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MSDS Number: **S5230** \* \* \* \* \* *Effective Date: 11/04/04* \* \* \* \* \* *Supersedes: 03/28/02*

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# SODIUM THIOSULFATE

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## 1. Product Identification

**Synonyms:** Sodium thiosulfate, pentahydrate; thiosulfuric acid, disodium salt, pentahydrate

**CAS No.:** 7772-98-7 (Anhydrous) 10102-17-7 (Pentahydrate)

**Molecular Weight:** 248.17

**Chemical Formula:** Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>·5H<sub>2</sub>O

**Product Codes:**

J.T. Baker: 3945, 3946, 3951

Mallinckrodt: 7763, 7802, 8100

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Sodium Thiosulfate	7772-98-7	100%
Yes		

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## 3. Hazards Identification

### Emergency Overview

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**CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

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Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES

Storage Color Code: Green (General Storage)

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## Potential Health Effects

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**Inhalation:**

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

**Ingestion:**

Low level of toxicity by ingestion. Diarrhea may occur by ingestion of large quantities.

**Skin Contact:**

Irritation may occur from prolonged skin contact.

**Eye Contact:**

Contact may cause mechanical irritation.

**Chronic Exposure:**

Chronic exposure may cause skin effects.

**Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**

Wash thoroughly with running water. Get medical advice if irritation develops.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

Use protective clothing and breathing equipment appropriate for the surrounding fire.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

Monoclinic, colorless crystals.

### **Odor:**

Odorless.

### **Solubility:**

79g/100 ml water @ 4C (39F)

### **Density:**

1.75

### **pH:**

No information found.

### **% Volatiles by volume @ 21C (70F):**

0

### **Boiling Point:**

> 100C (> 212F)

### **Melting Point:**

48C (118F) Loses water @ 100C (212F)

### **Vapor Density (Air=1):**

No information found.

### **Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. Stability limited in solution.

**Hazardous Decomposition Products:**

Oxides of sulfur and hydrogen sulfide.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Sodium nitrate, halogens, and oxidizing agents. Reacts with acids to release sulfur dioxide.

**Conditions to Avoid:**

Incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
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Sodium Thiosulfate (7772-98-7)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

Not regulated.

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Sodium Thiosulfate (7772-98-7)	Yes	Yes	Yes	
Yes				

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	DSL	NDSL	Phil.
Sodium Thiosulfate (7772-98-7)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302- RQ	TPQ	-----SARA 313----- List	Chemical Catg.
Sodium Thiosulfate (7772-98-7)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Sodium Thiosulfate (7772-98-7)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** None allocated.  
**Poison Schedule:** None allocated.  
**WHMIS:**  
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0  
**Label Hazard Warning:**  
CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

**Label First Aid:**

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3.

**Disclaimer:**

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**Prepared by:** Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)