

# MATERIAL SAFETY DATA SHEET

## AMMONIUM THIOSULFATE SOLUTION 60%

Product ID: SO026000

Revised: 01-25-2012

Replaces: 01-25-2012

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** AMMONIUM THIOSULFATE SOLUTION 60%  
**Synonyms:** Ammonium thiosulfate; Ammonium hyposulfite; Thiosulfuric acid, diammonium salt  
**CAS Number:** MIXTURE  
**Chemical Family:** Inorganic Salt Solution  
**Formula:** (NH<sub>4</sub>)<sub>2</sub> S<sub>2</sub>O<sub>3</sub>

Hydrite Chemical Co.  
300 N. Patrick Blvd.  
Brookfield, WI 53008-0948  
(262) 792-1450

**EMERGENCY RESPONSE NUMBERS:**  
**24 Hour Emergency #: (414) 277-1311**  
**CHEMTREC Emergency #: (800) 424-9300**

### 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** CAUTION! May cause eye and skin irritation. May cause gastrointestinal irritation. May be harmful if swallowed in large quantities. Heating may cause ammonia gas to evolve.

**Physical State:** Liquid.  
**Color:** Colorless to amber.  
**Odor:** Slight ammonia odor.

#### POTENTIAL HEALTH EFFECTS

**Routes of Exposure:** Eyes. Ingestion. Inhalation. Skin.

**Target Organs:** None known.

**Eye Contact:** May cause: irritation.

**Skin Contact:** Contact may cause: irritation.

**Skin Absorption:** Not likely.

**Inhalation:** No hazard expected under normal use.

**Ingestion:** Large amounts may cause: dizziness. abdominal cramps. vomiting. diarrhea. Systemic ammonia poisoning is possible if sufficient absorption occurs.

**Medical Conditions Aggravated by Exposure to Product:** None known.

**Other:** None known.

#### Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

**Potential Environmental Effects:** See Section 12.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS Number</u>	<u>% by Wt.</u>
Ammonium Thiosulfate	7783-18-8	~ 60 %

### 4. FIRST-AID MEASURES

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention.

**Skin Contact:** Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Do not reuse clothing or shoes until cleaned. If irritation develops or persists, get medical attention. Wash with soap and water.

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**Inhalation:** Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

**Ingestion:** If fully conscious, give two glasses of water, then induce vomiting by touching back of throat with finger. Keep head below hips to prevent aspiration of liquid into the lungs. CALL A PHYSICIAN immediately. Never induce vomiting or give anything by mouth to an unconscious victim.

## 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Use extinguishing agents appropriate for surrounding fire.

**Fire Fighting Methods:** Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers.

**Fire and Explosion Hazards:** Heating may cause the release of ammonia vapors. Heating to dryness may cause the release of ammonia, ammonium sulfate, sulfur and oxides of sulfur. NH<sub>3</sub> (16-25%) may form flammable mixtures with air. If heated beyond dryness, some hydrogen sulfide gas may be given off. Hydrogen sulfide also can burn.

**Hazardous Combustion Products:** Ammonia. Sulfur oxides. Sulfur. Ammonium sulfate. Hydrogen sulfide.

## 6. ACCIDENTAL RELEASE MEASURES

**Spill Clean-Up Procedures:** Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Shut off source of leak if safe to do so. Contain spill, place into drums for proper disposal. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Do not allow to dry.

**Storage:** Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Keep away from flames and heat. Store away from combustible materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OSHA Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
No components found.	

### ACGIH Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
No components found.	

**Engineering Controls:** General room ventilation and local exhaust are required. Use local exhaust to control vapors/mists. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist.

**Eye/Face Protection:** Wear chemical safety goggles and a full face shield while handling this product.

**Skin Protection:** Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Neoprene. Rubber.

**Respiratory Protection:** None required under normal use. If mists are present, wear: NIOSH-Approved respirator for mists. If through heating, excessive ammonia gas is given off, use chemical cartridge respirator with cartridge specific for ammonia, or self-contained breathing apparatus, or supplied-air respirator. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with

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OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

**Other Protective Equipment:** Eye-wash station. Safety shower. Rubber apron. Protective clothing.

**General Hygiene Conditions:** Wash with soap and water before meal times and at the end of each work shift.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid.

**Color:** Colorless to amber.

**Odor:** Slight ammonia odor.

**Boiling Point (deg. F):** N.D.

**Freezing Point (deg. F):** 23

**Melting Point (deg. F):** N.D.

**Vapor Pressure (mm Hg):** N.A.

**Vapor Density (air=1):** N.A.

**Solubility in Water:** Complete

**pH:** ~ 8

**Specific Gravity:** 1.325 @ 70 F

**% Volatile (wt%):** 1 %

**Evaporation Rate (nBuAc = 1):** N.A.

**VOC (wt%):** N.D.

**VOC (lbs/gal):** N.D.

**Viscosity:** N.D.

**Flash Point:** N.A.

**Flash Point Method:** N.A.

**Lower Explosion Limit:** N.A.

**Upper Explosion Limit:** N.A.

**Autoignition Temperature:** N.A.

**Fire Point:** N.D.

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions.

**Conditions to Avoid:** Heat accelerates the normal evolution of ammonia. Heating to dryness and further yields toxic hydrogen sulfide and other gases.

**Incompatible Materials:** Strong oxidizing agents. Acids. Alkalies. Copper or copper alloys. Zinc. Zinc alloys. Water-reactive materials.

**Hazardous Decomposition Products:** Ammonia. Sulfur oxides. Sulfur. Ammonium sulfate. Hydrogen sulfide. Nitrogen oxides.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur under normal conditions.

### 11. TOXICOLOGICAL INFORMATION

<u>Component</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
Ammonium Thiosulfate	Rat: 1950 mg/kg	No Data	No Data

### 12. ECOLOGICAL INFORMATION

**Ecotoxicological Information:** This product is expected to have low toxicity to aquatic species.

**Chemical Fate Information:** Biological Oxygen Demand (BOD): 0.62 lb/lb, 5 days

### 13. DISPOSAL CONSIDERATIONS

**Hazardous Waste Number:** N.A.

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**Disposal Method:** Dispose of in accordance with all local, state and federal regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

**14. TRANSPORTATION INFORMATION****DOT (Department of Transportation):****Proper Shipping Name:** Not regulated by the DOT.**15. REGULATORY INFORMATION**

**TSCA Inventory Status:** This product or all components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.

**SARA Title III Section 311/312 Category Hazards:**

<u>Immediate (Acute)</u>	<u>Delayed (Chronic)</u>	<u>Fire Hazard</u>	<u>Pressure Release</u>	<u>Reactive</u>
Yes	No	No	No	No

**Regulated Components:**

<u>Component</u>	<u>CAS Number</u>	<u>CERCLA RQ</u>	<u>SARA EHS</u>	<u>SARA 313</u>	<u>U.S. HAP</u>	<u>WI HAP</u>	<u>Prop 65</u>
Ammonium Thiosulfate	7783-18-8	No	No	Yes*	No	No	No

**Note:** \* This substance is reportable under Sara Title III, Section 313 as ammonia from a water disassociable ammonium salt.

**16. ADDITIONAL INFORMATION****Hazard Rating System**

**Health:** 1  
**Flammability:** 0  
**Reactivity:** 0  
 \* = Chronic Health Hazard

**NFPA Rating System**

**Health:** 1  
**Flammability:** 0  
**Reactivity:** 0  
**Special Hazard:** None

**MSDS Abbreviations**

**N.A. = Not Applicable**  
**N.D. = Not Determined**  
**HAP = Hazardous Air Pollutant**  
**VOC = Volatile Organic Compound**  
**C = Ceiling Limit**  
**N.E./Not Estab. = Not Established**

**MSDS Prepared by:** CSH**Reason for Revision:** Change(s) made in Section 2.

The data in this Material Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which HYDRITE CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.