

MATERIAL SAFETY DATA SHEET

——— Hydroxylamine sulfate

Section 1- Product and company identification

Common Name: Hydroxylamine sulfate

Company: Orchid Chemical Supplies Ltd

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Section 2 - Composition, Information on Ingredients

CAS# 10039-54-0

Chemical Name: Hydroxylamine sulfate

EINECS#233-118-8

Hazard Symbols: XN N

Risk Phrases: 22 36/38 43 48/22 50

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact.

Very toxic to aquatic organisms.

Harmful : danger of serious damage to health by prolonged exposure if swallowed.

Potential Health Effects

Eye: Causes eye irritation and possible burns.

Skin: Causes skin irritation. Causes skin burns. It may cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be absorbed through the skin.

Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause methemoglobinemia cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death.

Inhalation: May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract.

Chronic: Absorption into the body leads to the formation of methemoglobin which in sufficient concentrations causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Section 5 - Fire Fighting Measures

General Information

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved: or equivalent), and full protective gear. Exposure to heat may promote violent decomposition.

Extinguishing Media:

Do NOT use water directly on fire. For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

Section 7 - Handling and Storage

Handling: Do not get on skin or in eyes. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Color: white

Odor: Not available

pH: Not available

Vapor Pressure: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: 170 deg C(decom)

Autoignition Temperature: Not available

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature:

Solubility in water: 329 g/l (20 c)

Specific Gravity/Density:

Molecular Formula: $\text{H}_6\text{N}_2\text{O}_2 \cdot \text{H}_2\text{SO}_4$

Molecular Weight: 164.14

Section 10 - Stability and Reactivity

Chemical Stability: Unstable at temperatures above 100°C. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Incompatible materials, combustible materials, organic materials, temperatures above 100°C.

Incompatibilities with Other Materials: Temperatures above 100°C, bases.

Hazardous Decomposition:

Products: Nitrogen oxides, oxides of sulfur, ammonia and/or derivatives, nitrogen, sulfuric acid.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 10039-54-0: NC5425000

RTECS:

CAS# 10039-54-0: Oral, mouse: LD50 = 980 mg/kg;

LD50/LC50: Oral, rat: LD50 = 842 mg/kg;

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Other:

Carcinogenicity: Hydroxylamine sulfate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

IATA IMO RID/ADR

Shipping HYDROXYLAMINE HYDROXYLAMINE HYDROXYLAMINE

Name: SULPHATE SULPHATE SULPHATE

Hazard Class: 8 8 8

UN Number: 2865 2865 2865

Packing III III III

Group:

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 36/38 Irritating to eyes and skin.

R 43 May cause sensitization by skin contact.

R 48/22 Harmful : danger of serious damage to health by prolonged exposure if swallowed.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 22 Do not breathe dust.

S 24 Avoid contact with skin.

S 37 Wear suitable gloves.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 10039-54-0: 2

Canada

CAS# 10039-54-0 is listed on Canada's DSL List

US Federal

TSCA

CAS# 10039-54-0 is listed on the TSCA Inventory.

Section 16 - Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.