

PRODUCT IDENTIFICATION



Product Name: Sodium Bisulfite 25% Solution – Technical Grade (NaHSO₃)

CAS Number: 7631-90-5

Molecular Formula: HNaO₃S

Molecular Weight: 104.06 g/mol

Grade: Technical Grade

Purity / Concentration: 25%

Synonyms: Sodium Hydrogen Sulfite, Sodium Bisulfite Solution

PRODUCT OVERVIEW

Sodium Bisulfite 25% Solution is a high-quality technical grade aqueous reducing agent widely utilized for its consistent performance in industrial processes. With a specific gravity of 1.33 and low impurity profiles, such as arsenic levels at 0.0031 ppm, this solution provides reliable chemical activity for oxidation control. It serves as a versatile chemical building block essential for water treatment, synthesis, and preservation applications.

Grade Significance: Technical grade indicates that this product is manufactured for industrial and commercial utility where performance and chemical reliability are prioritized over food or pharmaceutical purity standards.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	9 – 26 %	—	—	Titration/Gravimetric
Specific Gravity (20°C)	g/mL	1.085	1.0307	1.175	Hydrometer @ 20°C
Arsenic As	ppm	0.0031	0	0.0063	ICP-MS
Calcium Ca	ppm	13	0	31	ICP-MS
Iron	ppm	5	0	10	ICP
Magnesium Mg	ppm	6	0	13	ICP-MS
Potassium K	ppm	31	0	63	ICP-MS
Chloride Cl	ppm	13	0	31	ICP
Insoluble Matter	%	0.0031	0	0.0063	Gravimetric

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless to pale yellow liquid	Form	Liquid
Boiling Point	Not characterized for the 25% solution	Melting / Freezing Point	Not characterized for the 25% solution
Flash Point	Not applicable (aqueous solution; not classified as flammable)	Specific Gravity	1.33
Solubility	Soluble in water and alcohol	Molecular Formula	HNaO ₃ S
Molecular Weight	104.06 g/mol		

APPLICATIONS

1. **Water Treatment** — Functions as a powerful reducing agent to dechlorinate water supplies and manage oxidation states in industrial systems.
2. **Food Processing** — Acts as an effective preservative to prevent spoilage and maintain product shelf life in various food applications.
3. **Chemical Manufacturing** — Serves as a critical precursor in the synthesis of complex organic chemicals, including various dyes and pharmaceutical intermediates.
4. **Laboratory Analysis** — Utilized as a standard reducing agent in redox titrations and various analytical laboratory procedures.

STORAGE & HANDLING

Proper storage is critical because this solution reacts with acids to release toxic sulfur dioxide gas, posing significant respiratory risks. It should be kept in a cool, well-ventilated area in tightly sealed containers to prevent oxidation and ensure the chemical remains stable and effective for its intended use.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and acids.
- Ensure proper ventilation during handling.
- Maintain sealed containers; minimal headspace to reduce oxidation.
- PPE: gloves, splash goggles, and lab coat.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Danger



Hazard Statements:

- EUH031: Contact with acids liberates toxic gas
- H302: Harmful if swallowed
- H318: Causes serious eye damage

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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