Technical Data Sheet

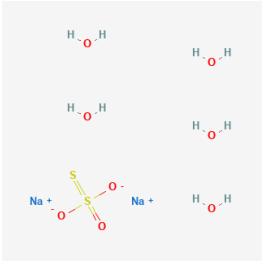
Sodium Thiosulfate Technical Grade

Technical

Alliance Code	Revised	Revision
sodium-thiosulfate	2026-10-13	1.4

CAS number

10102-17-7



Structure · PubChem

Grade

Technical

IDENTITY & COMPOSITION

PRODUCT NAME

Sodium Thiosulfate Technical Grade

ALLIANCE CODE

sodium-thiosulfate

GRADE

Technical

CONCENTRATION

—

CAS NUMBER

10102-17-7 Adjudicated

FORMULA

Na2S2O3·5H2O Adjudicated

MOLECULAR WEIGHT

248.18 Adjudicated

PRODUCT TYPE

Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Purity	99% Minimum	—	—	Interpreted
Arsenic (As)	0.001% Maximum	—	—	Interpreted
Insoluble Matter	0.01% Maximum	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Iron (Fe)	0.002% Maximum	—	—	Interpreted
Sulfide	Max. 0.001%	—	—	Interpreted
Heavy Metals (Pb)	0.003% Maximum	—	—	Interpreted
Sodium Sulfite (Na2SO3)	0.1% Maximum	—	—	Interpreted
Chloride (Cl)	0.1% Maximum	—	Turbidimetric vs. chloride standard (AgNO3) / argentometric titration	Interpreted
Particle particle size	3 - 6 Mesh	—	—	Interpreted

Values are reproduced from the current product reference. Source labels do not by themselves establish a supplier guarantee or a test result for your lot. Confirm applicable acceptance limits and request lot-specific documentation.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Large Translucent Crystals	Interpreted
Form	Solid	Adjudicated
Odor	Odorless	Adjudicated
pH	6 – 8 (10% Solution)	Interpreted
Specific Gravity	1.69	Adjudicated
Density	1.05 - 1.25 g/cm3	Interpreted
Boiling Point	Not applicable (loses water of hydration at 100 °C)	Adjudicated
Melting Point	48.3 °C (118.9 °F)	Adjudicated
Flash Point	Not applicable (non-flammable)	Adjudicated
Vapor Pressure	Negligible at 20 °C	Adjudicated
Solubility (water)	Very soluble in water; practically insoluble in alcohol	Adjudicated

MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 100%

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Good	60	Acceptable	Cole-Parmer Chemical Compatibility
EPDM Elastomer	Excellent	100	Standard for brine gaskets.	Parker O-ring Chemical Compatibility
Viton (FKM) Elastomer	Excellent	100	Preferred elastomer	Cole-Parmer Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Borosilicate Glass Glass Ceramic	Excellent	100	Universally inert to salt solutions.	Cole-Parmer Chemical Compatibility
Concrete (sealed) Glass Ceramic	Good	—	Acceptable with epoxy coating	Cole-Parmer Chemical Compatibility
304 stainless steel Metal	Fair	25	Pitting in chloride-rich service	Cole-Parmer Chemical Compatibility
316L Stainless Steel Metal	Good	60	Watch for chloride pitting above 60 °C in chloride salts.	NACE Chloride Pitting Guidelines
Aluminium Metal	Poor	—	Pitting; not recommended for brine	Cole-Parmer Chemical Compatibility
Carbon steel Metal	Poor	—	Rapid rust in brine	Cole-Parmer Chemical Compatibility
FRP Thermoplastic	Excellent	60	Common bulk-storage	Cole-Parmer Chemical Compatibility
HDPE Thermoplastic	Excellent	60	Universal salt brine compatibility.	Cole-Parmer Chemical Compatibility
PP Thermoplastic	Excellent	80	Acceptable for hot brine	Cole-Parmer Chemical Compatibility
PVC Thermoplastic	Excellent	60	Standard for brine piping.	Cole-Parmer Chemical Compatibility

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 HCS 2024

SIGNAL WORD

Not regulated Adjudicated

H-CODES (HAZARD STATEMENTS)

Not applicable Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

Not applicable Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— no canonical

ACGIH TLV

— no canonical

NIOSH REL

— no canonical

NIOSH IDLH

— no canonical

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

APPLICATIONS

Water treatment panchemcorp.com

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

Keep containers tightly closed in a cool, dry, well-ventilated place away from direct sunlight and intense heat. The pentahydrate effloresces in dry air and deliquesces in moist air: protect from humidity swings. Store with other inorganic salts, away from acids and oxidizers.

Adjudicated

HANDLING PRECAUTIONS

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

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES

Strong acids (release sulfur dioxide); strong oxidizing agents; sodium nitrite and sodium nitrate (violent reaction); iodine and iodides; lead, silver and mercury salts.

Adjudicated

SHELF LIFE

24 months panchemcorp.com

Stored and kept well in dry atmosphere

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.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

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Not regulated for transport.
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Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS

70

REVISION HISTORY

Last reviewed 2026-10-13 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.4	2026-10-13	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • storage_precautions · canonical change (coa.data_provenance / adjudication) • incompatible_materials · canonical change (coa.data_provenance / adjudication) • conditions_to_avoid · canonical change (coa.data_provenance / adjudication) • hazardous_decomposition_products · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-10-02	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-09-24	Canonical data updated: 8 fields changed via the provenance/adjudication pipeline. • casNumber · canonical change (coa.data_provenance / adjudication) • formula · canonical change (coa.data_provenance / adjudication) • molecularWeight · canonical change (coa.data_provenance / adjudication) • physicalProperties · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication)	canonical_change
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). • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance)	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.