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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Safety protection specification for natural gas well containing hydrogen sulfide

含硫化氢天然气井安全防护规范

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1 Scope

GB 46995-2025 is the Chinese national standard on safety protection specification for natural gas well containing hydrogen sulfide, 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 31 December 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2026. Classification: ICS 13.100, CCS E09. 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 general safety protection requirements for hydrogen sulfide-containing natural gas wells, the classification of public hazard levels and safety protection distances, and onshore and offshore safety protection requirements. The requirements for safety protection and emergency management in the production process are described, along with the corresponding verification methods. This document applies to the safety protection of natural gas wells containing hydrogen sulfide.

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/T 29639 Guidelines for the Preparation of Emergency Response Plans for Production Safety Accidents in Production and Business Units

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Natural gas wells with a formation gas medium hydrogen sulfide content greater than or equal to 75 mg/m^3 (50 ppm); or a total natural gas pressure greater than or equal to... The pressure is

0.4 MPa, and the partial pressure of hydrogen sulfide is greater than or equal to

0.003 MPa.

3.2 Natural gas wells with a formation gas medium containing hydrogen sulfide greater than

or equal to 1500 mg/m3 (1000 ppm).

3.3 The amount of hydrogen sulfide released into the atmosphere per unit time by a hydrogen sulfide-containing natural gas well under accident conditions.

Note. Under standard conditions (temperature 0°C, pressure 1 standard atmosphere), the unit is expressed in m3/s.

3.4 Areas containing or potentially containing hydrogen sulfide. Note

1.The highest concentration of hydrogen sulfide gas that will not cause harm to human health without taking any personal protective measures is 15 mg/m3 (10 ppm). Note

2.If no personal protective measures are taken within 8 hours, the highest acceptable concentration of hydrogen sulfide gas is 30 mg/m3 (20 ppm). Note

3.The lowest concentration of hydrogen sulfide gas that, without any personal protective measures, will have irreversible or delayed effects on human health is 150 mg/m^3. (100ppm). [Source: GB 42294-2022, 3.1, with modifications]

4.1 Safety Management

4.1.1 A safety management system shall be established and implemented, and a hydrogen sulfide protection management system shall be formulated, including but not limited to the following.

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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. 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 and is under the jurisdiction of the Ministry of Emergency Management of the People's Republic of China. Safety Protection Standards for Natural Gas Wells Containing Hydrogen Sulfide