

# SAFETY DATA SHEET

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Revision Number 8

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Hydroxylamine hydrochloride

**Cat No. :** H330-1; H330-100; H330-500

**CAS No** 5470-11-1  
**Synonyms** Hydroxylammonium chloride, Oxammonium hydrochloride

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

#### **Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

### **Classification**

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Corrosive to metals	Category 1
Acute oral toxicity	Category 3
Acute dermal toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - spleen, Blood, Thyroid.	
Combustible dust	Yes

### Label Elements

**Signal Word**

Danger

**Hazard Statements**

May form combustible dust concentrations in air  
May be corrosive to metals  
Toxic if swallowed  
Harmful in contact with skin  
Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
Suspected of causing cancer  
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Contaminated work clothing should not be allowed out of the workplace  
Do not breathe dust/fume/gas/mist/vapors/spray  
Keep only in original packaging  
Wear protective gloves/protective clothing/eye protection/face protection

**Response**

IF exposed or concerned: Get medical attention/advice

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
Call a POISON CENTER or doctor if you feel unwell  
Take off contaminated clothing  
If skin irritation or rash occurs: Get medical advice/attention

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Rinse mouth

**Spills**

Absorb spillage to prevent material damage

**Storage**

Store locked up  
Store in corrosive resistant polypropylene container with a resistant inliner  
Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
Hydroxylamine, hydrochloride	5470-11-1	<=100

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Risk of explosion by shock, friction, fire or other sources of ignition. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses. Fine dust dispersed in air may ignite.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride gas.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

#### NFPA

**Health**  
3

**Flammability**  
3

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.
<b>Methods for Containment and Clean Up</b>	Remove all sources of ignition. Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and Storage

<b>Handling</b>	Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Corrosives area. Incompatible Materials. Strong oxidizing agents. Heavy metals.

## 8. Exposure controls / personal protection

<b><u>Exposure Guidelines</u></b>	This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.
<b>Engineering Measures</b>	Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment.
<b><u>Personal Protective Equipment</u></b>	
<b>Eye/face Protection</b>	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.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	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.
<b>Recommended Filter type:</b>	Particulates filter conforming to EN 143.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b><u>Appearance</u></b>			
<b>Physical State</b>	Solid		
<b>Color</b>	White		
<b>Odor</b>	Odorless		
<b>Odor Threshold</b>	No information available		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>• Method</u></b>
<b>Melting Point/Range</b>	155 - 158 °C / 311 - 316.4 °F		
<b>Softening Point</b>	No data available		

<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	
<b>Flammability (liquid)</b>	Not applicable	<b>Method -</b> No information available
<b>Flammability (solid,gas)</b>	No information available	Solid
<b>Explosion Limits</b>	No data available	
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	152 °C	
<b>pH</b>	2.5-3.5	5% aq.sol
<b>Viscosity</b>	Not applicable	Solid
<b>Water Solubility</b>	560 g/L (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Vapor Pressure</b>	negligible	
<b>Density / Specific Gravity</b>	1.6700	
<b>Bulk Density</b>	No data available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Particle characteristics</b>	No data available	
<b>Other Information</b>		
<b>Molecular Formula</b>	H3 N O . H Cl	
<b>Molecular Weight</b>	69.49	
<b>Evaporation Rate</b>	Not applicable - Solid	

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Moisture sensitive. Air sensitive.
<b>Conditions to Avoid</b>	Avoid dust formation. Incompatible products. Excess heat. Exposure to air. Exposure to moist air or water.
<b>Incompatible Materials</b>	Strong oxidizing agents, Heavy metals
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen chloride gas
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

<b>Inhalation</b>	May be harmful if inhaled. May cause irritation.
<b>Ingestion</b>	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Eyes</b>	Irritating to eyes.
<b>Skin</b>	Harmful in contact with skin. Irritating to skin.

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydroxylamine, hydrochloride	LD50 = 141 mg/kg ( Rat )	-	-

<b>Toxicologically Synergistic Products</b>	No information available
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- (b) skin corrosion/irritation; Category 2
- (c) serious eye damage/irritation; Category 2
- (d) respiratory or skin sensitization;  
 Respiratory No data available  
 Skin Category 1  
 May cause sensitization by skin contact
- (e) germ cell mutagenicity; No data available
- (f) carcinogenicity; Category 2  
 Limited evidence of a carcinogenic effect

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Hydroxylamine, hydrochloride	5470-11-1	Not listed	Not listed	Not listed	Not listed	Not listed

- (g) reproductive toxicity; No data available
- (h) STOT-single exposure; No data available
- (i) STOT-repeated exposure; Category 2  
 Target Organs Gastrointestinal tract (GI), spleen, Thyroid, Blood.
- (j) aspiration hazard; Not applicable  
 Solid
- Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.
- Other Adverse Effects** The toxicological properties have not been fully investigated.
- Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hydroxylamine, hydrochloride	Not listed	LC50= 1-10 mg/L/48h (Leuciscus idus)	Not listed	Not listed

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT**

UN-No UN2923  
 Proper Shipping Name Corrosive solid, toxic, n.o.s.  
 Technical Shipping Name Hydroxylammonium chloride  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**TDG**

UN-No UN2923  
 Proper Shipping Name Corrosive solid, toxic, n.o.s.  
 Technical Shipping Name Hydroxylammonium chloride  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**IATA**

UN-No UN2923  
 Proper Shipping Name Corrosive solid, toxic, n.o.s.  
 Technical Shipping Name Hydroxylammonium chloride  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**IMDG/IMO**

UN-No UN2923  
 Proper Shipping Name Corrosive solid, toxic, n.o.s.  
 Technical Shipping Name Hydroxylammonium chloride  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

## 15. Regulatory Information

**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Hydroxylamine, hydrochloride	5470-11-1	X	ACTIVE	-

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical  
 Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b) - Notices of Export**

Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Hydroxylamine, hydrochloride	5470-11-1	X	-	226-798-2	X	X	X	X	X	KE-20602

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Hydroxylamine, hydrochloride	5470-11-1	-	Use restricted. See entry 75. (see link for restriction details)	-

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>



## Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Hydroxylamine, hydrochloride	5470-11-1	Not applicable	Not applicable	Not applicable	Not applicable

## Contains component(s) that meet a 'definition' of per &amp; poly fluoroalkyl substance (PFAS)?

Not applicable

## Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Hydroxylamine, hydrochloride	5470-11-1	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other Information

Prepared By	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
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## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**