

PRODUCT IDENTIFICATION



Product Name: Sodium Thiosulfate Technical Grade

CAS Number: 7772-98-7

Molecular Formula: $\text{Na}_2\text{O}_3\text{S}_2$

Molecular Weight: 158.11 g/mol

Grade: Technical Grade

Purity / Concentration: Not Available

Synonyms: Thiosulfuric acid sodium salt, Sodium thiosulphate

PRODUCT OVERVIEW

Sodium Thiosulfate Technical Grade is a high-purity crystalline solid featuring a precise assay of 100.0% and minimal impurities like iron and heavy metals. This versatile compound serves as a reliable dechlorinating and reducing agent essential for municipal water treatment and analytical chemistry.

Grade Significance: Technical Grade ensures a cost-effective balance of high purity and consistency, making it ideal for industrial-scale applications where specialized pharmaceutical or food-grade certifications are not required.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	100.0	99.5	100.5	Titration/Gravimetric
pH	—	8.6	6	9.03	pH Meter
Heavy Metals As Pb	ppm	≤ 5 ppm	—	—	ICP-MS (as Pb)
Iron	ppm	3	—	10	ICP
Chloride Cl	%	0.0060	—	0.02	ICP
Sulfate (SO_4^{2-})	%	0.0060	—	0.02	ICP-MS
Insoluble Matter	%	0.01	—	0.01	Gravimetric
Insolubles	%	0.01	—	0.01	Filtration
Loss On Drying	%	32 – 37 %	—	—	Loss on Drying

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	White crystalline powder	Odor	Odorless
Form	Solid	Boiling Point	100°C (212°F)
Melting / Freezing Point	48°C (119°F)	Specific Gravity	1.667
Solubility	High water solubility, moderate ethanol solubility	Molecular Formula	$\text{Na}_2\text{O}_3\text{S}_2$
Molecular Weight	158.11 g/mol	Density (25°C)	1.667 g/mL

APPLICATIONS

1. **Water Treatment** — Used as a highly effective dechlorinating agent to neutralize residual chlorine in municipal water systems.
2. **Analytical Chemistry** — Acts as a primary reducing agent in iodometric titrations and various laboratory analytical procedures.
3. **Photography** — Utilized in traditional photographic processing as a fixing agent to remove unreacted silver halides from film and paper.
4. **Textile Manufacturing** — Applied in industrial dyeing processes to safely neutralize excess chlorine and prevent fabric degradation.
5. **Mining and Metallurgy** — Employed in leaching processes as a non-toxic alternative to cyanide for the extraction of precious metals.

STORAGE & HANDLING

Sodium Thiosulfate should be stored in a cool, dry, and well-ventilated area to maintain its chemical stability and prevent caking. Proper storage ensures the product remains free from moisture-induced degradation, preserving its effectiveness for sensitive industrial applications.

- Store in a cool, dry place away from incompatible materials.
- Use HDPE containers for storage to prevent moisture absorption.
- Avoid exposure to light and heat to maintain product stability.
- Use personal protective equipment (PPE) such as gloves and goggles when handling.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 55 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Warning

No GHS pictograms assigned.

Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 2637 of 2963 companies

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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