

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 24614 Hydroxylamine Hydrochloride

Revision date: 16.06.2016

Product code: 24614

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

24614 Hydroxylamine Hydrochloride

CAS No: 5470-11-1  
Index No: 612-123-00-2  
EC No: 226-798-2

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

#### Use of the substance/mixture

Reagent for analysis

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

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

### 1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No. 1272/2008

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1  
Carcinogenicity: Carc. 2  
Acute toxicity: Acute Tox. 4  
Acute toxicity: Acute Tox. 4  
Specific target organ toxicity - repeated exposure: STOT RE 2  
Serious eye damage/eye irritation: Eye Irrit. 2  
Skin corrosion/irritation: Skin Irrit. 2  
Respiratory or skin sensitisation: Skin Sens. 1  
Hazardous to the aquatic environment: Aquatic Acute 1

Hazard Statements:

May be corrosive to metals.  
Suspected of causing cancer.  
Harmful in contact with skin.  
Harmful if swallowed.  
May cause damage to organs through prolonged or repeated exposure.  
Causes serious eye irritation.  
Causes skin irritation.

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May cause an allergic skin reaction.  
Very toxic to aquatic life.

#### 2.2. Label elements

Regulation (EC) No. 1272/2008

##### Hazard components for labelling

hydroxylammonium chloride; hydroxylamine hydrochloride

Signal word: Danger

##### Pictograms:



##### Hazard statements

|      |                                                                    |
|------|--------------------------------------------------------------------|
| 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 | Causes serious eye irritation.                                     |
| H351 | Suspected of causing cancer.                                       |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.                                        |

##### Precautionary statements

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P201           | Obtain special instructions before use.                                                                                          |
| P260           | Do not breathe dust/fume/gas/mist/vapours/spray.                                                                                 |
| 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/protective clothing/eye protection/face protection.                                                       |
| P301+P310      | IF SWALLOWED: Immediately call a POISON CENTER/doctor.                                                                           |
| P302+P352      | IF ON SKIN: Wash with plenty of 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. |
| 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.                                                                                                  |
| P390           | Absorb spillage to prevent material damage.                                                                                      |
| P391           | Collect spillage.                                                                                                                |
| P501           | Dispose of contents/container to Disposal.                                                                                       |

##### Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

#### 2.3. Other hazards

no data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

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**Hazardous components**

| CAS No    | Chemical name                                                                                                                                                             |              |          | Quantity |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|----------|
|           | EC No                                                                                                                                                                     | Index No     | REACH No |          |
|           | Classification according to Regulation (EC) No. 1272/2008 [CLP]                                                                                                           |              |          |          |
| 5470-11-1 | hydroxylammonium chloride; hydroxylamine hydrochloride                                                                                                                    |              |          | 100 %    |
|           | 226-798-2                                                                                                                                                                 | 612-123-00-2 |          |          |
|           | Met. Corr. 1, Carc. 2, Acute Tox. 4, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Acute 1; H290 H351 H312 H302 H373 ** H319 H315 H317 H400 |              |          |          |

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

Take off contaminated clothing and shoes immediately.  
Show this safety data sheet to the doctor in attendance.

**After inhalation**

Move to fresh air.  
If symptoms persist, call a physician.

**After contact with skin**

Wash off immediately with plenty of water for at least 15 minutes.  
Take off all contaminated clothing immediately.  
If skin irritation persists, call a physician.

**After contact with eyes**

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**After ingestion**

Do NOT induce vomiting.  
Drink 1 or 2 glasses of water.  
Call a physician immediately.  
Never give anything by mouth to an unconscious person.

**4.2. Most important symptoms and effects, both acute and delayed**

Irritation and corrosion, Toxic if swallowed. Cough, Shortness of breath, Spasm, headache, Nausea, Vomiting, Diarrhoea, Dizziness

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Contact with combustible material may cause fire.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water, Carbon dioxide (CO<sub>2</sub>), Alcohol-resistant foam Dry powder,

**Unsuitable extinguishing media**

No Limit

**5.2. Special hazards arising from the substance or mixture**

Fire may liberate hazardous vapours.  
In the event of fire the following can be released: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of

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nitrogen (NO<sub>x</sub>), dense black smoke. Gaseous hydrogen chloride (HCl).

#### **5.3. Advice for firefighters**

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.  
In the event of fire, wear self-contained breathing apparatus.

#### **Additional information**

Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas.

Ensure adequate ventilation. Remove all sources of ignition.

For personal protection see section 8.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

#### **6.3. Methods and material for containment and cleaning up**

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

#### **6.4. Reference to other sections**

13. Disposal considerations

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

Wash thoroughly after handling.

General industrial hygiene practice.

##### **Advice on protection against fire and explosion**

See also section 5

##### **Further information on handling**

Observe label precautions.

#### **7.2. Conditions for safe storage, including any incompatibilities**

##### **Requirements for storage rooms and vessels**

Keep away from heat and sources of ignition.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Keep in a dry, cool place.

##### **Hints on joint storage**

Incompatible with oxidizing agents.

##### **Further information on storage conditions**

Keep locked up or in an area accessible only to qualified or authorised persons.

Do not store near combustible materials.

#### **7.3. Specific end use(s)**

Laboratory chemicals

### SECTION 8: Exposure controls/personal protection

#### **8.1. Control parameters**

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#### Additional advice on limit values

Contains no substances with occupational exposure limit values.

#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

##### Protective and hygiene measures

Wash hands before breaks and after work.

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

##### Eye/face protection

Safety glasses with side-shields

Chemical resistant goggles must be worn.

##### Hand protection

Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

In case of full contact:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: 480 min

In case of contact through splashing:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves.

##### Skin protection

Avoid contact with skin, eyes and clothing.

Protective laboratory coats, gowns, or uniforms are recommended to prevent contamination of personal clothing.

##### Respiratory protection

Ensure adequate ventilation, especially in confined areas.

In case of insufficient ventilation, wear suitable respiratory equipment.

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: P3

##### Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:

Solid

Colour:

white

Odour:

odourless

pH-Value:

3,2 (2M solution)

#### Changes in the physical state

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|                                          |                        |
|------------------------------------------|------------------------|
| Melting point:                           | 151 °C                 |
| Initial boiling point and boiling range: | no data available      |
| Sublimation point:                       | no data available      |
| Softening point:                         | no data available      |
| Pour point:                              | no data available      |
| :                                        | no data available      |
| Flash point:                             | no data available      |
| Sustaining combustion:                   | No data available      |
| <b>Flammability</b>                      |                        |
| Solid:                                   | no data available      |
| Gas:                                     | no data available      |
| <b>Explosive properties</b>              |                        |
| no data available                        |                        |
| Lower explosion limits:                  | no data available      |
| Upper explosion limits:                  | no data available      |
| Ignition temperature:                    | no data available      |
| <b>Auto-ignition temperature</b>         |                        |
| Solid:                                   | no data available      |
| Gas:                                     | no data available      |
| Decomposition temperature:               | no data available      |
| <b>Oxidizing properties</b>              |                        |
| no data available                        |                        |
| Vapour pressure:                         | no data available      |
| Vapour pressure:                         | no data available      |
| Density:                                 | 1,67 g/cm <sup>3</sup> |
| Bulk density:                            | not applicable         |
| Water solubility:                        | soluble                |
| <b>Solubility in other solvents</b>      |                        |
| no data available                        |                        |
| Partition coefficient:                   | -2,66                  |
| Viscosity / dynamic:                     | no data available      |
| Viscosity / kinematic:                   | no data available      |
| Flow time:                               | no data available      |
| Vapour density:                          | no data available      |
| Evaporation rate:                        | no data available      |
| Solvent separation test:                 | no data available      |
| Solvent content:                         | no data available      |

**9.2. Other information**

|                                  |                |
|----------------------------------|----------------|
| Solid content:                   | not applicable |
| Corrosive in contact with metals |                |

Aluminium : 2,25 cm/a  
Mild steel: 1,36 cm/a

**SECTION 10: Stability and reactivity**

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#### 10.1. Reactivity

Corrosive to metals

#### 10.2. Chemical stability

Stable under recommended storage conditions.

#### 10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents, Ether, Amines

#### 10.4. Conditions to avoid

Extremes of temperature and direct sunlight.  
 Decomposes on heating.  
 Avoid moisture.  
 Decomposition under influence of moisture is highly accelerated by heating.

#### 10.5. Incompatible materials

None known.

#### 10.6. Hazardous decomposition products

To avoid thermal decomposition, do not overheat.  
 Decomposition products: nitrogen oxides (NOx) Hydrogen chloride gas

#### Further information

Stable under recommended storage conditions.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Toxicokinetics, metabolism and distribution

No toxicology information is available.

##### Acute toxicity

Toxic if swallowed.  
 Harmful in contact with skin.  
 No data is available on the product itself.

| CAS No    | Chemical name                                          |               |         |        |        |
|-----------|--------------------------------------------------------|---------------|---------|--------|--------|
|           | Exposure route                                         | Dose          | Species | Source | Method |
| 5470-11-1 | hydroxylammonium chloride; hydroxylamine hydrochloride |               |         |        |        |
|           | oral                                                   | LD50<br>mg/kg | 141     | rat    |        |
|           | dermal                                                 | ATE<br>mg/kg  | 1100    |        |        |

##### Irritation and corrosivity

Causes skin irritation.  
 Causes serious eye irritation.

##### Sensitising effects

May cause an allergic skin reaction. (hydroxylammonium chloride; hydroxylamine hydrochloride)

##### Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (hydroxylammonium chloride; hydroxylamine hydrochloride)  
 Germ cell mutagenicity: Based on available data, the classification criteria are not met.  
 Reproductive toxicity: Based on available data, the classification criteria are not met.

##### STOT-single exposure

Based on available data, the classification criteria are not met.

##### STOT-repeated exposure

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May cause damage to organs through prolonged or repeated exposure. (hydroxylammonium chloride; hydroxylamine hydrochloride)

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12: Ecological information

### 12.1. Toxicity

No information on ecology is available.

| CAS No    | Chemical name                                          |              |           |         |                                 |        |
|-----------|--------------------------------------------------------|--------------|-----------|---------|---------------------------------|--------|
|           | Aquatic toxicity                                       | Dose         | [h]   [d] | Species | Source                          | Method |
| 5470-11-1 | hydroxylammonium chloride; hydroxylamine hydrochloride |              |           |         |                                 |        |
|           | Acute fish toxicity                                    | LC50<br>mg/l | 1-10      | 96 h    | Leuciscus idus<br>(Golden orfe) |        |

### 12.2. Persistence and degradability

No data is available on the product itself.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water

log Pow: -2,66

### 12.4. Mobility in soil

no data available

### 12.5. Results of PBT and vPvB assessment

no data available

### 12.6. Other adverse effects

No known effect.

#### Further information

No known effect.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

In accordance with local and national regulations.

#### Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### Contaminated packaging

Dispose of as unused product.



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#### SECTION 14: Transport information

##### Land transport (ADR/RID)



|                                          |                                                                                                                                                                     |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>14.1. UN number:</b>                  | UN 2923                                                                                                                                                             |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE SOLID, TOXIC, N.O.S. (hydroxylammonium chloride; hydroxylamine hydrochloride)                                                                             |
| <b>14.3. Transport hazard class(es):</b> | 8                                                                                                                                                                   |
| <b>14.4. Packing group:</b>              | III                                                                                                                                                                 |
| Hazard label:                            | 8+6.1                                                                                                                                                               |
|                                          |   |
| Classification code:                     | CT2                                                                                                                                                                 |
| Special Provisions:                      | 274                                                                                                                                                                 |
| Limited quantity:                        | 5 kg                                                                                                                                                                |
| Excepted quantity:                       | E1                                                                                                                                                                  |
| Transport category:                      | 3                                                                                                                                                                   |
| Hazard No:                               | 86                                                                                                                                                                  |
| Tunnel restriction code:                 | E                                                                                                                                                                   |

##### Inland waterways transport (ADN)



###### Other applicable information (inland waterways transport)

Not tested

##### Marine transport (IMDG)

|                                          |                                                                                                                                                                         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>14.1. UN number:</b>                  | UN 2923                                                                                                                                                                 |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE SOLID, TOXIC, N.O.S. (Hydroxylamine hydrochloride)                                                                                                            |
| <b>14.3. Transport hazard class(es):</b> | 8                                                                                                                                                                       |
| <b>14.4. Packing group:</b>              | III                                                                                                                                                                     |
| Hazard label:                            | 8+6.1                                                                                                                                                                   |
|                                          |   |
| Marine pollutant:                        | -                                                                                                                                                                       |
| Special Provisions:                      | 223, 274                                                                                                                                                                |
| Limited quantity:                        | 5 kg                                                                                                                                                                    |
| Excepted quantity:                       | E1                                                                                                                                                                      |
| EmS:                                     | F-A, S-B                                                                                                                                                                |
| Segregation group:                       | acids                                                                                                                                                                   |

##### Air transport (ICAO-TI/IATA-DGR)

|                                          |                                                                                                                                                                         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>14.1. UN number:</b>                  | UN 2923                                                                                                                                                                 |
| <b>14.2. UN proper shipping name:</b>    | CORROSIVE SOLID, TOXIC, N.O.S. (Hydroxylamine hydrochloride)                                                                                                            |
| <b>14.3. Transport hazard class(es):</b> | 8                                                                                                                                                                       |
| <b>14.4. Packing group:</b>              | III                                                                                                                                                                     |
| Hazard label:                            | 8+6.1                                                                                                                                                                   |
|                                          |   |
| Special Provisions:                      | A3 A803                                                                                                                                                                 |
| Limited quantity Passenger:              | 5 kg                                                                                                                                                                    |

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|----------------------------------------|--------|
| Passenger LQ:                          | Y845   |
| Excepted quantity:                     | E1     |
| IATA-packing instructions - Passenger: | 860    |
| IATA-max. quantity - Passenger:        | 25 kg  |
| IATA-packing instructions - Cargo:     | 864    |
| IATA-max. quantity - Cargo:            | 100 kg |

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

no data available

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

#### **Other applicable information**

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

### SECTION 15: Regulatory information

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

##### **National regulatory information**

Water contaminating class (D): 3 - highly water contaminating

#### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

### SECTION 16: Other information

#### **Changes**

Revision: 14.06.2016

Safety datasheet sections which have been updated: 1-16

#### **Relevant H and EUH statements (number and full text)**

|      |                                                                    |
|------|--------------------------------------------------------------------|
| H290 | May be corrosive to metals.                                        |
| H301 | Toxic if swallowed.                                                |
| H302 | Harmful if swallowed.                                              |
| H312 | Harmful in contact with skin.                                      |
| H315 | Causes skin irritation.                                            |
| H317 | May cause an allergic skin reaction.                               |
| H319 | Causes serious eye irritation.                                     |
| H351 | Suspected of causing cancer.                                       |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.                                        |

#### **Further Information**

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.