

MATERIAL SAFETY DATA SHEET**Product Name:** Hydroxylamine hydrochloride**CAS No.:** 5470-11-1**Version:** 0**1. Identification**

Product Code : 90173, 90428
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
HYDROXYLAMINE HYDROCHLORIDE	5470-11-1	90-100%

3. Hazards Identification**Hazard classification****Physical hazards**

Corrosive to metals : Category 1

Health hazards

Acute toxicity (Oral) : Category 3

Acute toxicity (Dermal) : Category 4

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 1

Skin sensitizer : Category 1

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 2

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 2

OSHA hazard(s)

Combustible dust

Environmental hazards

Acute hazards to the aquatic environment : Category 1

Labels elements

MATERIAL SAFETY DATA SHEET**Product Name:** Hydroxylamine hydrochloride**CAS No.:** 5470-11-1**Version:** 0**Hazard symbol****Signal word**

: Danger

Hazard statement

- : May be corrosive to metals.
- May form combustible dust concentrations in air.
- Toxic if swallowed.
- Harmful in contact with skin.
- Causes skin irritation.
- Causes serious eye damage.
- May cause an allergic skin reaction.
- Suspected of causing genetic defects.
- May cause damage to organs through prolonged or repeated exposure.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- Very toxic to aquatic life.

Precautionary statement**Prevention**

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response

- : Absorb spillage to prevent material damage. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Get medical advice/attention. Collect spillage.

Storage

- : Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

- : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

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- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation** : Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact** : Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately.
- Most important symptoms/effects, acute and delayed** : May cause skin irritation. May cause cyanosis. Causes digestive tract burns. Causes serious eye damage.
- Indication of immediate medical attention and special treatment needed** : Treat symptomatically. Symptoms may be delayed.

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- Precautions for safe handling** : DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling.
- Conditions for safe storage, including any incompatibilities** : Do not store in metal containers. Keep container tightly closed in a cool, well-ventilated place. Store in a dry place.

8. Exposure Controls Personal Protection

- Control parameters**
- Occupational exposure limits** : None of the components have assigned exposure limits.
- Appropriate engineering controls** : No data available.
- Individual protection measures, such as personal protective equipment**
- General information** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
- Eye/face protection** : Wear safety glasses with side shields (or goggles) and a face shield.
- Hand protection** : Chemical resistant gloves.
- Other** : Wear suitable protective clothing and gloves.
- Respiratory protection** : In case of inadequate ventilation use suitable respirator.
- Hygiene measures** : Do not get in eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Provide eyewash station and safety shower.

9. Physical and Chemical Properties

- Appearance** : Colorless to slightly yellow Solid Crystals or powder.
- Odor** : Odorless
- pH** : No data available.
- Melting point/freezing point** : 155 °C
- Initial boiling point and boiling range** : 305.6 °C

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Flash Point	:	Not applicable
Vapor pressure	:	No data available.
Vapor density	:	No data available.
Relative density	:	1.67 (20 °C)
Solubility in water	:	Slightly Soluble
Solubility (other)	:	No data available.
Formula	:	ClH.H ₃ NO
Molecular Weight	:	69.5 g/mol

10. Stability and Reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Risk of explosion if heated.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Heat, sparks, flames. Moisture. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
Incompatible materials	:	Strong oxidizing agents.
Hazardous decomposition products	:	Hydrogen Chloride. Nitrogen Oxides.

11. Toxicological Information**Information on likely routes of exposure**

Ingestion	:	Toxic if swallowed.
Inhalation	:	May cause irritation to the respiratory system.
Skin contact	:	Harmful if absorbed through skin. Causes skin irritation. May cause an allergic skin reaction.
Eye contact	:	Causes serious eye damage.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral Product	:	LC 50 (Rat): 141 mg/kg
Dermal Product	:	No data available.
Inhalation Product	:	No data available.
Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	May cause skin irritation.
Serious eye damage/eye irritation Product	:	Causes serious eye damage.
Respiratory or skin sensitization Product	:	May cause sensitization by skin contact.
Carcinogenicity Product	:	Suspected of causing cancer.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	:	No carcinogenic components identified

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DIOXANE

US. National Toxicology Program (NTP) Report on Carcinogens : No carcinogenic components identified

DIOXANE

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) : No carcinogenic components identified

Germ cell mutagenicity

In vitro Product : No mutagenic components identified

In vivo Product : No mutagenic components identified

Reproductive toxicity Product : No components toxic to reproduction.

Specific target organ toxicity - single exposure Product : Respiratory tract irritation.

Specific target organ toxicity - repeated exposure Product : Blood. Central nervous system.

Aspiration hazard Product : Not classified.

Other effects : None known.

12. Ecological Information

Ecotoxicity

Acute hazards to the aquatic environment :

Fish Product : No data available.

Specified substance(s): : LC 50 (Brook trout (Salvelinus fontinalis), 6.7 d): 2.5 mg/l
HYDROXYLAMINE, HYDROCHLORIDE Mortality
 LC 50 (Brook trout (Salvelinus fontinalis), 80.4 h): 4 mg/l Mortality

Aquatic invertebrates Product : No data available.

Chronic hazards to the aquatic environment :

Fish Product : No data available.

Aquatic invertebrates Product : No data available.

Toxicity to Aquatic Plants Product: : No data available.

Persistence and degradability

Biodegradation Product : The product is not expected to be biodegradable.

BOD/COD ratio Product : No data available.

Bioaccumulative potential

Bioconcentration factor (BCF) Product : No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow) Product : No data available.

Mobility in soil : The product is water soluble and may spread in water systems.

Other adverse effects : Very toxic to aquatic organisms.

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13. Disposal consideration

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 2923	HYDROXYLAMINE HYDROCHLORIDE	8, 6.1	III	No
IMDG	UN 2923	HYDROXYLAMINE HYDROCHLORIDE	8, 6.1	III	No
IATA	UN 2923	HYDROXYLAMINE HYDROCHLORIDE	8, 6.1	III	No

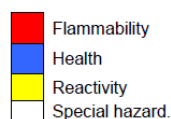
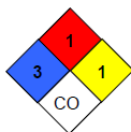
15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. Other Information

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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CO: Corrosive

Issue Date :01/08/2014**Version : 0**

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