# Material Safety Data Sheet

Version 3.7
Revision Date 04/08/2010
Print Date 04/08/2010

## 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product name | : | Hydroxylamine hydrochloride |
| Product Number | : | 55460 |
| Brand | : | Sigma-Aldrich |
| Company | : | Sigma-Aldrich Canada, Ltd<br>2149 Winston Park Drive<br>OAKVILLE ON L6H 6J8<br>CANADA |
| Telephone | : | +19058299500 |
| Fax | : | +19058299292 |
| Emergency Phone # | : | 800-424-9300 |

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### Target Organs

BloodBlood

#### WHMIS Classification

| | | |
|---|---|---|
| D1B | Toxic Material Causing Immediate and | Toxic by ingestion |
| D2B | Serious Toxic Effects | Skin sensitiser |
| E | | Corrosive |

#### GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

| | |
|---|---|
| H301 | Toxic if swallowed. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H351 | Suspected of causing cancer. |
| H400 | Very toxic to aquatic life. |

Precautionary statement(s)

| | |
|---|---|
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/eye protection/face protection. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

### HMIS Classification

| | |
|---|---|
| **Health hazard**: | 3 |
| **Chronic Health Hazard**: | * |
| **Flammability**: | 0 |
| **Physical hazards**: | 1 |

### Potential Health Effects

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous

membranes and upper respiratory tract.

**Skin** May be harmful if absorbed through skin. Causes skin burns.

**Eyes** Causes eye burns.

**Ingestion** Toxic if swallowed. Causes burns.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Hydroxylammonium chloride

Formula : $H_3NO \cdot HCl$

Molecular Weight : 69.49 g/mol

| CAS-No. | EC-No. | Index-No. | Concentration |
|---|---|---|---|
| **Hydroxylamine hydrochloride** | | | |
| 5470-11-1 | 226-798-2 | 612-123-00-2 | - |

## 4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Continue rinsing eyes during transport to hospital.Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Specific hazards arising from the chemical**
Container explosion may occur under fire conditions.

**Special protective equipment for fire-fighters**
Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**
May explode when heated.Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Avoid shock and friction. Keep away from sources of ignition - No smoking.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: < 65 °C

Air and moisture sensitive.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves.

**Eye protection**
Face shield and safety glasses

**Skin and body protection**
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

| | |
|---|---|
| Form | crystalline |
| Colour | white |

**Safety data**

| | |
|---|---|
| pH | 2.5 - 3.5 at 50 g/l at 20 °C (68 °F) |
| Melting point | 155 - 157 °C (311 - 315 °F) |
| Boiling point | no data available |
| Flash point | no data available |
| Ignition temperature | no data available |
| Lower explosion limit | no data available |
| Upper explosion limit | no data available |
| Density | 1.67 g/mL at 25 °C (77 °F) |
| Water solubility | soluble |

## 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Conditions to avoid**
Air Exposure to moisture. May be unstable at temperatures above: 75° C
Heat, flames and sparks.

**Materials to avoid**
Strong oxidizing agents, phosphorous pentachloride, Calcium, Anhydrous copper(II) sulfate

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Hydrogen chloride gas
Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Hydrogen chloride gas

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
LD50 Oral - rat - 141 mg/kg
Remarks: Behavioral:Convulsions or effect on seizure threshold.

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitization**
May cause allergic skin reaction.

**Germ cell mutagenicity**

Genotoxicity in vitro - rat - Embryo
Morphological transformation.

**Carcinogenicity**

Limited evidence of carcinogenicity in animal studies

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure (GHS)**
no data available

**Specific target organ toxicity - repeated exposure (GHS)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

| | |
|---|---|
| **Inhalation** | May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| **Ingestion** | Toxic if swallowed. Causes burns. |
| **Skin** | May be harmful if absorbed through skin. Causes skin burns. |
| **Eyes** | Causes eye burns. |

**Signs and Symptoms of Exposure**
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**
RTECS: NC3675000

## 12. ECOLOGICAL INFORMATION

**Toxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Leuciscus idus (Golden orfe) - 1 - 10 mg/l - 48.0 h |

**Persistence and degradability**
no data available

**Bioaccumulative potential**
no data available

**Mobility in soil**
no data available

**PBT and vPvB assessment**
no data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic organisms.

## 13. DISPOSAL CONSIDERATIONS

**Product**
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

**DOT (US)**
UN-Number: 2923 Class: 8 (6.1) Packing group: II
Proper shipping name: Corrosive solids, toxic, n.o.s. (Hydroxylamine hydrochloride)
Marine pollutant: No
Poison Inhalation Hazard: No

**IMDG**
UN-Number: 2923 Class: 8 (6.1) Packing group: II EMS-No: F-A, S-B
Proper shipping name: CORROSIVE SOLID, TOXIC, N.O.S. (Hydroxylamine hydrochloride)
Marine pollutant: No

**IATA**
UN-Number: 2923 Class: 8 (6.1) Packing group: II
Proper shipping name: Corrosive solid, toxic, n.o.s. (Hydroxylamine hydrochloride)

## 15. REGULATORY INFORMATION

**DSL Status**
All components of this product are on the Canadian DSL list.

**WHMIS Classification**

| | | |
|---|---|---|
| D1B | Toxic Material Causing Immediate and | Toxic by ingestion |
| D2B | Serious Toxic Effects | Skin sensitiser |
| E | | Corrosive |

## 16. OTHER INFORMATION

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.