

Material Safety Data Sheet

Hydroxylamine hydrochloride

ACC# 11280

Section 1 - Chemical Product and Company Identification

MSDS Name: Hydroxylamine hydrochloride

Catalog Numbers: AC170360000, AC170360010, AC170361000, AC170365000, AC270100000, AC270100010, AC270101000, AC270102500, AC412050000, AC412050050, AC412051000, AC412055000, S80042, H330-1, H330-100, H330-500, NC9780180

Synonyms: Hydroxylammonium chloride; Oxammonium hydrochloride.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
5470-11-1	Hydroxylamine hydrochloride	>96	226-798-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystals.

Danger! Strong reducing agent. Fire and explosion risk in contact with oxidizing agents. Risk of explosion by shock, friction, fire or other sources of ignition. Causes eye, skin, and respiratory tract irritation. Harmful if swallowed. May cause allergic skin reaction. May cause blood abnormalities. May cause methemoglobinemia. May cause liver and kidney damage. Air sensitive. Moisture sensitive. Corrosive to metal.

Target Organs: Blood, respiratory system, cardiovascular system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation and possible burns.

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

Ingestion: Harmful if swallowed. 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. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema.

Chronic: May cause liver and kidney damage. 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. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. 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 breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

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. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Fight fire from protected location or maximum possible distance. May explode if heated above 115°C.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 3

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. 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. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Do not allow contact with water. Use only in a chemical fume hood. Do not use with metal spatula or other metal items.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Corrosives area. Do not store above 65°C.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hydroxylamine hydrochloride	none listed	none listed	none listed

OSHA Vacated PELs: Hydroxylamine hydrochloride: No OSHA Vacated PELs are listed for this chemical.

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

Appearance: white

Odor: alcohol-like

pH: 3.2 (0.2M aq soln)

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: 305.6 deg C

Freezing/Melting Point: 155-158 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.6700 g/cm³

Molecular Formula: H₃NO.HCl

Molecular Weight: 69.49

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. When confined and heated to 115°C or higher may decompose violently with explosive force.

Conditions to Avoid: Moisture, exposure to air, temperatures above 100°C.

Incompatibilities with Other Materials: Metals, strong oxidizing agents.

Hazardous Decomposition Products: Hydrogen chloride, nitrogen oxides, ammonia and/or derivatives, hydroxylamine.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 5470-11-1: NC3675000

LD50/LC50:

CAS# 5470-11-1:

Oral, mouse: LD50 = 408 mg/kg;

Oral, rat: LD50 = 141 mg/kg;

Carcinogenicity:

CAS# 5470-11-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: An abstract from the Office of Toxic Substances (EPA) indicated that hydroxylamine hydrochloride was teratogenic in rabbits and chicks but not in cows. Other studies have reported effects in rabbits, but not in rats.

Reproductive Effects: No information available.

Mutagenicity: Substance has caused mutagenic changes in animal testing. Please refer to RTECS NC3675000 for specific information.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CORROSIVE SOLIDS, TOXIC, N.O.S.	CORROSIVE SOLIDS, TOXIC, N.O.S.
Hazard Class:	8	8(6.1)
UN Number:	UN2923	UN2923
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 5470-11-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 5470-11-1: immediate, fire, reactive.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 5470-11-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

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 50 Very toxic to aquatic organisms.
- R 48/22 Harmful : danger of serious damage to health by prolonged exposure if swallowed.

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# 5470-11-1: 2

Canada - DSL/NDSL

CAS# 5470-11-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E, D1B, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 6/21/1999

Revision #11 Date: 7/17/2006

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 Fisher 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 Fisher has been advised of the possibility of such damages.