

MATERIAL SAFETY DATA SHEET

I - PRODUCT IDENTIFICATION

Product: sodium thiosulfate
Synonyms: sodium hyposulfite
Formula: $\text{Na}_2\text{S}_2\text{O}_3$ (anhydrous)
 $\text{Na}_2\text{S}_2\text{O}_3$ (pentahydrate/crystal)
CAS Number: 7772-98-7

II - TRANSPORTATION DATA

U.S. Department of Transportation - 49 CFR

Not regulated for transport
Emergency Telephone Number: Chemtrec 800-424-9300

III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Chemical or Common Name</u>	<u>Percent</u>	<u>Exposure Limits</u>
Not applicable		

IV - PHYSICAL/CHEMICAL CHARACTERISTICS

Odor: none
Appearance: white granules (anhydrous)
Clear to white crystals or granules (hydrate)
Clear colorless liquid (solution)
Total acidity: 7.5% solution, pH: 8.6 (approximate)
Physical state: solid
Freezing Point: not applicable
Solubility in Water: 33 @ 0°C (anhydrous)
42 @ 0°C (hydrate)
Vapor Density (Air=1): not applicable
Specific Gravity ($\text{H}_2\text{O}=1$): 1.667 (anhydrous)
1.685 (hydrate)
not applicable (solution)
Vapor Pressure (mm Hg): not applicable
Percent volatile by volume: not applicable
Boiling Point (@ 760 mm Hg): 100°C

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point:

None

Flammable Limits

LEL: not applicable

UEL: not applicable

Extinguishing Media:

Choose extinguishing agent most suitable for surrounding fire. Material itself is not combustible

Special Fire-fighting Procedures:

Fire-fighters should wear self-contained NIOSH-approved breathing apparatus to protect against any release of toxic and/or irritating fume. Skin and eye protections should also be provided. Use water spray to keep fire-exposed containers cool and knock down fumes

Unusual Explosion Hazards:

If involved in a fire, toxic and irritating gases and residue may evolve

VI - REACTIVITY DATA

Stability:

Unstable Stable

Conditions to Avoid:

High temperatures (above 100°C): yield sulfur dioxide gas hazardous residue

Incompatibility:

Strong oxidizers: cause vigorous exothermic reactions

Acids: release sulfur dioxide gas

Water-reactive materials such as sodium: cause strong exothermic reaction with the hydrate. Violent reaction with sodium nitrate when water of crystallization has been driven off by heating

Hazardous Decomposition or By-Products:

Sulfur dioxide gas: toxic, corrosive, and an oxidizer

Sodium sulfur residue: flammable, dangerous fire risk; strong irritant to skin and tissue; incompatible with acids

Hazardous Polymerization:

May Occur Will Not Occur

VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Spilled Or Released:

Promptly shovel or sweep up dry chemical into an empty container with a minimum of dusting. Cover and store in a cool, dry area, away from acids or oxidizers. Cautiously spray residue with plenty of water to complete clean up. Contact appropriate regulatory authorities for approved method of disposal, as necessary

Waste Disposal Method:

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

Precautions to Be Taken in Handling and Storage:

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 splatter. Avoid contact with eyes, skin, and clothing. Do not breath dust or mist. Use with adequate ventilation. Wash thoroughly after handling

VIII - HEALTH HAZARD DATA

Effects of Acute Exposure to Material:

Ingestion: relatively low in acute toxicity but may cause irritation of the gastrointestinal tract and purging, if large quantity is ingested doses of 8g/kg in rats were non-toxic upon ingestion

Inhalation: breathing product dust or mist may irritate respiratory tract

Skin Contact: dust or mist may cause irritation from prolonged contact. Aqueous solutions may cause irritation from repeated or prolonged contact

Eye Contact: dust solutions or mist may irritate or burn the eyes and cause temporary conjunctivitis

Emergency and First Aid Procedures:

Ingestion: if continuous, promptly give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. If symptoms develop, get medical attention

Inhalation: remove to fresh air. If short of breath, give oxygen, provided a qualified operator is available. If symptoms develop, get medical attention

Skin Contact: wash with soap and water, then flush with water until all chemicals are removed. Remove contaminated clothing and wash before reuse

Eye Contact: flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention

IX - CONTROL MEASURES

Exposure Control/Personal Protection:

Respiratory: if dusty or misty condition prevails, use dust or mist respiratory, approved by NIOSH. If sulfur dioxide should be released use a supplied-air respiratory or self-contained breathing apparatus or other alternative choice, approved by NIOSH, as recommended by this gas

Skin: for routing product handling or use, wear full work clothing, 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

Eye: if probable exposure to dust or mist of the 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. Provide eye wash facilities convenient to area of use or handling

X - REGULATORY INFORMATION

This chemical appears on the following lists:

- () SARA Section 313
- () TSCA

XI - ADDITIONAL INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

Due to the changing nature of regulatory requirements, the REGULATORY INFORMATION listed in Section X of this document should NOT be considered all-inclusive or authoritative. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

The information in this MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.** The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.** This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

Revised: 30-Jun-98