

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Guidelines for screening of priority assessment chemical substances

优先评估化学物质筛选技术导则

(English Translation)

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1 Scope of application

This standard specifies the principles, procedures and technical requirements for the screening of priority assessment chemical substances.

This standard applies to the screening of chemical substances that are prioritized for evaluation in the environmental risk assessment and control of chemical substances.

This standard can be used as a technical basis for the competent departments of ecological environment at all levels, enterprises and institutions, etc. to determine the priority evaluation of chemical substances.

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/T 24782

GB 30000.22

Methods for determination of persistent, bioaccumulative and toxic substances and highly persistent and highly bioaccumulative substances Specification for Classification and Labelling of Chemicals Part 22: Germ Cell Mutagenicity GB 30000.23 Chemical Classification and Labeling Specification Part 23: Carcinogenicity GB 30000.24 Specification for Classification and Labeling of Chemicals Part 24: Reproductive Toxicity GB 30000.26 Specification for Classification and Labeling of Chemicals Part 26: Specific Target Organ Toxicity Repeated Exposure GB 30000.28 Specifications for Classification and

Labelling of Chemicals Part 28: Hazards to the Aquatic Environment

3 Terms and Definitions

The following terms and definitions apply to this standard.

chemical substances

Elements and compounds derived from nature or processed for commercial purposes.

Priority assessment chemical substances Chemical substances with potential environmental risks that need to be prioritized through environmental risk assessment to determine whether priority control is required.

environmental risk

Chemical substances with environmental or health hazard properties enter or may enter during production, processing, use, disposal and disposal.

After entering the environment, the degree and probability of harmful effects on the ecological environment and human health, excluding production safety accidents and transportation accidents risks caused by emergencies.

4.1 Screening principles

Priority evaluation of chemical substances screening should follow the following principles.

a) Based on environmental risks and focused Based on the concept of environmental risk, the environmental and health hazards and exposures of chemical substances are comprehensively considered, and chemical substances are prioritized for evaluation. Focus Chemical substances that already exist in the environment and have relatively large hazards, including chemical substances that enter or may enter the environment during production and use, and degradation products, etc.

b) Scientificity and feasibility Scientifically determine the screening indicators and screening methods, taking into account the current technical conditions, to ensure practicality. The screening process is based on the latest technological developments, Promptly adopt mature new technologies and new tools to improve the accuracy of screening.

c) Dynamic and open

Given the changing production and use of chemical substances, environmental exposures, and the availability of relevant information and data, the hazard characteristics of chemical substances are with the deepening of the understanding of chemical properties and the continuous development of environmental monitoring technology, the screening of chemical substances for priority evaluation should be dynamically adjusted according to the changing situation.

4.2 Screening procedures

4.2.1

The screening of chemical substances for priority evaluation includes screening preparation, data collection and evaluation, and determination of chemical substances for priority evaluation. Prioritize evaluation the chemical screening procedure is shown in Figure 1.

4.2.2

In the screening preparation stage, a screening plan shall be formulated, the screening objectives and requirements shall be determined, and the screening objects of chemical substances to be prioritized for evaluation shall be selected.

4.2.3

During the data collection and evaluation stage, data on the hazards and exposure of chemical substances should be comprehensively collected, and the validity of the data should be evaluated.

Whether the screening needs are met, and the data used for screening is determined.

4.2.4

In the determination stage of chemical substances for priority evaluation, the chemical substances shall be screened according to the screening conditions, and the priority of evaluation shall be comprehensively considered to determine the chemical substances.

Chemicals are prioritized for evaluation.

5.1 Screening preparation

5.1.1

The screening objects of chemical substances for priority evaluation shall be selected in combination with management objectives and priorities.

5.1.2

When selecting screening objects, the following chemical substances should be given priority.

- a) According to GB/T 24782, it is a persistent, bioaccumulative and toxic substance (PBT) or a highly persistent and highly bioaccumulative substance Quality (vPvB);
- b) Chemical substances with carcinogenicity, mutagenicity or reproductive toxicity, focusing on GB 30000.23, GB 30000.22, GB 30000.24 standard, classified as 1A or 1B carcinogenic, mutagenic or reproductive toxic chemical substances;
- c) Chemical substances that are both persistent and toxic or bioaccumulative and toxic at

the same time, of which the toxicity focuses on the basis of GB 30000.23, GB 30000.22, GB 30000.24, GB 30000.26, GB 30000.28 are classified as 2 or more Carcinogenicity, mutagenicity, reproductive toxicity, repeated exposure to specific target organs, or long-term aquatic hazard;

d) Other highly hazardous chemicals that should be given priority attention, such as endocrine disruptors, highly suspected PBT or vPvB substances, Highly suspected carcinogenic, mutagenic or reproductive toxicant, long-term aquatic hazard, or specific target organ repeated exposure toxicity is classified as 1 chemical substances, etc.;

e) There is evidence that there are chemical substances that have been exposed to the environment, such as detected in environmental media, or detected in organisms and caused by environmental exposure Wait;

f) Potential environmental exposure chemicals that should be given priority attention, such as large annual production or use, widely dispersed use, such as scattered venues or used in public daily life, etc.

5.2 Data collection and evaluation

5.2.1

Organize the information of the selected chemical substances, so that each chemical substance has a standard Chinese and English name and unique identifier (such as chemical Academic Abstracts Number (CAS Number), Simplified Molecular Linear Input Specification Code (SMILES Code), International Compound Identification Code (InChI Code), etc.).

5.2.2

Data collection should meet the screening requirements. The content of data collection includes.

a) Hazard data, including data on different toxicological and ecotoxicological endpoints of chemical substances, mainly carcinogenicity, mutagenicity, reproductive Toxicity, repeated dose toxicity, aquatic toxicity, etc.;

b) Exposure data, including detection data of chemical substances in environmental media or organisms, emission data, production, usage, use application, field of use, etc.;

c) Persistence and bioaccumulation data, including biodegradation data, abiotic degradation data, bioaccumulation, biomagnification and other parameters or data, etc.;

d) Auxiliary information, including physical and chemical data related to environmental exposure of chemical substances, such as saturated vapor pressure, water solubility, and partition coefficient, and Other relevant data information, domestic and foreign management information, scientific research information, etc. to support the identification of