



SODIUM THIOSULFATE

WC

A. GENERAL INFORMATION

TRADE NAME (COMMON NAME) SODIUM THIOSULFATE, ANHYDROUS SODIUM THIOSULFATE, CRYSTAL		<input checked="" type="checkbox"/> C.A.S. NO. <input type="checkbox"/> GENERAL PRODUCT CODE # 7772-98-7 (anhydrous) 10102-17-7 (pentahydrate)	
CHEMICAL NAME AND/OR SYNONYM Sodium Thiosulfate Synonyms: Sodium hyposulfite; "hypo". Sodium Thiosulfate pentahydrate			
FORMULA Na ₂ S ₂ O ₃ (anhydrous) Na ₂ S ₂ O ₃ • 5H ₂ O (pentahydrate/crystal)		MOLECULAR WEIGHT 158.11 248.18	
ADDRESS (No., STREET, CITY, STATE AND ZIP CODE) GENERAL CHEMICAL CORPORATION CN 1829 Morristown, N.J. 07960-1829			
CONTACT Director of Environmental Matters	PHONE NUMBER (201) 455-5630	LAST ISSUE DATE	CURRENT ISSUE DATE October 1986

B. FIRST AID MEASURES

EMERGENCY PHONE NUMBER (201) 455-3700	
<p><u>Inhalation:</u> Remove to fresh air. If short of breath, give oxygen, provided a qualified operator is available. If symptoms persist, get medical attention.</p> <p><u>Ingestion:</u> If conscious, promptly give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. If symptoms develop, get medical attention.</p> <p><u>Eyes:</u> Flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention.</p> <p><u>Skin:</u> Wash with soap and water, then flush with water until all chemical is removed. Remove contaminated clothing and wash before reuse.</p>	

C. HAZARDS INFORMATION

HEALTH

<p>INHALATION</p> <p>Breathing product dust or mist may irritate respiratory tract.</p>	
<p>INGESTION</p> <p>Relatively low in acute toxicity but may cause irritation of the gastrointestinal tract and purging, if large quantity is ingested. Doses of 8 g/kg in rats were non-toxic upon ingestion. For summary, see Reference (a), Section J.</p>	
<p>SKIN</p> <p>Dust or mist may cause irritation from prolonged contact. Aqueous solutions may cause irritation from repeated or prolonged contact.</p>	
<p>EYES</p> <p>Dust, solutions or mist may irritate or burn the eyes and cause temporary conjunctivitis.</p>	
<p>PERMISSIBLE CONCENTRATION: AIR (SEE SECTION J)</p> <p>No OSHA/TWA or ACGIH/TLV established for Sodium Thiosulfate. ACGIH/TLV for SO₂ is 5 mg/cu.m. with STEL: 10 mg/cu.m.</p>	<p>BIOLOGICAL</p> <p>None established.</p>
<p>UNUSUAL CHRONIC TOXICITY</p> <p>None reported.</p>	

ARDS (Cont.)**AND EXPLOSION**

FLASH POINT	OC	AUTO IGNITION TEMPERATURE	OC	FLAMMABLE LIMITS IN AIR (% BY VOL.)
No flash point.		Not applicable.		LOWER — Not applicable. UPPER — Not applicable.
<input type="checkbox"/> OPEN CUP	<input type="checkbox"/> CLOSED CUP			

UNUSUAL FIRE AND EXPLOSION HAZARDS
If involved in a fire, toxic and irritating gases and residue may evolve.
See Hazardous Decomposition Products, Section G.

D. PRECAUTIONS/PROCEDURES

FIRE EXTINGUISHING AGENTS RECOMMENDED
If involved in a fire, choose extinguishing agent most suitable for type of surrounding fire.
Material itself is not combustible.

FIRE EXTINGUISHING AGENTS TO AVOID
None known.

SPECIAL FIRE FIGHTING PRECAUTIONS
Firefighters should wear self-contained, NIOSH-approved breathing apparatus to protect against any release of toxic and/or irritating fumes. Skin and eye protection should also be provided. Use water spray to keep fire-exposed containers cool and to knock down fumes.

VENTILATION
Provide local exhaust if dusty or misty conditions prevail, and if there should be a release of sulfur dioxide gas (see Section G).
Keep incompatible materials out of hoods, ducts, etc.

NORMAL HANDLING
Avoid contact with eyes, skin, clothing. Do not breathe dust or mist.
Use with adequate ventilation. Wash thoroughly after handling.

STORAGE
Store in a cool, dry area, away from acids or oxidizers.
Keep container closed when not in use and protect from physical damage.

SPILL OR LEAK (ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT — SECTION E)
Promptly shovel or sweep up the dry chemical into an empty container with a minimum of dusting.
Cover and store as above. Cautiously spray residue with plenty of water to complete clean-up.
Contact appropriate regulatory authorities for approved method of disposal, as necessary.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS **SIGNAL WORD — CAUTION!**
Contact with acids releases irritating sulfur dioxide gas.
When dissolving and making solutions, add to water cautiously and with stirring as solutions can get hot and may spatter.

E. PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION
If dusty or misty condition prevails, use dust or mist respirator, approved by NIOSH. If sulfur dioxide should be released (see Section G), use a supplied-air respirator or self-contained breathing apparatus or other alternate choice, approved by NIOSH, as recommended for this gas [see Ref. (c)].

EYES AND FACE
If probable exposure to dust or mist of solution exists, wear chemical safety goggles and hard hat (or other head covering).
Do not wear contact lenses. Eyes must be protected as above if dissolving this material in water.

HANDS, ARMS, AND BODY
For routine product-handling or use, wear full work clothing, including long-sleeved shirt and trousers. Cotton gloves are usually adequate when handling dry product. For solutions, wear impervious gloves and apron. If contact is repeated or prolonged, wear full impervious clothing.

OTHER CLOTHING AND EQUIPMENT
Provide eye-wash facilities convenient to areas of use or handling.

PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS): <input type="checkbox"/> LIQUID <input checked="" type="checkbox"/> SOLID <input type="checkbox"/> GAS <input type="checkbox"/> _____		APPEARANCE AND ODOR White granules with no odor (anhydrous). Clear to white crystals or granules with no odor (hydrate).	
BOILING POINT **100 °C MELTING POINT (transition) 48 °C	SPECIFIC GRAVITY (H ₂ O = 1) Anhydrous: 1.667 Hydrate: 1.685	VAPOR DENSITY (AIR = 1) Not applicable.	
SOLUBILITY IN WATER (% by Weight) 42 @ 0 °C (hydrate) 33 @ 0 °C (anhydrous)	pH 7.5% solution ***, pH = 8.6 (approx.)	VAPOR PRESSURE (mm Hg at 20 °C) <input type="checkbox"/> (PSIG) <input type="checkbox"/> Not applicable.	
EVAPORATION RATE (Butyl Acetate = 1) <input type="checkbox"/> (Ether = 1) <input type="checkbox"/> Not applicable.	% VOLATILES BY VOLUME (At 20 °C) Not applicable.	** hydrate loses its water @ 100 °C; anhydrous decomposes above 100 °C. *** Anhydrous basis.	

G. REACTIVITY DATA

STABILITY <input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE	CONDITIONS TO AVOID High temperatures (above 100 °C): yield sulfur dioxide gas and hazardous residue (details below).
INCOMPATIBILITY (MATERIALS TO AVOID) Strong oxidizers: cause vigorous exothermic reactions. <u>Acids:</u> release sulfur dioxide gas (details below). <u>Water-reactive materials</u> such as sodium: cause strong exothermic reaction with the hydrate. Violent reaction with sodium nitrite when water of crystallization has been driven off by heating.	
HAZARDOUS DECOMPOSITION PRODUCTS <u>Sulfur dioxide gas:</u> toxic, corrosive, and an oxidizer. <u>Sodium sulfide residue:</u> flammable, dangerous fire risk; strong irritant to skin and tissue; incompatible with acids.	
HAZARDOUS POLYMERIZATION <input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR	CONDITIONS TO AVOID None known.

H. HAZARDOUS INGREDIENTS (Mixtures Only)

MATERIAL OR COMPONENT / C.A.S. #	WT. %	HAZARD DATA (SEE SECT. J)
Not Applicable.		

ENVIRONMENTAL

DEGRADABILITY/AQUATIC TOXICITY

OCTANOL/WATER PARTITION COEFFICIENT

Unknown.

Degradability — not applicable (inorganic).

Aquatic Toxicity: no data found.

EPA HAZARDOUS SUBSTANCE?
(CLEAN WATER ACT SECT. 311) YES NO

IF SO, REPORTABLE QUANTITY: _____ #

40 CFR
116-117

WASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS)

Flush to sewer with plenty of water, if permitted by applicable disposal regulations.
Otherwise, waste Sodium Thiosulfate might have to be disposed of by an approved contractor.

RCRA STATUS OF UNUSED MATERIAL IF DISCARDED

HAZARDOUS WASTE NUMBER: (IF APPLICABLE)

Not a "hazardous waste", if discarded, unused.

N.A.

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261**J. REFERENCES**

PERMISSIBLE CONCENTRATION REFERENCES

None established for Sodium Thiosulfate.

REGULATORY STANDARDS

D.O.T. CLASSIFICATION:

Not regulated.

49 CFR 173

Not applicable.

GENERAL

- (a) Gosselin, R.E. et al., "Clinical Toxicology of Commercial Products", 4th ed., 1976, Section II, Monograph 151; Williams & Wilkins, Baltimore (3 references).
- (b) NIOSH Registry (RTECS), 1981-82, Accession No. XN6476000.
- (c) NIOSH/OSHA: "Pocket Guide to Chemical Hazards", 1978 (8/80 printing).
- (d) Bretherick, L., Handbook of Reactive Chemical Hazards", 2nd ed., 1979, Butterworths, Boston.
- (e) Merck Index, 10th ed., 1983, Monograph 8452.

K. ADDITIONAL INFORMATION

This product is not for food or drug use.

PSDS FILE NO. GC-3048

THIS PRODUCT SAFETY DATA SHEET IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION AND INVESTIGATION.

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