



# Material Safety Data Sheet

## Sodium Thiosulfate

### 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sodium Thiosulfate, Anhydrous and Crystal

11309

OTHER/GENERIC NAMES: Sodium hyposulfite; "hypo"; Sodium thiosulfate pentahydrate (crystal); Prismatic Rice

PRODUCT USE: Photo processing, water treatment, waste treatment, paper manufacture, other industrial processes.

MANUFACTURER: Esseco General Chemical  
90 East Halsey Road  
Farsippany, NJ 07054  
USA

CONTROLLED DOCUMENT  
IF STAMPED IN RED

0681

FOR MORE INFORMATION CALL: 973-515-1840

(Monday-Friday, 9:00am-4:30pm)

IN CASE OF EMERGENCY CALL: 800-631-8050 or  
(24 Hours/Day, 7 Days/Week) 973-515-0900

(Outside of USA)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Sodium thiosulfate	7772-98-7	>97.5 (anhydrous) >63 (crystal)

Trace impurities and additional material names not listed above may appear in Section 15 of this MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

OSHA Hazard Communication Standard: *This product is considered hazardous under the OSHA Hazard Communication Standard.*

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Odorless, clear to white crystals or granules which may irritate the skin and respiratory tract. May cause irritation and/or burns to the eyes. Reacts with acids to form toxic and irritating sulfur dioxide gas and/or hydrogen sulfide gas. Not flammable.

#### POTENTIAL HEALTH HAZARDS

**SKIN:** Dust, solutions or mist may cause skin irritation from repeated or prolonged contact.

**EYES:** Dust, solutions or mist may irritate or burn the eyes and cause temporary conjunctivitis.

**INHALATION:** Inhalation of product dust or mist may irritate the respiratory tract. Contact with acids releases sulfur dioxide and/or hydrogen sulfide gas which may be harmful or deadly if inhaled.



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**INGESTION:** Ingestion may cause irritation of the gastrointestinal tract and purging, if a large quantity is ingested. Relatively low in acute toxicity.

**DELAYED EFFECTS:** None known.

**Ingredients found on one of the three OSHA designated carcinogen lists are listed below.**

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
No ingredients listed in this section.			

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**4. FIRST AID MEASURES**

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**SKIN:** Wash skin with plenty of soap and water. Remove contaminated clothing and wash before reuse. Get medical attention if irritation persists.

**EYES:** Flush eyes immediately with water for at least 15 minutes. Get medical attention if irritation persists.

**INHALATION:** Promptly remove to fresh air. If breathing is difficult, give oxygen, provided a qualified operator is available. If symptoms persist, get medical attention.

**INGESTION:** If conscious, immediately give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. If irritation persists, get medical attention.

**ADVICE TO PHYSICIAN:** Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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**FLAMMABLE PROPERTIES**

<b>FLASH POINT:</b>	Not flammable
<b>FLASH POINT METHOD:</b>	Not applicable
<b>AUTOIGNITION TEMPERATURE:</b>	Not applicable
<b>UPPER FLAME LIMIT (volume % in air):</b>	Not applicable
<b>LOWER FLAME LIMIT (volume % in air):</b>	Not applicable
<b>FLAME PROPAGATION RATE (solids):</b>	Not applicable
<b>OSHA FLAMMABILITY CLASS:</b>	Not applicable

**EXTINGUISHING MEDIA:**  
Material is not flammable. Use extinguishing media appropriate for material in surrounding fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**  
None.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**  
Wear NIOSH-approved self-contained 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.



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### **6. ACCIDENTAL RELEASE MEASURES**

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**IN CASE OF SPILL OR OTHER RELEASE:** (See section 8 for recommended personal protective equipment.)  
Promptly shovel or sweep up material with minimum dusting and shovel into an empty container with a cover.  
Cautiously spray residue with plenty of water.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

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### **7. HANDLING AND STORAGE**

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**NORMAL HANDLING:** (See section 8 for recommended personal protective equipment.)  
Avoid contact with skin, eyes and clothing. Do not breathe dust or mist. Use with adequate ventilation. Wash thoroughly after handling.

If dissolving and mixing solutions: with anhydrous material, the reaction is exothermic and the solution will retain heat; with the hydrate (crystal) material, the reaction is endothermic and the solution will cool.

**STORAGE RECOMMENDATIONS:**

Store in a cool, dry, well-ventilated area away from acids and oxidizing agents. Keep container closed when not in use and protect from physical damage.

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### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**ENGINEERING CONTROLS:**

Provide local exhaust if dusty or misty conditions exist or if there is a release of sulfur dioxide and/or hydrogen sulfide gas. Keep incompatible materials out of hoods, ducts, etc.

**PERSONAL PROTECTIVE EQUIPMENT**

**SKIN PROTECTION:** For handling dry material, wear cotton gloves and full work clothing, including long-sleeved shirt and trousers. When handling solutions, wear impervious gloves and an apron. If contact with the solution is repeated and/or prolonged, wear full impervious clothing.

**EYE PROTECTION:** Wear a hard hat (or other head covering) and chemical safety glasses/goggles. Do not wear contact lenses.

**RESPIRATORY PROTECTION:** Where required, use a NIOSH-approved respirator for dust, mist, sulfur dioxide and/or hydrogen sulfide gas, as conditions indicate. If sulfur dioxide and/or hydrogen sulfide gas should be released, use a NIOSH-approved self-contained breathing apparatus or supplied-air respirator.

**ADDITIONAL RECOMMENDATIONS:** Eyewash and safety shower is recommended.



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### EXPOSURE GUIDELINES

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
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No ingredients listed in this section.

<sup>1</sup> = Limit established by General Chemical Corporation.

<sup>2</sup> = Workplace Environmental Exposure Level (AIHA).

<sup>3</sup> = Biological Exposure Index (ACGIH).

#### **OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:**

Sulfur dioxide: OSHA TWA = 5 ppm; ACGIH TLV = 2 ppm; ACGIH STEL = 5 ppm

Hydrogen sulfide: OSHA Ceiling = 20 ppm; ACGIH TLV = 10 ppm; ACGIH STEL = 15 ppm

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Clear to White granules or crystals.
<b>PHYSICAL STATE:</b>	Solid.
<b>MOLECULAR WEIGHT:</b>	158.11 (anhydrous) 248.18 (crystal)
<b>CHEMICAL FORMULA:</b>	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (anhydrous) Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> · 5H <sub>2</sub> O (crystal)
<b>ODOR:</b>	Odorless.
<b>SPECIFIC GRAVITY (water = 1.0):</b>	1.667 (anhydrous) 1.685 (crystal)
<b>SOLUBILITY IN WATER (weight %):</b>	33 @ 0°C (anhydrous) 52 @ 0°C (crystal)
<b>pH:</b>	~8.6 (7.5% solution; anhydrous)
<b>BOILING POINT:</b>	Not applicable.
<b>MELTING POINT:</b>	48°C (crystal)
<b>VAPOR PRESSURE:</b>	Not applicable.
<b>VAPOR DENSITY (air = 1.0):</b>	Not applicable.
<b>EVAPORATION RATE:</b>	Not applicable.
<b>% VOLATILES:</b>	Not applicable.
<b>FLASH POINT:</b>	Not flammable.

(Flash point method and additional flammability data are found in Section 5.)

**COMPARED TO:** Not applicable.

### 10. STABILITY AND REACTIVITY

#### **NORMALLY STABLE? (CONDITIONS TO AVOID):**

Normally stable.

#### **INCOMPATIBILITIES:**

Strong oxidizers: causes vigorous exothermic reactions.

Acids: releases sulfur dioxide and/or hydrogen sulfide gas.

#### **HAZARDOUS DECOMPOSITION PRODUCTS:**

Sulfur dioxide gas, hydrogen sulfide gas and sodium sulfide residue.

#### **HAZARDOUS POLYMERIZATION:**

Will not occur.



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**11. TOXICOLOGICAL INFORMATION**

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**IMMEDIATE (ACUTE) EFFECTS:**

Data not available.

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

Data not available.

**OTHER DATA:**

None.

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**12. ECOLOGICAL INFORMATION**

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Data not available.

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**13. DISPOSAL CONSIDERATIONS**

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**RCRA**

**Is the unused product a RCRA hazardous waste if discarded?** No.

**If yes, the RCRA ID number is:** Not applicable.

**OTHER DISPOSAL CONSIDERATIONS:**

Dispose of in accordance with applicable Federal, State and Local regulations.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

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**14. TRANSPORT INFORMATION**

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**US DOT HAZARD CLASS:** Not regulated.

**US DOT ID NUMBER:** Not applicable.

**PROPER SHIPPING NAME:** Not applicable.

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

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**15. REGULATORY INFORMATION**

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**TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**TSCA INVENTORY STATUS:** All components are listed on TSCA Inventory of Chemical Substances.

**OTHER TSCA ISSUES:** None.

**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

**INGREDIENT NAME**

**SARA/CERCLA RQ (lb)**

**SARA EHS TPQ (lb)**



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No ingredients listed in this section.

**Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.**

**SECTION 311 HAZARD CLASS:** Immediate.

**SARA 313 TOXIC CHEMICALS:**

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

**INGREDIENT NAME**

**COMMENT**

No ingredients listed in this section.

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME**

**WEIGHT %    COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION:**

None.

**WHMIS CLASSIFICATION (CANADA):**

D2B

**FOREIGN CHEMICAL CONTROL INVENTORY STATUS:**

Listed on Canadian DSL and EU EINECS.

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**16. OTHER INFORMATION**

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**CURRENT ISSUE DATE:** April, 2003

**PREVIOUS ISSUE DATE:** February, 2002

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

Change in company name.

**OTHER INFORMATION:** This product is not for food or drug use.