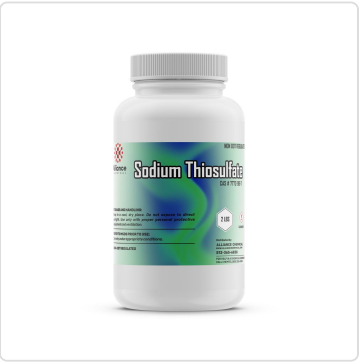
TECHNICAL DATA SHEET

Sodium Thiosulfate

Revised: 02/20/2026

PRODUCT IDENTIFICATION



Product Name: Sodium Thiosulfate
CAS Number: 7772-98-7
Molecular Formula: $Na_2O_3S_2$
Molecular Weight: 158.11 g/mol
Grade: Reagent
Purity / Concentration: Not Available
Synonyms: Thiosulfuric acid sodium salt, Sodium thiosulphate

PRODUCT OVERVIEW

Our Reagent grade Sodium Thiosulfate is a high-purity chemical, typically assaying at 99.8%, suitable for laboratory and industrial applications requiring precise control over chemical reactions. Primarily used as a dechlorinating agent, it effectively neutralizes chlorine in various processes. Its consistent quality ensures reliable results in sensitive applications.

Grade Significance: Reagent grade Sodium Thiosulfate signifies a high level of purity, meeting stringent standards for use in laboratory analyses and research. This ensures minimal interference from impurities, leading to accurate and reliable results.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.8	99	—	Titration
Ph Of 5 Pct Solution	pH Units	6.8	6	8.5	pH Meter
Residue After Ignition	%	0.01	—	0.02	Gravimetric
Heavy Metals (as Pb)	ppm	0.5	—	5	ICP-OES
Iron (Fe)	ppm	0.1	—	2	ICP-OES
Chloride (Cl^-)	ppm	5	—	10	Ion Chromatography
Sulfate (SO_4^{2-})	ppm	10	—	20	Ion Chromatography
Insoluble Matter	%	0.0010	—	0.0050	Gravimetric
Nitrogen Compounds As N	ppm	1	—	5	Nessler's

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 (118°F)	**Specific Gravity**	1.667
Solubility	High water solubility, moderate ethanol solubility	**Molecular Formula**	$Na_2O_3S_2$
Molecular Weight	158.11 g/mol	**Density (25°C)**	1.667 g/mL

APPLICATIONS

1. **Water Treatment** — Sodium Thiosulfate is used to dechlorinate water, removing excess chlorine after disinfection processes. This is crucial for ensuring water is safe for consumption and discharge back into the environment.
2. **Analytical Chemistry** — It serves as a reducing agent in titrations, particularly in iodometry, where it reacts stoichiometrically with iodine. This makes it an essential reagent for quantitative analysis.
3. **Photography** — In photographic processing, Sodium Thiosulfate acts as a fixing agent to remove unexposed silver halides from film and paper. This stabilizes the developed image, preventing further darkening.
4. **Textile Industry** — It's used to neutralize excess chlorine after bleaching processes in textile manufacturing. This prevents damage to fabrics and ensures consistent dyeing results.
5. **Gold Extraction** — Sodium thiosulfate is explored as a less toxic alternative to cyanide in gold leaching processes. It helps dissolve gold from ores, forming a thiosulfate complex.
6. **Pharmaceuticals** — It is used in some pharmaceutical applications as an antidote to cyanide poisoning and to reduce the side effects of certain chemotherapy drugs. Its reducing properties help neutralize harmful substances.

STORAGE & HANDLING

Proper storage of Sodium Thiosulfate is crucial to prevent degradation and maintain its purity. Exposure to air and moisture can lead to decomposition, affecting its effectiveness in applications. Storing it in a cool, dry place in tightly sealed containers ensures its stability and prolongs its shelf life.

- 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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