

### MATERIAL SAFETY DATA SHEET (MSDS)

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

##### 1.1. Product identifier

Product form	: Substance
	:
CAS-No.	: 5470-11-1
Product code	: 04130
Formula	: H4CINO
Chemical structure	: $\text{NH}_2\text{OH} \cdot \text{HCl}$

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

###### 1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
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###### 1.2.2. Uses advised against

No additional information available

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

SPAN LAB  
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)  
401208 Mumbai - INDIA  
PH: +91 9820509929  
[info@spanlab.in](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Corrosive to metals, Category 1	H290
Acute toxicity (oral), Category 4	H302
Acute toxicity (dermal), Category 4	H312
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Carcinogenicity, Category 2	H351
Specific target organ	H373

# HYDROXYLAMINE HYDROCHLORIDE AR/ACS

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toxicity — Repeated exposure, Category 2  
Hazardous to the aquatic environment — Acute Hazard, Category 1

Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.3; R40

Xn; R21/22

Xn; R48/22

Xi; R36/38

R43

N; R50

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS07

GHS08

GHS09

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H290 - May be corrosive to metals.  
H302+H312 - Harmful if swallowed or 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 (if inhaled, if swallowed, in contact with skin, inhalation).  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H400 - Very toxic to aquatic life.

Precautionary statements (CLP) :

P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## 2.3. Other hazards

No additional information available

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name : HYDROXYLAMINE HYDROCHLORIDE AR/ACS  
CAS-No. : 5470-11-1

Full text of R- and H-statements: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.  
First-aid measures after skin contact : Immediately call a POISON CENTER/doctor. Wash with plenty of water/.... Wash contaminated clothing before reuse.  
First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Get medical advice/attention.  
First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects : May cause damage to organs.  
Symptoms/effects after inhalation : May cause an allergic skin reaction.  
Symptoms/effects after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.  
Symptoms/effects after eye contact : Causes serious eye damage.  
Symptoms/effects after ingestion : Harmful if swallowed.

#### 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 : Water spray. Foam. Dry powder. Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

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

No additional information available

#### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.  
Emergency procedures : Ventilate area.

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### 6.2. Environmental precautions

Very toxic to aquatic life.

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

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions : Keep container tightly closed. Store in a well-ventilated place. Store in a dry place.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection : protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : Wear respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state : Solid  
Molecular mass : 69.49 g/mol  
Colour : White crystalline.  
Odour : odourless.  
Odour threshold : No data available  
pH : 2.5 - 3.5  
Relative evaporation rate (butylacetate=1) : No data available  
Melting point : 155 - 157 °C

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Freezing point	: No data available
Boiling point	: 305.6 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.67 g/cm <sup>3</sup>
Solubility	: Water: Soluble in water
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Direct sunlight. Open flame. Sparks. Extremely high or low temperatures.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed. Harmful in contact with skin.

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Skin corrosion/irritation	: Causes skin irritation. pH: 2.5 - 3.5
Serious eye damage/irritation	: Causes serious eye irritation. pH: 2.5 - 3.5
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer (if inhaled, if swallowed, in contact with skin, inhalation).
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Harmful if swallowed. Harmful in contact with skin.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2923
UN-No. (IMDG)	: 2923
UN-No. (IATA)	: 2923
UN-No. (ADN)	: 2923
UN-No. (RID)	: 2923

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: CORROSIVE SOLID, TOXIC, N.O.S.
Proper Shipping Name (IMDG)	: CORROSIVE SOLID, TOXIC, N.O.S.
Proper Shipping Name (IATA)	: Corrosive solid, toxic, n.o.s.
Proper Shipping Name (ADN)	: CORROSIVE SOLID, TOXIC, N.O.S.
Proper Shipping Name (RID)	: CORROSIVE SOLID, TOXIC, N.O.S.
Transport document description (ADR)	: UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 2923 Corrosive solid, toxic, n.o.s., 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 8 (6.1)
Danger labels (ADR)	: 8, 6.1



##### IMDG

Transport hazard class(es) (IMDG)	: 8 (6.1)
Danger labels (IMDG)	: 8, 6.1



##### IATA

Transport hazard class(es) (IATA)	: 8 (6.1)
Hazard labels (IATA)	: 8, 6.1

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### ADN

Transport hazard class(es) (ADN) : 8 (6.1)

Danger labels (ADN) : 8, 6.1



### RID

Transport hazard class(es) (RID) : 8 (6.1)

Danger labels (RID) : 8, 6.1



### 14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

### 14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : CT2

Special provisions (ADR) : 274

Limited quantities (ADR) : 5kg

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P002, IBC08, R001

Special packing provisions (ADR) : B3

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T1

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAV, L4BN

Vehicle for tank carriage : AT

Transport category (ADR) : 3

Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP7



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Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

Hazard identification number (Kemler No.) : 86

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 2X

### - Transport by sea

Special provisions (IMDG) : 223, 274

Packing instructions (IMDG) : P002

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B3

Tank instructions (IMDG) : T1

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Stowage category (IMDG) : B

Stowage and handling (IMDG) : SW2

Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

MFAG-No : 154

### - Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y845

PCA limited quantity max net quantity (IATA) : 5kg

PCA packing instructions (IATA) : 860

PCA max net quantity (IATA) : 25kg

CAO packing instructions (IATA) : 864

CAO max net quantity (IATA) : 100kg

Special provisions (IATA) : A3, A803

ERG code (IATA) : 8P

### - Inland waterway transport

Classification code (ADN) : CT2

Special provisions (ADN) : 274, 802

Limited quantities (ADN) : 5 kg

Excepted quantities (ADN) : E1

Equipment required (ADN) : PP, EP

Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : CT2

Special provisions (RID) : 274

Excepted quantities (RID) : E1

Packing instructions (RID) : P002, IBC08, R001

Special packing provisions (RID) : B3

Mixed packing provisions (RID) : MP10

Portable tank and bulk container instructions (RID) : T1

Portable tank and bulk container special provisions (RID) : TP33

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Tank codes for RID tanks (RID)	: SGAV, L4BN
Transport category (RID)	: 3
Special provisions for carriage – Bulk (RID)	: VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28
Colis express (express parcels) (RID)	: CE11
Hazard identification number (RID)	: 86

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

HYDROXYLAMINE HYDROCHLORIDE AR/ACS is not on the REACH Candidate List

HYDROXYLAMINE HYDROCHLORIDE AR/ACS is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV; ID No. 2937)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product  
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

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### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H290	May be corrosive to metals.
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.
R21/22	Harmful in contact with skin and if swallowed
R36/38	Irritating to eyes and skin
R40	Limited evidence of a carcinogenic effect
R43	May cause sensitisation by skin contact
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R50	Very toxic to aquatic organisms
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*