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# GB

NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA

## GB 25466-2010

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### **Emission standard of pollutants for lead and zinc industry**

铅、锌工业污染物排放标准

[Including Modification List 2013XG1]

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**General Administration of Quality Supervision, Inspection and  
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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 Prevention and Control of Water Pollution, the Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on Marine Environmental Protection, and the State Council on Strengthening the Environment Laws and Regulations on Protection and other "Opinions of the State Council on the Preparation of National Main Functional Area Planning", to protect the environment, to prevent pollution, to promote the progress of lead and zinc industrial production processes and pollution control technologies, this Standard was formulated.

This Standard specifies the emission limits, monitoring and monitoring requirements for water pollutants and atmospheric pollutants in the production process of lead and zinc industrial enterprises. It is applicable to water pollution and air pollution prevention and management in lead and zinc industrial enterprises. In order to promote the coordinated development of regional economy and environment, promote the adjustment of economic structure and the transformation of economic growth mode, and guide the development direction of lead and zinc industrial production processes and pollution control technologies, this Standard specifies particular emission limits for water pollutants.

The pollutant discharge concentration in this Standard is the mass concentration.

Lead and zinc industrial enterprises emit odorous pollutants and environmental noises. The identification, treatment and disposal of solid wastes are applicable to national solid waste pollution control standards.

This Standard shall be issued for the first time.

From the date of implementation of this Standard, the discharge of water and atmospheric pollutants from lead and zinc industrial enterprises shall comply with this Standard. It shall not comply with relevant provisions in "Integrated Wastewater Discharge Standard" (GB 8978-1996), "Comprehensive emission standard of atmospheric pollutants" (GB 16297-1996) and "Standard of smoke and dust emission for industrial kiln and furnace" (GB 9078-1996).

Local provincial people's governments may formulate local pollutant discharge standards for pollutants not specified in this Standard. For pollutants that have been stipulated in this Standard, local pollutant discharge standards that are stricter than this Standard may be formulated.

# Emission standard of pollutants for lead and zinc industry

## 1 Scope

This Standard specifies the emission limits, surveillance and monitoring requirements for water pollutants and atmospheric pollutants in lead and zinc industrial enterprises, as well as relevant provisions on implementation and supervision of standard.

This Standard is applicable to the management of water pollutants and atmospheric pollutants in lead and zinc industrial enterprises, as well as environmental impact assessment, environmental protection facilities design, and environmental protection acceptance of lead and zinc industrial enterprises construction projects as well as the management of water pollutants and atmospheric pollutants after they are put into production.

This Standard does not apply to industries such as calendaring of recycled lead, recycled zinc and lead timber, zinc timber. It is not applicable to non-characteristic production processes and devices affiliated with lead and zinc industrial enterprises.

This Standard applies to the discharge of pollutants permitted by law. For site selection of newly established pollution sources and management of existing pollution sources in special protection areas, in addition to this Standard, it shall also comply with the relevant provisions of laws, regulations and rules such as the Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on Prevention and Control of Water Pollution, the Law of the People's Republic of China on Marine Environmental Protection, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution of Solid Wastes, the Environmental Impact Assessment Law of the People's Republic of China.

The water pollutant emission control requirements specified in this Standard are applicable to the behavior of enterprises directly or indirectly discharging water pollutants outside their legal boundaries.

## 2 Normative references

This Standard refers to the following documents or their terms.

HJ/T 195-2005, *Water quality - Determination of ammonia-nitrogen Gas-phase molecular absorption spectrometry*

HJ/T 199-2005, *Water quality - Determination of total-nitrogen Gas-phase molecular absorption spectrometry*

HJ/T 399-2007, *Water quality - Determination of the chemical oxygen demand - Fast digestion - Spectrophotometric method*

HJ 482-2009, *Ambient air - Determination of sulfur dioxide - Formaldehyde absorbing-pararosaniline spectrophotometry*

HJ 483-2009, *Ambient air - Determination of sulfur dioxide in ambient air - Tetrachloromercurate (TCM) - pararosaniline method*

HJ 487-2009, *Water quality - Determination of Fluoride - Visual colorimetry zirconium alizarin sulfonate*

HJ 488-2009, *Water quality - Determination of Fluoride - Fluorine reagents spectrophotometry*

HJ 535-2009, *Water Quality - Determination of Ammonia Nitrogen - Nessler's Reagent Spectrophotometry*

HJ 536-2009, *Water quality - Determination of ammonia nitrogen - Salicylic acid spectrophotometry*

HJ 537-2009, *Water quality - Determination of ammonia nitrogen - Distillation - neutralization titration*

HJ 538-2009, *Stationary source emission - Determination of lead - Flame atomic absorption spectrometry (on trial)*

HJ 539-2009, *Ambient air. Determination of lead. Graphite furnace atomic absorption spectrometry (on trial)*

HJ 542-2009, *Ambient air - Determination of mercury and its compounds - Cold atomic fluorescent (on trial)*

HJ 543-2009, *Stationary source emission - Determination of mercury - Cold atomic absorption spectrophotometry (on trial)*

HJ 544-2009, *Stationary source emission - Determination of sulfuric acid mist-Ion chromatography (on trial)*

*Measures for the Automatic Monitoring and Control of Pollution Sources* (Order No. 28 of the State Environmental Protection Administration)

*Measures for the Administration of Environmental Monitoring* (Order No. 39

### **3.8 standard condition**

referring to the state when the temperature is 273.15 K and the pressure is 101 325 Pa; the atmospheric pollutant emission concentration limits specified in this Standard are based on dry gas under standard conditions

### **3.9 excess air coefficient**

referring to the ratio of actual air volume to theoretical air demand during industrial furnace operation

### **3.10 enterprise boundary**

referring to the legal boundary of lead and zinc industrial enterprises; if the boundary cannot be determined, it means the actual boundary

### **3.11 public wastewater treatment system**

referring to enterprises or institutions that collect wastewater through sewage pipelines, provide wastewater treatment services to more than two pollutant discharge units, and discharge to meet relevant emission standards, including urban sewage treatment plants of various scales and types, regional (including various industrial parks, development zones, industrial agglomerations, etc.) wastewater treatment plants, etc., of which the degree of wastewater treatment shall reach level two or more

### **3.12 direct discharge**

referring to the behavior of pollutant discharge units directly discharging water pollutants into the environment

### **3.13 indirect discharge**

referring to the behavior of pollutant discharge units discharging water pollutants into public sewage treatment systems

## **4 Pollutant emission control requirements**

### **4.1 Control requirements for water pollutant emission**

**4.1.1** From January 1, 2011 to December 31, 2011, existing facility shall implement the water pollutant emission limits specified in Table 1.

as the basis for determining whether the emission meets the standard requirements. The product production and effluent volume statistics period is one working day.

In the case of producing two or more products at the same time in the production facilities of the enterprise, when it is applicable to different emission control requirements or national pollutant emission standards of different industries, and the sewage generated by the production facilities is mixed and discharged, the most stringent concentration limits specified in the emission standards shall be implemented. And the benchmark effluent volume emission concentration of water pollutant shall be converted according to formula (1).

$$\rho_{\text{benchmark}} = \frac{Q_{\text{total}}}{\sum Y_i \cdot Q_{i \text{ benchmark}}} \cdot \rho_{\text{measured}} \quad (1)$$

where,

$\rho_{\text{benchmark}}$  - the benchmark effluent volume emission concentration of water pollutant, mg/L;

$Q_{\text{total}}$  - the total drainage, m<sup>3</sup>;

$Y_i$  - the yield of the  $i^{\text{th}}$  kind of product, t;

$Q_{i \text{ benchmark}}$  - the benchmark effluent volume per unit product of the  $i^{\text{th}}$  kind of product, m<sup>3</sup>/t;

$\rho_{\text{measured}}$  - the measured concentration of water pollutant, mg/L.

If the ratio of  $Q_{\text{total}}$  to  $\sum Y_i \cdot Q_{i \text{ benchmark}}$  is less than 1, then use the measured concentration of water pollutant as the basis for determining whether the emission meets the standard requirements.

## 4.2 Control requirements for atmospheric pollutant emission

**4.2.1** From January 1, 2011 to December 31, 2011, existing facility shall implement the atmospheric pollutant emission limits specified in Table 4.

**Table 6 -- Atmospheric pollutant concentration limits at enterprise boundary of existing and new facilities**

No.	Pollutant item	Maximum concentration limit
1	Particulates	0.5
2	Sulfur dioxide	1.0
3	Sulfuric acid mist	0.3
4	Lead and its compounds	0.006
5	Mercury and its compounds	0.0003

mg/m<sup>3</sup>

**4.2.5** In the production process after the completion of environmental protection acceptance of existing facility production and construction projects, the environmental protection department in charge of supervision shall monitor the environmental quality of sensitive areas around the residential, teaching, medical and other uses. The specific monitoring scope of the construction project is the surrounding sensitive area determined by the environmental impact assessment. For existing facility that has not conducted environmental impact assessment, the scope of monitoring shall be determined by the competent environmental protection department in charge of supervision, according to the characteristics and laws of the facility's sewage discharge and local natural and meteorological conditions, etc., with reference to the relevant environmental impact assessment technical guidelines. The local government shall be responsible for the environmental quality of its jurisdiction and take measures to ensure that the environmental conditions meet the requirements of environmental quality standards.

**4.2.6** The production processes and devices that produce atmospheric pollutants must establish local or integral gas collection systems and centralized purification treatment devices. All stack height shall be no less than 15 m. When there are buildings within a radius of 200 m around the stack, the stack height shall be higher than the maximum height by more than 3 m.

**4.2.7** The lead and zinc smelting furnaces have an excess air ratio of 1.7. The measured pollutant emission concentration of lead and zinc smelting furnaces shall be converted into the benchmark excess air coefficient emission concentration. Production facilities shall adopt reasonable ventilation measures. Do not intentionally dilute emissions. Before the country does not stipulate the benchmark exhaust volume of other production facilities, the actual measured concentration shall be used as the basis for determining whether it meets the standard.

## 5 Pollutant monitoring requirements

### 5.1 General requirements for pollutant monitoring

14	Total arsenic	Water quality - Determination of total arsenic - Silver diethyldithiocarbamate spectrophotometric method	GB/T 7485-1987
15	Total nickel	Water quality - Determination of nickel - Flame atomic absorption spectrometric method	GB/T 11912-1989
16	Total chromium	Water quality. Determination of total chromium	GB/T 7466-1987

### 5.3 Atmospheric pollutant monitoring requirements

**5.3.1** The sampling point setting and sampling method are performed according to GB/T 16157-1996.

**5.3.2** Unorganized emission monitoring in the presence of sensitive buildings and where necessary are monitored according to HJ/T 55-2000.

**5.3.3** The measurement of the concentration of atmospheric pollutants emitted by enterprises is based on the method standards listed in Table 8.

**Table 8 -- Standards for determination methods of water pollutant concentration**

No.	Pollutant item	Standard name of method	Reference to standard
1	Particulates	The determination of particulates and sampling methods of gaseous pollutants emitted from exhaust gas of stationary source	GB/T 16157-1996
		Ambient air - Determination of total suspended particulates - Gravimetric method	GB/T 15432-1995
2	Sulfur dioxide	Determination of sulphur dioxide from exhausted gas of stationary source Iodine titration method	HJ/T 56-2000
		Determination of Sulphur Dioxide from Exhausted Gas of Stationary Source - Fixed-potential Electrolysis Method	HJ/T 57-2000
		Ambient air - Determination of sulfur dioxide - Formaldehyde absorbing-pararosaniline spectrophotometry	HJ 482-2009
		Ambient air - Determination of sulfur dioxide in ambient air -Tetrachloromercurate (TCM) - pararosaniline method	HJ 483-2009
3	Sulfuric acid mist	Stationary source emission - Determination of sulfuric acid mist-Ion chromatography (on trial)	HJ 544-2009

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Accountable person and shareholder: Wayne Zheng

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Contact: Wayne Zheng, [Sales@ChineseStandard.net](mailto:Sales@ChineseStandard.net)

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

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