

Sodium Sulfide

Test Item	Result	Method
Na ₂ S	60 ± 2%	ISIRI 2074
Na ₂ SO ₃	Less Than 0.1%	ISIRI 2074
Na ₂ CO ₃	Less Than 0.1%	ISIRI 2074
Fe (Iron)	Less Than 0.005%	AAS
Insoluble Matter	Less Than 0.1%	-
Density	1600 kg/m ³	-
Melting Point	90°C	-
Colour	Yellow	-

Sodium Sulfide (Sodium Sulphur)

Sodium Sulfide, with the chemical formula Na₂S, is a highly reactive chemical compound produced in various forms such as liquid, flakes, and lumps. Due to its unique properties, it holds significant importance in various industries. Sodium Sulfide reacts rapidly when exposed to water, moisture, or air, potentially releasing toxic and dangerous hydrogen sulfide gas (H₂S). Therefore, this material must be stored in dry conditions, away from moisture and direct sunlight.

This compound is used in the mining industry for sulfidization and enhancing the hydrophobicity of minerals in the flotation process, in the leather industry as a sulfiting agent for hair removal from animal hides, and in the textile industry as a bleaching agent. Additionally, it is widely used in the Kraft process in papermaking, detergent production, dye manufacturing, water treatment, and oil extraction.

The high reactivity and diverse applications of Sodium Sulfide make it a key component in industrial processes. However, working with Sodium Sulfide requires strict adherence to safety protocols to mitigate potential risks and ensure optimal performance.

Features

High Purity (≥98%)

- Ensures effectiveness in critical industrial applications like metal extraction and leather processing.

Optimized Particle Size (1-5 mm)

- Guarantees uniform reactivity and easy handling in chemical reactions and flotation processes.

Low Moisture Content (≤0.5%)

- Prevents degradation and maintains stability during storage and transportation.

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Applications of Sodium Sulfide (Na₂S)

Sodium sulfide (Na₂S) is a versatile chemical compound with critical applications across multiple industries. Below are its most important uses:

- 1. Leather Industry:** Sodium sulfide acts as a depilating agent to remove wool and hair from animal hides by breaking down keratin, enabling efficient separation of hair from the skin.
- 2. Paper Industry:** It plays a vital role in the Kraft process, where it facilitates wood pulp production by separating lignin from cellulose fibers, essential for paper manufacturing.
- 3. Industrial Reducing Agent:** Sodium sulfide serves as a powerful reducing agent in chemical reactions, particularly for reducing metal oxides (e.g., iron, copper) during industrial processes.
- 4. Mining & Metal Extraction:** In mineral processing, sodium sulfide binds to impurities in ores, aiding the extraction of metals like copper and lead by separating them from gangue materials.
- 5. Textile Industry:** Used as a bleaching agent and dyeing auxiliary to enhance fabric quality and color fixation.
- 6. Water Treatment:** Effective in removing heavy metals (e.g., mercury, lead) and other contaminants from wastewater.
- 7. Hydrogen Sulfide (H₂S) Production:** A key raw material for generating H₂S gas, used in chemical synthesis and analytical processes.
- 8. Pharmaceuticals:** Utilized as an intermediate in synthesizing sulfur-containing drugs and compounds.
- 9. Other Uses:** Oil refining, rubber vulcanization, and flotation processes in mining.

Packaging

- **Primary Packaging:** 25 kg polyethylene bags with inner moisture-proof lining.
- **Bulk Packaging:** 1-ton jumbo bags (moisture-resistant) for industrial-scale orders.

Sodium Sulfide

Feature	Sodium Sulfide Powder	Sodium Sulfide Granular	Sodium Sulfide Liquid
Chemical Formula	$\text{Na}_2\text{S} \cdot x\text{H}_2\text{O}$	$\text{Na}_2\text{S} \cdot x\text{H}_2\text{O}$	Na_2S
Purity	60% - 70%	60% - 70%	40% - 50%
Color	Bright Yellow	Yellowish-Brown	Yellow or Transparent
Physical Form	Powder	Granules	Liquid
Applications	Leather Industry, Chemicals	Mining, Paper Industry	Pulp Production, Textiles
Water Solubility	Fast	Variable	Soluble
Solution pH	12 - 13	12 - 13	11 - 12
Storage Requirements	Dry Environment Required	Dry & Cool Environment	Special Containers Required
Price	Relatively Low	Moderate	Higher
Production Countries	China, India, Iran	China, India	Iran, Europe
Advantages	High Solubility, Wide Use	Easy Transport, Longer	Easy to Use in Solutions
Disadvantages	Dust Hazard, Respiratory Risk	Slower Dissolution	Requires Special Handling