

SAFETY DATA SHEET

Version 5.8

Revision Date 06/22/2014

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1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Hydroxylamine hydrochloride

Product Number : 255580
Brand : Sigma-Aldrich
Index-No. : 612-123-00-2

CAS-No. : 5470-11-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USATelephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to metals (Category 1), H290
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Skin sensitisation (Category 1), H317
Carcinogenicity (Category 2), H351
Specific target organ toxicity - repeated exposure (Category 2), H373
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H290 : May be corrosive to metals.
H301 : Toxic if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.H319
H351
H373
H410Causes serious eye irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 : Obtain special instructions before use.
P202 : Do not handle until all safety precautions have been read and understood.
P234 : Keep only in original container.
P260 : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 : Wash skin thoroughly after handling.
P270 : Do not eat, drink or smoke when using this product.
P272 : Contaminated work clothing should not be allowed out of the workplace.
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.
P302 + P352 : IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 : IF exposed or concerned: Get medical advice/ attention.
P322 : Specific measures (see supplemental first aid instructions on this label).
P330 : Rinse mouth.
P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 : If eye irritation persists: Get medical advice/ attention.
P362 : Take off contaminated clothing and wash before reuse.
P390 : Absorb spillage to prevent material damage.
P391 : Collect spillage.
P405 : Store locked up.
P406 : Store in corrosive resistant stainless steel container with a resistant inner liner.
P501 : Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Hydroxylammonium chloride

Formula : H₃NO · HCl
Molecular Weight : 69.49 g/mol
CAS-No. : 5470-11-1
EC-No. : 226-798-2
Index-No. : 612-123-00-2

Hazardous components

Component	Classification	Concentration
Hydroxylamine hydrochloride	Met. Corr. 1; Acute Tox. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; Carc. 2; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H290, H301, H312, H315, H317, H319, H351, H373, H410	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

- 4.1 Description of 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. Take victim immediately to hospital. Consult a physician.
In case of eye contact
 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.
Most important symptoms and effects, both acute and delayed
 The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
 no data available

5. FIREFIGHTING MEASURES

- 5.1 Extinguishing media**
Suitable extinguishing media
 Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
 nitrogen oxides (NOx), Hydrogen chloride gas
 Container explosion may occur under fire conditions.
5.3 Advice for firefighters
 Wear self contained breathing apparatus for fire fighting if necessary.
5.4 Further information
 May explode when heated.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**
 Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
6.2 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.
6.3 Methods and materials for containment and cleaning up
 Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
 For disposal see section 13.

7. HANDLING AND STORAGE

- 7.1 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.
7.2 Conditions for safe storage, including any incompatibilities
 Keep container tightly closed in a dry and well-ventilated place.
 For precautions see section 2.2.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 7.3 Specific end use(s)**
 Air and moisture sensitive.
 Apart from the uses mentioned in section 1.2, no other specific uses are stipulated
- 8.1 Control parameters**
Components with workplace control parameters
 Contains no substances with occupational exposure limit values.
- 8.2 Exposure controls**
Appropriate engineering controls
 Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
Personal protective equipment
Eye/face protection
 Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
 Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on basic physical and chemical properties**
a) Appearance
 Form: Crystalline powder, Chunks
 Colour: white
b) Odour
 no data available
- Body Protection**
 Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
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).
Control of environmental exposure
 Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- EN374**
 data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6559 87300, e-mail sales@kcl.de, test method: Material tested:DermaTil® (KCL 740 / Aldrich Z677272, Size M)
 Break through time: 480 min
 Minimum layer thickness: 0.1 mm
 Material: Nitrile rubber
 Splash contact
 Material tested:DermaTil® (KCL 740 / Aldrich Z677272, Size M)
 Break through time: 480 min
 Minimum layer thickness: 0.1 mm
 Material: Nitrile rubber
 Full contact

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c) Odour Threshold	no data available
d) pH	2.5 - 3.5 at 50 g/l at 20 °C (68 °F)
e) Melting point/freezing point	Melting point/range: 155 - 157 °C (311 - 315 °F) - dec.
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.67 g/cm ³ at 25 °C (77 °F)
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

- 10.1 Reactivity**
no data available
- 10.2 Chemical stability**
Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions**
no data available
- 10.4 Conditions to avoid**
Air Exposure to moisture. May be unstable at temperatures above: 75 °C
- 10.5 Incompatible materials**
Strong oxidizing agents, phosphorous pentachloride, Calcium, Anhydrous copper(II) sulfate
- 10.6 Hazardous decomposition products**
Other decomposition products - no data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

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Inhalation: no data available

Dermal: no data available

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

Germ cell mutagenicity

rat

Embryo

Morphological transformation.

Hamster

Lungs

Sister chromatid exchange

Carcinogenicity

Suspected human carcinogens

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

no data available

Additional Information

RTECS: NC3675000

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

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

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

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California Prop. 65 Components
 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Toxicity

Aquatic Acute

Aquatic Chronic

Aquatic Chronic

Acute aquatic toxicity

Acute Toxicity

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12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and VPB assessment

PBT/VPB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

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

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
 Offer surplus and non-recyclable solutions to a licensed disposal company. 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: III 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: III 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: III Proper shipping name: Corrosive solid, toxic, n.o.s. (Hydroxylamine hydrochloride)

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Hydroxylamine hydrochloride

CAS-No. 5470-11-1

Revision Date

New Jersey Right To Know Components

Hydroxylamine hydrochloride

CAS-No. 5470-11-1

Revision Date