



# **HYDROXYLAMINE SULFATE**

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## **1. Product Identification**

**Synonyms:** Hydroxylamine, sulfate (2:1); oxammonium sulfate hydroxylamine sulfate neutral

**CAS No.:** 10039-54-0

**Molecular Weight:** 164.14

**Chemical Formula:**  $(\text{NH}_2\text{OH})_2\text{H}_2\text{SO}_4$

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## **2. Composition/Information on Ingredients**

Ingredient	CAS No	Percent
Hazardous		
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Hydroxylamine Sulfate (2:1) (salt)	10039-54-0	100%
Yes		

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## **3. Hazards Identification**

### **Emergency Overview**

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**DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. AFFECTS THE BLOOD. POWERFUL REDUCING AGENT.**

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Health Rating: 3 - Severe

Flammability Rating: 1 - Slight

Reactivity Rating: 2 - Moderate

Contact Rating: 3 - Severe (Corrosive)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;  
PROPER GLOVES

Storage Color Code: White (Corrosive)

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### **Potential Health Effects**

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#### **Inhalation:**

Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

#### **Ingestion:**

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea. Harmful if swallowed. May cause methemoglobinemia resulting in cyanosis.

#### **Skin Contact:**

Corrosive. Symptoms of redness, pain, and severe burn can occur.

#### **Eye Contact:**

Corrosive! Dust is irritating and may cause damage to the eyes.

#### **Chronic Exposure:**

No information found.

#### **Aggravation of Pre-existing Conditions:**

No information found.

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## **4. First Aid Measures**

#### **Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

#### **Ingestion:**

DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

#### **Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

#### **Eye Contact:**

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

May explode when heated to decomposition.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

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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:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**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 impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:** White crystals.

**Odor:** No information found.

**Solubility:** Freely soluble.

**Relative Density:** 1.9

**pH:** 3.6 (1% aqueous solution)

**% Volatiles by volume @ 21C (70F):** 0

**Boiling Point:**

Not applicable.

**Melting Point:**

170C (338F)

**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. Can decompose violently at elevated temperatures.

**Hazardous Decomposition Products:**

Burning may produce sulfur oxides and nitrogen oxides.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Oxidizers, bases.

**Conditions to Avoid:**

Heat, incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a mutagen.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Hydroxylamine Sulfate (2:1) (salt)	No	No	
None (10039-54-0)			

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## 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 facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. 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

**Domestic (Land, D.O.T.)**

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**Proper Shipping Name:** HYDROXYLAMINE SULFATE

**Hazard Class: 8**  
**UN/NA: UN2865 Packing Group: III**  
**Information reported for product/size: 500G**  
**International (Water, I.M.O.)**

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**Proper Shipping Name: HYDROXYLAMINE SULPHATE**  
**Hazard Class: 8**  
**UN/NA: UN2865 Packing Group: III**  
**Information reported for product/size: 500G**  
**International (Air, I.C.A.O.)**

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**Proper Shipping Name: HYDROXYLAMINE SULPHATE**  
**Hazard Class: 8**  
**UN/NA: UN2865 Packing Group: III**  
**Information reported for product/size: 500G**

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----  
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Ingredient TSCA EC Japan  
Australia -----  
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Hydroxylamine Sulfate (2:1) (salt) (10039-54-0) Yes Yes Yes  
Yes

-----\Chemical Inventory Status - Part 2\-----  
-----  
Ingredient Korea --Canada--  
Phil. DSL NDSL  
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-----  
Hydroxylamine Sulfate (2:1) (salt) (10039-54-0) Yes Yes No  
Yes

-----\Federal, State & International Regulations - Part 1\-----  
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313----- -SARA 302- -----SARA  
Ingredient RQ TPQ List  
Chemical Catg. -----  
-----  
Hydroxylamine Sulfate (2:1) (salt) No No No  
No  
(10039-54-0)

-----\Federal, State & International Regulations - Part 2\-----  
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TSCA- Ingredient	CERCLA	-RCRA-	-
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Hydroxylamine Sulfate (2:1) (salt) (10039-54-0)	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: 2R**  
**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: **3** Flammability: **1** Reactivity: **0**

**Label Hazard Warning:**  
DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT.  
HARMFUL IF SWALLOWED OR INHALED. AFFECTS THE BLOOD. POWERFUL  
REDUCING AGENT.

**Label Precautions:**  
Do not get in eyes, on skin, or on clothing.  
Do not breathe dust.  
Keep container closed.  
Use only with adequate ventilation.  
Wash thoroughly after handling.

**Label First Aid:**  
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases call a physician immediately.

**Product Use:**  
Laboratory Reagent.

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

**Disclaimer:**  
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