

PRODUCT IDENTIFICATION



Product Name: Sodium Bisulfite 40% Technical Grade

CAS Number: 7631-90-5

Molecular Formula: HNaO_3S

Molecular Weight: 104.06 g/mol

Grade: Technical Grade

Purity / Concentration: 40%

Synonyms: Sodium Hydrogen Sulfite, Sodium Bisulfite Solution

PRODUCT OVERVIEW

Sodium Bisulfite 40% Technical Grade is a highly effective reducing agent supplied as a clear, colorless to pale yellow liquid. With a precise 40.5% assay and a specific gravity of 1.326 g/mL, it provides reliable performance for industrial oxidation-reduction processes. This solution is widely utilized for its chemical stability and reactivity in diverse manufacturing and treatment applications.

Grade Significance: Technical Grade indicates that this product is formulated for industrial and manufacturing utility where high performance is required, though it is not intended for direct pharmaceutical or USP-grade applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	40.5	38	42	Titration/Gravimetric
pH	—	4.1	3.6	4.6	pH Meter
Specific Gravity (20°C)	g/mL	1.326	1.31	1.37	Hydrometer @ 20°C
Arsenic As	ppm	0.0050	0	0.01	ICP-MS
Calcium Ca	ppm	20	0	50	ICP-MS
Iron	%	0.0003	—	0.0005	ICP
Magnesium Mg	ppm	10	0	20	ICP-MS
Potassium K	%	0.0050	0	0.01	ICP-MS
Chloride Cl	ppm	20	0	50	ICP
Insoluble Matter	%	0.0050	0	0.01	Gravimetric

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless to pale yellow liquid	Odor	Slight sulfurous odor
Form	Liquid	Boiling Point	Not characterized for the 40% solution
Melting / Freezing Point	Not characterized for the 40% solution	Specific Gravity	1.36
Solubility	Soluble in water and alcohol	Molecular Formula	HNaO_3S
Molecular Weight	104.06 g/mol	Density (25°C)	1.25 g/mL

APPLICATIONS

1. **Water Treatment** — Functions as a powerful dechlorinating agent to neutralize residual chlorine and other oxidizing agents in municipal and industrial water systems.
2. **Food Processing** — Acts as an essential preservative and antioxidant to maintain product freshness and prevent enzymatic browning or spoilage in specific food applications.
3. **Photography** — Utilized as a critical reducing agent in the development process to help stabilize photographic images.
4. **Chemical Manufacturing** — Serves as a versatile intermediate in the synthesis of various dyes, pharmaceuticals, and other specialty chemical products.

STORAGE & HANDLING

Proper storage is critical because contact with acids will liberate toxic sulfur dioxide gas, posing a severe health risk. Containers must be kept tightly sealed in a cool, well-ventilated area to maintain chemical integrity and prevent the degradation of the solution. Avoiding incompatible materials ensures the safety of your facility and personnel.

- Store in a cool, dry place away from direct sunlight.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.
- Compatible with HDPE and glass containers; avoid metal containers.
- Keep away from strong oxidizing agents and acids.

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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