

TECHNICAL DATA SHEET

# Sodium Thiosulfate

CAS NUMBER

7772-98-7

ALLIANCE CODE

sodium-thiosulfate

GENERATED

2026-07-18

## 1. IDENTITY & COMPOSITION

PRODUCT NAME

Sodium Thiosulfate

ALLIANCE CODE

sodium-thiosulfate

GRADE

—

CONCENTRATION

—

CAS NUMBER

7772-98-7 [PubChem](#)

FORMULA

Na<sub>2</sub>O<sub>3</sub>S<sub>2</sub> [PubChem](#)

MOLECULAR WEIGHT

158.11 [PubChem](#)

PRODUCT TYPE

pure\_substance

## PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE

Liquid; Water or Solvent Wet Solid; Dry Powder;  
Pellets or Large Crystals; Gas or Vapor

[Product record](#)

FORM

Solid [Product record](#)

DENSITY

1.667 [Product record](#)

BOILING POINT

100°C [Product record](#)

MELTING POINT

48.5 °C [Product record](#)

FLASH POINT

N/A [Product record](#)

VAPOR PRESSURE

Vapor pressure at 20 °C: negligible

[Product record](#)

SOLUBILITY (WATER)

PRACTICALLY INSOL IN ALCOHOL

[Product record](#)

# MATERIALS OF CONSTRUCTION

| MATERIAL                            | RATING    | MAX T (°C) | NOTES                                                     | SOURCE                                               |
|-------------------------------------|-----------|------------|-----------------------------------------------------------|------------------------------------------------------|
| Buna-N (NBR)<br>Elastomer           | Good      | 60         | Acceptable                                                | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| EPDM<br>Elastomer                   | Excellent | 100        | Standard for brine gaskets.                               | <a href="#">Parker O-ring Chemical Compatibility</a> |
| Viton (FKM)<br>Elastomer            | Excellent | 100        | Preferred elastomer                                       | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| Borosilicate Glass<br>Glass Ceramic | Excellent | 100        | Universally inert to salt solutions.                      | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| Concrete (sealed)<br>Glass Ceramic  | Good      | —          | Acceptable with epoxy coating                             | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| 304 stainless steel<br>Metal        | Fair      | 25         | Pitting in chloride-rich service                          | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| 316 stainless steel<br>Metal        | Good      | 50         | Pitting risk in hot brine; passivate                      | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| 316L Stainless Steel<br>Metal       | Good      | 60         | Watch for chloride pitting above 60 °C in chloride salts. | <a href="#">NACE Chloride Pitting Guidelines</a>     |
| Aluminium<br>Metal                  | Poor      | —          | Pitting; not recommended for brine                        | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| Carbon steel<br>Metal               | Poor      | —          | Rapid rust in brine                                       | <a href="#">Cole-Parmer Chemical Compatibility</a>   |
| Carbon Steel<br>Metal               | Fair      | —          | Chloride salts accelerate rust; coating required.         | <a href="#">Cole-Parmer Chemical Compatibility</a>   |

| MATERIAL              | RATING    | MAX T (°C) | NOTES                               | SOURCE                                             |
|-----------------------|-----------|------------|-------------------------------------|----------------------------------------------------|
| FRP<br>Thermoplastic  | Excellent | 60         | Common bulk-storage                 | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| HDPE<br>Thermoplastic | Excellent | 60         | Universal salt brine compatibility. | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| PP<br>Thermoplastic   | Excellent | 80         | Acceptable for hot brine            | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| PVC<br>Thermoplastic  | Excellent | 60         | Standard for brine piping.          | <a href="#">Cole-Parmer Chemical Compatibility</a> |

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

## REGULATORY & TRANSPORT

### DOT / 49 CFR

UN NUMBER

Not regulated **Adjudicated**

HAZARD CLASS

Not regulated **Adjudicated**

PACKING GROUP

Not regulated **Adjudicated**

PROPER SHIPPING NAME

Not regulated **Adjudicated**

### GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated **Adjudicated**

H-CODES (HAZARD STATEMENTS)

— **unknown**

P-CODES (PRECAUTIONARY STATEMENTS)

— **unknown**

### OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— **unknown**

ACGIH TLV

— **unknown**

NIOSH REL

— **unknown**

NIOSH IDLH

— **unknown**

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

## Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for Sodium Thiosulfate. Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

## APPLICATION GUIDANCE

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Sodium Thiosulfate is supplied across multiple grades. Grade selection drives the appropriate end-use — food/pharma, technical, or specialty.

- Brine production and de-icing
- Concrete and construction (set acceleration, dust control)
- Food and beverage applications (food-grade only)
- Oilfield and drilling fluid additive
- Chemical manufacturing precursor

Often hygroscopic — store in sealed containers, control humidity. Hydrate form (anhydrous vs di/hexa-hydrate) affects mass-equivalent dosing.

## STORAGE & HANDLING

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### RECOMMENDED STORAGE

Cool, dry area in sealed containers. Many salts are hygroscopic — protect from atmospheric moisture, which can cause caking, hydrate...

### INCOMPATIBILITIES

Specific incompatibilities depend on the salt — consult the SDS. Many salts react with strong acids to release gases.

### HANDLING PRECAUTIONS

Standard chemical PPE — dust mask and goggles for handling of fine grades. Avoid generating airborne dust.

### SHELF LIFE

24 months from date of manufacture in sealed, original packaging

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

## REVISION HISTORY

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Last reviewed 2026-06-17 by Andre Taki, DOT Hazmat Specialist.

| VERSION | DATE       | CHANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | TRIGGER          |
|---------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1.1     | 2026-06-17 | Canonical data re-verified: 3 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). <ul style="list-style-type: none"> <li>countryOfOrigin · canonical adjudication / reground (coa.data_provenance)</li> <li>dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance)</li> <li>hsCode · canonical adjudication / reground (coa.data_provenance)</li> </ul> | canonical_change |
| 1.0     | 2026-05-20 | Initial URL-first TDS published from canonical chemistry registry.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | initial          |

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.

ALLIANCE CHEMICAL

## Order Sodium Thiosulfate

Bulk & packaged sizes · COA/SDS ships with every order