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

GB 28009-2011

Replacing GB/T 28009-2011

**Code of safety practice for cold store
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 28009-2011 "Safety Regulations for Cold Storage". Compared with GB/T 28009-2011, the only changes are structural adjustments and editing.

Aside from the sexual alterations, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2011 edition);
- b) Added terminology requirements defined in GB/T 9237-2017 and GB 50072 (see Chapter 3);
- c) The following terms already defined in GB 50072 have been removed. cold storage, prefabricated cold storage, warehouse, refrigeration room, refrigeration equipment, and refrigeration system.

Refrigeration systems, including direct refrigeration systems, indirect refrigeration systems, refrigeration compressors, and refrigeration auxiliary equipment (see 3.1-3.10 of the 2011 edition);
- d) The term "indoor prefabricated cold storage" and its definition have been added (see 3.1);
- e) Increased requirements for cold storage construction sites (see Chapter 4);
- f) Increased safety requirements for thermal insulation materials (see Chapter 4);
- g) Increased requirements for indoor prefabricated cold storage (see Chapter 4, 5.1.2, 5.4.7, 6.3.9, 7.9 and 7.10);
- h) Additional requirements for carbon dioxide refrigerant have been added (see 5.2.5, 5.3.4, 8.3.1.3, and 8.3.3.3);
- i) The requirements for emergency ventilation systems have been changed (see 5.2.5, 7.2 of the 2011 edition);
- j) Requirements for ammonia discharge via pressure relief pipes have been added (see 5.3.3);
- k) The requirement to install shut-off devices on ammonia liquid pipelines has been added (see 5.3.9);
- l) The requirements for lighting fixtures in cold rooms have been changed (see 5.4.1, 7.8 of the 2011 edition);

- m) The requirements for electrical wiring passing through warehouse insulation have been changed (see 5.4.5, 7.11 of the 2011 edition);
- n) Protection requirements for the electric heating device inside the warehouse have been added (see 5.4.8);
- o) Added requirements for design document review (see 5.5);
- p) Added basic requirements for equipment selection and configuration (see 6.1);
- q) Added requirements for forklift charging (see 6.3.8);
- r) Added requirements for the use of lithium-ion power batteries in the warehouse (see 6.3.10);
- s) Added review requirements for equipment selection and configuration (see 6.4);
- t) The requirements for safety measures and facilities at construction sites have been changed (see 7.1, 7.4~7.10, and 8.1~8.4 in the 2011 edition);
- u) Increased the qualification and contracting requirements for cold storage construction companies (see 7.2 and 7.3);
- v) Increased operational requirements for corrosion protection and insulation of refrigeration pipes (see 7.11);
- w) Added installation requirements for the in-warehouse electric heating device (see 7.12);
- x) Increased requirements for manual on-duty personnel in ammonia-related cold storage facilities (see 8.1.9);
- y) Increased connection requirements between the ammonia filling station and the liquid ammonia transport container (see 8.3.3.6);
- z) Increased the corrosion resistance requirements for condenser cleaning agents (see 8.3.6.10);
- aa) Increased requirements for the use of safety signs (see 8.4);
- bb) Added relevant requirements for the cessation of cold storage operations and their scrapping (see 8.5);
- cc) added requirements for the dismantling of cold storage facilities (see Chapter 9).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China National Light Industry Council.

This document is under the jurisdiction of the National Technical Committee on Refrigeration Standardization (SAC/TC119).

1 Scope

This document establishes a comprehensive safety management procedure for cold storage facilities, from design to dismantling, and specifies the procedures for cold storage design, equipment selection and configuration, and other related aspects.

The document describes the safety management requirements for the construction, operation, and dismantling phases of cold storage facilities, as well as the transition conditions between these phases.

Practical methods.

This document applies to cold storage buildings (cold rooms) primarily used for low-temperature food storage, employing artificial refrigeration for cooling and possessing cold preservation functions.

Safety management of the construction, expansion, renovation, operation and demolition of indoor prefabricated cold storage facilities.

Note: There are two different types of cold storage (cold rooms). building-type cold storage/cold rooms (GB 50072) and equipment-type indoor prefabricated cold storage (SB/T 10797).

When making distinctions, they are collectively referred to as "cold storage" or "cold room". When further distinctions are needed, they are referred to as "building-type cold storage (cold room)" and "indoor prefabricated cold storage".

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB 2893 Safety Colors GB 2894 Safety signs and their usage guidelines GB/T 5226.1-2019 Electrical Safety of Machinery - Electrical Equipment of Machinery - Part 1: General Technical Conditions GB/T 9237-2017 Safety and Environmental Requirements for Refrigeration Systems and Heat Pumps GB 12158 General requirements for the prevention of electrostatic discharge accidents GB 15322.1-2019 Combustible gas detectors - Part 1: Point-type combustible gas detectors for industrial and commercial applications GB/T 35759 Metal Cleaning Agents GB 43854 Safety Technical Specification for Lithium-ion Batteries for Electric Bicycles GB 50016 Code for Fire Protection Design of Buildings GB 50055 Code for Design of Power Distribution for General Electrical Equipment GB 50072 Cold Storage Design Standard GB/T 50493-2019 Design Standard for Detection and Alarm