标准 废铅酸蓄电池回收业

(English Translation)

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Foreword

To implement the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes, and the Chinese People the Clean Production Promotion Law of the Republic, which protects the environment and provides technical support and guidance for the clean production of lead-acid battery lead recycling industry.

Set 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 Flat, general requirements for clean production of lead-acid battery lead recycling industry. This standard is divided into three levels, one level represents the international advanced level of cleaner production, the second level represents the advanced level of domestic clean production, and the third level represents the basic level of domestic clean

production. With the continuous development and progress of technology, this standard the Brigadier General is constantly 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. Shenyang Environmental Science Research Institute, Institute of High Energy Physics, Chinese Academy of Sciences, China Nonferrous Metals Industry Association Metal Branch, Zhejiang Huitong Power Co., Ltd., National Environmental Protection Hazardous Waste Disposal Engineering Technology Center.

This standard was approved by the Ministry of Environmental Protection on November 16, 2009.

This standard has been implemented since January 1, 2010.

This standard is explained by the Ministry of Environmental Protection.

Clean production standard lead-acid battery lead recycling industry

1 Scope of application

This standard specifies the general requirements for clean production of lead-acid battery lead recycling industry. This standard will lead the waste lead acid battery lead recycling industry the production indicators are divided into six categories, namely, production process and equipment indicators, resource and energy utilization indicators, product indicators, and pollutant production indicators (end treatment).

Before), waste recycling indicators and environmental management requirements.

This standard applies to the clean production audit of waste lead-acid battery lead recycling enterprises and the judgment of clean production potential and opportunity, clean production the performance appraisal and clean production performance announcement system is also applicable to environmental management systems such as environmental impact assessment and 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 2589 General rules for comprehensive energy consumption calculation GB/T 15555.2 Determination of copper, zinc, lead and cadmium in solid waste - Atomic absorption spectrophotometric method GB/T 21181 recycled lead and lead alloy ingot GB/T 24001

Environmental Management System Requirements and User Guide HJ/T 56-2000
Determination of sulphur dioxide in fixed source s HJ/T 57-2000 Determination of sulfur dioxide in fixed source exhaust gases Interim Measures for Clean Production Audit
(National Development and Reform Commission, State Environmental Protection Administration Order No. 16)

3.1 Clean 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, reduce or avoid the production of pollutants in production, service and product use.

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

3.2 Waste lead-acid battery

Refers to the loss of the original use value in production, life and other activities or the loss of use value but abandoned or abandoned Lead-acid batteries.

3.3 Lead recovery

The process of extracting lead from a waste lead-acid battery through various methods, techniques and processes.

3.4 Fire method smelting

A technical process for extracting metals from a molten state by a high temperature method.

3.5 Hydrometallurgy

A technical process for extracting metals from a solution by chemical action using a solvent.

3.6 Lead dust

Solid materials such as waste lead-acid batteries are suspended in a gaseous medium formed by mechanical processes (natural processes) such as crushing, classification, and grinding.

Fine solid particles.

3.7 Partition

A lead-acid battery assembly made of an ion-permeable material that prevents contact between plates of opposite polarity in the battery.

4.1 Indicator classification

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

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

The requirements for clean production indicators for the pyrometallurgical lead recycling industry are shown in Table 1.

The requirements for clean production of wet metallurgy lead recycling industry are shown in Table 2.

Table 1 Clean production index requirements for lead recycling industry (fire law smelting class)

Indicator level one level two level three First, the production process and equipment requirements Automatic crushing and sorting system mechanized crushing and sorting 1. Pre-desulfurization of preparation technology and equipment (excluding oxygen-rich bottom blowing-blast furnace melting process) 2. Smelting process and equipment rotary short kiln smelting, oxygen-rich bottom blowing - blast furnace melting, automatic ingot casting machine, etc.

Reverberatory furnace Outside), blast furnace smelting, automatic casting Ingot machine, etc.

Second, product indicators 1. Recycled crude lead main grade /% lead ≥ 99 lead ≥ 98.5 lead ≥ 98 2. Polypropylene has a purity of 98% to 99% and a lead content of less than 0.1%.

Third, resource and energy utilization indicators 1. Total lead recovery /% >98 >97 >95 2. Total sulfur utilization rate /% ≥ 98 ≥ 96 ≥ 95 3. Comprehensive utilization of resources /% ≥ 95 ≥ 90 ≥ 85 4. Unit comprehensive energy consumption (standard coal/crude lead)/(kg/t) $98 > 95 > 90$ 3. Waste water recycling rate /% >95 >93 >90 Sixth, environmental management requirements 1. Environmental laws and regulations are in compliance with relevant national and local laws and regulations. Pollutant emissions meet national and