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

GB 17681-2024

**Technical specification for safety monitoring of major hazard
installations for hazardous chemicals**

危险化学品重大危险源安全监控技术规范

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB 17681-1999 "Technical Requirements for Acceptance of Safety Monitoring and Early Warning Systems for Flammable and Explosive Tank Areas" and is compatible with GB 17681- Compared with.1999, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

--- Changed the scope of application of the standard (see Chapter 1, Chapter 1 of the.1999 edition);

- Added basic requirements (see Chapter 5);
- Added general design requirements (see 6.1);
- Added production unit monitoring requirements (see 6.2);
- Added storage unit monitoring requirements (see 6.3);
- Changed the instrument automatic control requirements (see 6.4, Chapter 5 of the.1999 edition);
- Added TV monitoring system requirements (see 6.5);
- Added lightning protection and anti-static requirements (see 6.6);
- Increase construction requirements (see Chapter 7);
- Deleted the line laying requirements (see Chapter 7 of the.1999 edition);
- Changed the acceptance inspection requirements (see 8.12, 8.13, 8.14, 8.4.5 of the.1999 edition);

1 Scope

GB 17681-2024 is the Chinese national standard on technical specification for safety monitoring of major hazard installations for hazardous chemicals, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 28 November 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 June 2025. Classification: ICS 13.320, CCS C66. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the basic requirements, design requirements, construction requirements, quality acceptance, operation and Technical requirements for inspection and maintenance, alarm management and optimization, etc. This document is applicable to the new construction, reconstruction and expansion of hazardous chemicals by hazardous chemical production and operation enterprises and chemical enterprises using hazardous chemicals in production. Safety monitoring of major hazardous sources in hazardous chemical construction projects. This document does not apply to major hazardous sources of hazardous chemicals in the following situations.

- b) Underground water-sealed caverns and underground gas storages;
- c) Transit storage and stations for off-site transportation of hazardous chemicals (including

transportation by rail, road, water, air, pipeline, etc.);

d) Storage operations of hazardous chemicals within the port area;

e) Hazardous chemicals used in national defense scientific research and production.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 4208 Enclosure protection grade (IP code)

GB 12358 General technical requirements for workplace environmental gas detection and alarm instruments

GB 15322 (all parts) Combustible gas detectors

GB/T 15408 Technical requirements for power supply of security systems

GB 16808 Combustible gas alarm controller

GB 17914 Technical conditions for storage and maintenance of flammable and explosive commodities

GB 18218 Identification of major hazard sources of hazardous chemicals

GB/T 19666 General rules for flame retardant and fire resistant wires, cables or optical cables

GB/T 20438 (all parts) Functional safety of electrical/electronic/programmable electronic safety-related systems

GB/T 20936 (all parts) Gas detectors for explosive atmospheres

GB/T 21109 (all parts) Functional safety of safety instrumented systems in process industries

GB 29415 Fire-resistant cable trough box

GB 30000.18 Chemical Classification and Labelling Specification Part

6 Safety requirements for solenoid valves

GB 30439.8 Safety requirements for industrial automation products Part

8 Safety requirements for electric actuators

GB 44022 Safety Technical Specification for Ammonium Nitrate

GB/T 50493 Design standard for flammable and toxic gas detection and alarm in petrochemical industry

GB/T 50770 Design specification for safety instrument systems in petrochemical industry

GBZ 125 Radiation protection requirements for instruments containing sealed sources

18 Acute Toxicity

GB 30439.6 Safety requirements for industrial automation products Part