GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 30484-2013

Emission standard of pollutants for battery industry

电池工业污染物排放标准

Issued on: December 27, 2013 **Implemented on: March 01, 2014**

Issued by: Ministry of Environmental Protection;

General Administration of Quality Supervision, Inspection and Quarantine of PRC.

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Emission standard of pollutants for battery industry

1 Scope

This standard specifies the relevant provisions on the emission limits and monitoring requirements as well as the standard implementation and supervision of water pollutants and air pollutants from the battery industry enterprises [including paste-lined cell, paper-lined cell, laminated cell, alkaline zinc manganese battery), zinc air battery, silver zinc battery, lead acid battery, nickel cadmium battery, nickel-metal hydride battery, lithium ion battery, lithium battery, solar cell].

This standard applies to the management of water pollutants and air pollutants emissions from battery industry enterprises or production facilities, as well as the environmental impact assessment, the design of environmental protection facilities, the acceptance of completed environmental protection of battery industry enterprise construction projects, as well as water pollutants and air pollutants emission management after they are put into production.

This standard applies to pollutant discharge activities permitted by law. The location selection of newly established pollution sources and the management of existing pollution sources in special protection areas shall be in accordance with the relevant provisions of laws, regulations, rules such as "Atmospheric Pollution Prevention Law of the People's Republic of China", "Water Pollution Prevention Law of the People's Republic of China", "Marine Environmental Protection Law of the People's Republic of China", "People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste", "Environmental Impact Assessment Law of the People's Republic of China".

The water pollutant discharge control requirements, which are specified in this standard, apply to the direct or indirect discharge of water pollutants by enterprises outside their legal boundaries.

2 Normative references

This standard refers to the following documents or provisions therein. For any referenced document without date of publication, the latest version shall apply to this standard.

GB 6920 Water quality - Determination of pH value - Glass electrode method

GB 7469 Water quality - Determination of total mercury - Potassium permanganate-potassium persulfate decomposed method - Dithizone spectrophotometric method

HJ/T 199 Water quality - Determination of total-nitrogen - Gas-phase molecular absorption spectrometry

HJ/T 341 Water quality - Determination of mercury-cold atomic fluorescent spectrophotometry

HJ/T 344 Water quality - Determination of manganese-formaldehyde oxime spectrophotometry

HJ/T 397 Technical specifications for emission monitoring of stationary source

HJ/T 399 Water quality - Determination of the chemical oxygen demand - Fast digestion - Spectrophotometric method

"Measures for the Management of Automatic Monitoring of Pollution Sources" (State Environmental Protection Administration Order No.28)

"Environmental Monitoring Management Measures" (State Environmental Protection Administration Order No.39)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1

Battery industry

A manufacturing industry of chemical power sources, which are made of positive active materials, negative active materials, dielectrics in a sealed structure, with a certain nominal voltage and rated capacity, as well as solar cells that use solar radiation, to directly convert into electrical energy.

3.2

Paste-lined cell

A primary battery, that uses starch gel soaked with electrolyte as an isolation layer.

3.3

Alkaline zinc manganese battery

A primary battery, which contains alkaline electrolyte, uses manganese dioxide as the positive electrode and zinc as the negative electrode.

3.4

Paper-lined cell

A primary cell, that uses cardboard soaked in electrolyte as an isolation layer.

3.5

Zinc air battery

A primary battery, that uses oxygen in the atmosphere as the positive active material, zinc as the negative active material, contains alkaline or salt electrolyte.

3.6

Silver zinc battery

A battery, which contains an alkaline electrolyte, silver in the positive electrode, zinc in the negative electrode.

3.7

Button cell

A cylindrical battery, which has an overall height less than its diameter, shaped like a coin or button.

3.8

Lead acid battery

Also known as lead-acid battery. A battery, which contains an electrolyte mainly composed of dilute sulfuric acid, a lead dioxide positive electrode, a lead negative electrode.

3.9

Nickel cadmium battery

A battery, which contains alkaline electrolyte, nickel oxide as the positive electrode, cadmium as the negative electrode.

3.10

Nickel-metal hydride battery

A battery, which contains an aqueous electrolyte of potassium hydroxide, uses nickel hydroxide as positive electrode and metal hydride as negative electrode.

3.11

Refers to the amount of sewage discharged by production facilities or enterprises that has no use function. It includes various types of external wastewater that are directly or indirectly related to production (including factory domestic sewage, factory boiler and power station drainage, etc.).

3.19

Benchmark effluent volume per unit product

The upper limit of wastewater discharge per unit battery product as specified for determining the discharge concentration of water pollutants.

3.20

Stack height

The height -- from the ground level where the exhaust stack (or its main building structure) is located to the outlet of the exhaust stack.

3.21

Standard condition

The state where the temperature is 273.15 K and the pressure is 101325 Pa. The standard values of various air pollutants, which are specified in this standard, are based on dry air under standard conditions.

3.22

Enterprise boundary

Refers to the legal boundaries of battery industry enterprises. If there is no legal boundary, it refers to the actual boundary.

3.23

Public wastewater treatment system

Enterprises or institutions, that collect wastewater through sewage collection pipes and other methods, provide wastewater treatment services to more than two sewage discharge organizations, have drainage that can meet relevant discharge standards, including various sizes and types of urban sewage treatment plants, regional (including various types of industrial parks, development zones, industrial gathering places, etc.) wastewater treatment plants, etc. The wastewater treatment level shall reach level 2 or above.

3.24

exhaust volume per unit product of production facilities, the actual measured concentration will be used temporarily, as the basis for determining whether the standard is met.

5 Pollutant monitoring requirements

5.1 General requirements for pollutant monitoring

5.1.1 Enterprises shall, in accordance with relevant provisions of laws and the "Environmental Monitoring Management Measures" and other regulations, establish an enterprise monitoring system; formulate monitoring plans; carry out self-monitoring of pollutant discharge conditions and its impact on the quality of the surrounding environment; save original monitoring records; publish monitoring results.

5.1.2 The requirements for new facility and existing facility to install automatic monitoring equipment for pollutant emissions shall be implemented, in accordance with relevant laws and the "Measures for the Management of Automatic Monitoring of Pollution Sources".

5.1.3 Enterprises should design, construct, maintain permanent sampling ports, sampling test platforms, sewage outlet signs, in accordance with environmental monitoring management provisions and technical specifications.

5.1.4 For sampling of wastewater and waste gas discharged by enterprises, it shall, according to the types of pollutants to be monitored, be carried out at specified pollutant discharge monitoring locations. If there are wastewater and waste gas treatment facilities, monitoring shall be done after the treatment facilities.

5.1.5 The determination of enterprise product output is based on statutory reports.

5.2 Water pollutant monitoring requirements

The concentration of water pollutants, which are discharged by enterprises, shall be measured, using the method standards listed in Table 7.

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