

PRODUCT IDENTIFICATION



Product Name: Sodium Bisulfite 40% ACS Grade

CAS Number: 7631-90-5

Molecular Formula: HNaO_3S

Molecular Weight: 104.06 g/mol

Grade: ACS Grade

Purity / Concentration: 40%

Synonyms: Sodium Hydrogen Sulfite, Sodium Bisulfite Solution

PRODUCT OVERVIEW

Sodium Bisulfite 40% ACS Grade is a high-purity, clear to pale yellow liquid formulated for precise chemical reactions and analytical applications. With a strictly controlled impurity profile, including heavy metals below 0.2 ppm and low chloride content, this solution is a reliable reducing agent for demanding laboratory and industrial processes.

Grade Significance: ACS Grade indicates that the product meets the rigorous purity standards set by the American Chemical Society, ensuring it is suitable for use in high-precision laboratory and analytical environments.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	40.5	38	42	Titration
Color (APHA)	APHA	5	—	10	ASTM D1209
Residue After Ignition	%	0.0020	—	0.02	Gravimetric
Heavy Metals (as Pb)	ppm	0.2	—	10	ICP-OES
Iron (Fe)	ppm	0.1	—	5	ICP-OES
Chloride (Cl^-)	ppm	5	—	10	ISE
Sulfate (SO_4^{2-})	ppm	5	—	20	Turbidimetry

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear to pale yellow liquid	Odor	Sulfide-like odor
Form	Liquid	Boiling Point	103°C (217°F)
Melting / Freezing Point	-10°C	Flash Point	Non-flammable
Specific Gravity	1.36	Solubility	Highly soluble in water, moderate alcohol soluble
Molecular Formula	HNaO_3S	Molecular Weight	104.06 g/mol
Density (25°C)	1.2 g/mL		

APPLICATIONS

1. **Water Treatment** — It acts as a powerful reducing agent to efficiently neutralize residual chlorine and other oxidizing agents in municipal and industrial water systems.
2. **Analytical Chemistry** — The ACS grade ensures consistent performance when used as a reducing agent in sensitive titration procedures and laboratory analysis.
3. **Food Processing** — This chemical serves as an effective antioxidant and preservative, helping to maintain the quality and shelf-life of various food products.
4. **Photography** — It is utilized as a chemical preservative in photographic developing solutions to prevent oxidation and maintain image clarity.

STORAGE & HANDLING

Proper storage is critical to prevent the oxidation of sodium bisulfite into sodium sulfate, which would compromise its effectiveness as a reducing agent. Containers must be kept tightly sealed in a cool, well-ventilated area to maintain chemical stability and mitigate potential inhalation hazards.

- Store in a cool, dry place away from light and moisture.
- Use HDPE containers to prevent chemical interaction.
- Avoid contact with strong oxidizers and acids.
- Ensure proper ventilation when handling to minimize inhalation risks.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

AVAILABLE PACKAGING

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

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Warning**



Hazard Statements:

- H302: Harmful if swallowed [Warning Acute toxicity, oral]

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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