

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Hydrogen Sulfide
- English Name: Hydrogen Sulfide
- CAS Number: 7783-06-4
- Formula: H₂S
- Molecular Weight: 34.08 g/mol
- Product Characteristics: High-purity colorless gas with a strong rotten egg odor. Extremely flammable, highly toxic, and corrosive. Slightly soluble in water. Used primarily as a chemical intermediate and in industrial processes.

2. Technical Specifications

Item	Specification
Appearance	Colorless gas
Odor	Rotten egg smell
Purity (H ₂ S)	≥ 99.5%
Impurity (Oxygen)	≤ 0.1%
Impurity (Nitrogen)	≤ 0.2%
Impurity (Carbon Dioxide)	≤ 0.1%
Moisture Content	≤ 50 ppm
Flammability	Extremely flammable (explosion limits: 4.3-46.0% v/v)
Autoignition Temperature	260°C
Boiling Point	-60.3°C
Melting Point	-85.5°C
Density (25°C)	1.19 g/L (air = 1)

3. Product Advantages

- High purity ensures reliable performance in industrial and laboratory applications.
- Consistent composition with low impurities.
- Readily available in various cylinder sizes for different usage requirements.

4. Application Fields

- Chemical Industry: Synthesis of sulfuric acid, sulfur, sodium sulfide, and other sulfur-containing compounds.
- Metallurgy: Ore flotation (copper, lead, zinc ores) to separate valuable minerals from gangue.
- Oil Refining: Removal of sulfur from crude oil (hydrodesulfurization process).
- Laboratory: Analytical reagent for metal ion detection (e.g., lead, copper).
- Other: Production of semiconductors, rubber vulcanization, wastewater treatment (removal of heavy metals).

5. Usage Methods



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

- Chemical Synthesis: Use in closed reaction systems with proper gas flow control (0.1-1 L/min).
- Ore Flotation: Bubble gas through flotation slurry at 1-5 kg/ton of ore.
- Laboratory: Use in fume hoods with gas regulators; dilute with inert gas (nitrogen) if needed.
- Optimal Conditions: Use at 0-25°C; avoid contact with oxidizing agents and acids.
- Note: Strictly follow safety protocols; use only with trained personnel and proper equipment.

6. Packaging & Storage

- Packaging Specifications: High-pressure steel cylinders (5 L, 10 L, 40 L) with pressure regulators.
- Storage Conditions: Store in cool, dry, well-ventilated, explosion-proof warehouse. Keep cylinders upright and secured. Temperature $\leq 30^{\circ}\text{C}$. Keep away from heat, sparks, open flames, oxidizing agents, and acids.
- Shelf Life: 12 months (cylinder, proper storage).
- Transportation: Handle as UN1053. Transport in approved cylinder trucks. Avoid collision, sunlight, and high temperature.

7. Safety & Protection

- Use only in well-ventilated, explosion-proof areas with gas detection systems.
- Wear self-contained breathing apparatus (SCBA), chemical-resistant suit, nitrile gloves, and chemical splash goggles at all times.
- Strictly prohibit smoking, open flames, and sparks in the vicinity.
- In case of leakage, evacuate immediately and ventilate the area thoroughly.
- Emergency procedures: Follow MSDS Section 4 (First Aid) and Section 6 (Accidental Release Measures).

8. Quality Assurance

- Manufactured under ISO 9001 quality management system and GB/T 3864 (hazardous gas safety standard).
- Each cylinder is tested for pressure and leakage before delivery.
- Each batch accompanied by COA.
- Provide technical support for safe handling and application.