



## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification

#### 1.1 Product identifiers

**Product Name :** Methoxyamine Hydrochloride  
**Other name :** O-Methylhydroxylamine Hydrochloride  
**CAS No. :** 593-56-6

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

**Recommended uses :** Laboratory chemicals  
**Uses advised against:** Food, drug, pesticide or biocidal product use.

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

**Company :** Krishna Solvechem Limited.  
B/503, Sahayog, S. V. Road,  
Kandivali (West), Mumbai – 400067. India.  
**Telephone :** +91-22-6123 0222  
**Email :** exports@kscl.co.in

#### 1.4 Emergency telephone number

**Emergency Phone :** +91-8657457330

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification

(Classification according to  
Regulation(EC) No  
1272/2008)  
Health Hazard: 3  
Flammability : 0  
Physical Hazard: 0

#### 2.2 Label elements

**Pictogram :**



**Signal word**

Danger, Corrosive, Toxic to aquatic life

**Hazard statement (s)**

H302: Harmful if swallowed



- H314: Causes severe burns and eye damage
- H317: May cause an allergic skin reaction
- H335: May cause respiratory irritation
- H351: Suspected of causing cancer
- H372: Cause damage to organ through prolong or repeated exposure.
- H400: Very toxic to aquatic life
- R21/22: Harmful in contact with skin and if Swallowed
- R25: Toxic if swallowed
- R34: Causes burns
- R37: Irritating to respiratory system
- R40: Limited evidence of a carcinogenic effect
- R43: May cause sensitization by skin contact
- R50: Very toxic to aquatic organisms

**Precautionary statement (s)**

- P102: Keep out of reach of children
- P103: Read label before use
- P270: Do not eat, drink or smoke when using this product
- P271: Use only outdoors or in a well-ventilated area
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P311: Call a POISON CENTER or doctor/physician
- P405: Store locked up
- P403 + P233: Store in well-ventilated place. Keep container tightly closed.



### SECTION 3: Composition / information on ingredients

#### 3.1

Substance	CAS #	EC#	% w/w
Water	7732-18-5	231-791-2	1-2%
Methoxyamine Hydrochloride	593-56-6	209-798-7	99-98%

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>If inhalation :</b>	Remove to fresh air. If not breathing, give artificial respiration, Preferably mouth to mouth if possible. Call a Poison Control Center or doctor for further treatment advice.
<b>In case of skin contact :</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison control center or doctor for treatment advice.
<b>In case of eye contact :</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice.
<b>Ingestion :</b>	Call a Poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to by a Poison control center or doctor. Do not give anything to an unconscious person.

<b>4.2 Indication of any immediate medical attention and special treatment needed</b>	No further relevant information available
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### SECTION 5: Firefighting effects

#### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially exposable dust-air mixture.
<b>Unsuitable Extinguishing Media: :</b>	No information available

<b>5.2 Flash Point :</b>	No information available
<b>Method :</b>	No information available



<b>Specific Hazards Arising from the Chemical :</b>	Carbon oxides, Nitrogen Oxides (NOx), Hydrogen chloride.
<b>5.4 Protective Equipment and Precautions for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>5.5 General fire hazards :</b>	Handling conditions may form dust clouds which are susceptible to ignition by electrical (static) discharge. Ground container and personnel before transferring material.

## SECTION 6: Accidental release measures

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

Additional protective clothing must be worn to prevent personal contact with this material. Those items includes but not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing i.e. chemically impermeable suit, self-contained breathing apparatus. Ensure adequate ventilation.

### 6.2 Environmental precautions

Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or other waters unless in accordance with local or national regulations. Do not discharge effluent containing this product to sewersystems without previously notifying the local sewage treatment plant authority.

### 6.2 Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

**Large Spills:** Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.

**Small Spills:** Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g., cloth, fleece). Clean surface thoroughly to remove residual contamination.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation. Do not re-use empty containers. Do not get this material in contact with



eyes. Do not taste or swallow. Avoid breathing dust. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment.

## 7.2 Conditions for safe storage

Keep container tightly closed when not in use. Do not store above 130°F. Do not store with strong oxidizing agents. Store locked up.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Chemical name	CAS No.	Value type (from of exposure)	Control parameter permissible concentration
MAHCL	593-56-6	TWA	15.0 mg/m <sup>3</sup>

### 8.2 Exposure controls

#### Appropriate Engineering Controls:

Explosion-proof general and local exhaust ventilation. Good general ventilation 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. Provide eyewash station.

### 8.3 Individual protection measures, such as personal protective equipment

**Eye/face protection:** Users must wear protective eyewear (goggles, safety glasses, or face shield). **Skin protection/ Hand protection:** Users must wear appropriate chemical resistant gloves, long sleeved shirt and long pants, socks, chemical resistant gloves and chemical resistant footwear. When mixing and loading, or cleaning equipment, wear a chemical resistant apron. **Respiratory protection:** Users must wear a fit tested, NIOSH approved full face respirator equipped with a combination organic vapor/P-100 pre-filter.

### 8.4 General hygiene considerations

Avoid contact with skin, eyes and clothing. Ensure that eyewash stations and safety showers are close to the workstation location. When using do not eat, drink or smoke.

### 8.5 Additional Information

When mixing and loading, or cleaning equipment, wear a chemical resistant apron. Wash thoroughly with soap and water after handling, and before eating, chewing gum, drinking, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### 8.6 Control of environmental exposure

Avoid release to the environment

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	White to yellow solid powder
b) Odour	Pungent
c) Odour Threshold	No information available
d) pH	3.0-3.5 (1% aqueous solution at 25°C)
e) Melting point / freezing point	151 - 154
f) Initial boiling point and	Not available



<b>boiling range</b>	
<b>g) Flash point</b>	Not available
<b>h) Evaporation rate</b>	No information available
<b>i) Flammability (solid, gas)</b>	Not applicable
<b>j) Upper/lower flammability or explosive limits</b>	No data available No data available
<b>k) Vapour pressure</b>	Not available
<b>l) Vapour density</b>	Not available
<b>m) Specific Gravity</b>	Not available
<b>n) Solubility</b>	Soluble in water
<b>o) Partition coefficient: n octanol/water</b>	No data available
<b>p) Auto-ignition temperature</b>	No information available
<b>q) Decomposition temperature</b>	Not available
<b>r) Viscosity</b>	No information available
<b>s) Molecular formula</b>	CH <sub>3</sub> ONH <sub>2</sub> .HCl

### SECTION 10: Stability and Reactivity

<b>10.1 Reactive Hazard :</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2 Chemical stability :</b>	Stable under normal conditions.
<b>10.3 Possibility of hazardous reactions :</b>	None under normal processing.
<b>10.4 Conditions to avoid :</b>	Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Exposure to light. Incompatible products. Minimize dust generation and accumulation.
<b>10.5 Incompatible materials:</b>	Do not store with Strong oxidizing agents
<b>10.6 Hazardous decomposition products :</b>	Carbon oxides. Nitrogen oxides. Hydrogen chloride
<b>10.7 Hazardous Polymerization</b>	Hazardous polymerization does not occur



## SECTION 11: Toxicological information

### 11.1

#### Information on toxicological effects

##### Acute toxicity:

**Oral :** LD50 / mouse : 642 mg/kg

**Inhalation :** No data available

**Dermal :** LD50/rabbit: 1500 – 2000 mg/kg

#### Component Information

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Irritation :</b>	Cause severe burns. May cause irreversible eye Damage
<b>Sensitization:</b>	May cause an allergic skin reaction
<b>Carcinogenicity :</b>	No data available
<b>Mutagenic Effects:</b>	Not considered mutagenic
<b>Reproductive Effects:</b>	No information available.
<b>Developmental Effects :</b>	No information available.
<b>Teratogenicity:</b>	No information available.
<b>STOT - single exposure :</b>	Respiratory system
<b>STOT - repeated exposure:</b>	None known
<b>Aspiration hazard :</b>	No information available.
<b>Symptoms / effects, both acute and delayed:</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Endocrine Disruptor Information :</b>	No information available
<b>Other Adverse Effects :</b>	The toxicological properties have not been fully investigated.



## SECTION 12: Ecological information

### 12.1

#### Ecotoxicity:

LC50 (96h): 0.464-1 mg / l. (Danio rerio)

EC50 - Daphnia pulex (Water flea) –

0.394 mg/l - 48 h.WGK 2 water

endangering

**12.2 Persistence and degradability:** Is readily bio – degradable in water

**Bioaccumulation/  
Accumulation**

Based on the partition coefficient (log Pow=-1.84): Bio accumulation in biota is not expected

**12.3 Mobility:** No data available

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods:** This substance is considered to be Hazardous for transport by Air/Rail/Road and Sea and thus regulated byTDG/ US DOT/ IATA/ ICAO/ IMO/ IMDG.

**13.2 Disposal instructions:** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways orditches with chemical or used container. Dispose of contents/container in accordance withlocal/regional/national/international regulations.

**Local disposal regulations:** Dispose in accordance with all applicable regulations.

**Container Handling:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds.Pour rinsate into application equipment or a mix tank or store reinstated for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

## SECTION 14: Transport information

### 14.1 UN number :

ADR/RID:3265    IMDG: 3265    IATA: 3265

### 14.2 UN proper shipping name

**ADR/RID :** Corrosive liquid, acid, organic, N. O. S.

**IMDG :** Corrosive liquid, acid, organic, N. O. S.

**IATA :** Corrosive liquid, acid, organic, N. O. S.

**14.3 Transport hazard class(es)**    ADR/RID: 8                    IMDG: 8                    IATA: 8

**14.4 Packaging group:**                    ADR/RID: II                    IMDG: II                    IATA: II





## SECTION 15: Regulatory information

<b>15.1</b>	<b>Safety, health and environmental regulations specific for the product in question</b>	
	Listing of substance for applicability of various regulations / National inventories:	
	<b>Regulations / National inventories</b>	<b>Status</b>
	US Federal Regulations	
	CWA (Clean water Act)	Not applicable
	Clean Air Act	Not applicable
	OSHA-Occupational Safety and Health Administration	Not applicable
	CERCLA	Not applicable
	DSL Canada Domestic Substances list	Listed
	TSCS US Toxic Substances Control Act	Listed
<b>15.2</b>	<b>Chemical safety assessment</b>	
	No data available.	

## SECTION 16: Other information

- PBT =Persistent Bio accumulative and Toxic.
  - vPvB= Very Persistent and Very Bio accumulative.
  - SCBA= Self Contained Breathing Apparatus.
  - NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit.
  - OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit.
  - OELTWA= Occupational Exposure Limit Time Weighted Averages.
  - IDLH= Immediately Dangerous to Life or Health.
  - UEL= Upper Explosive Limit.
  - LEL= Lower Explosive Limit.
  - RTECS= Registry of Toxic Effects of Chemical Substances.
  - NTP=National Toxicology Program
  - IARC= International Agency for Research on Cancer.
  - EPA=Environmental Protection Agency.
  - TSCA= Toxic Substances Control Act.
  - CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act.
  - SARA= Superfund Amendments and Reauthorization Act.
  - NFPA= National Fire Protection Association.
  - WHIMS= Workplace Hazardous Materials Information System.
  - DSL/NDSL= Domestic/Non-Domestic Substances List.
  - CSR=Chemical Safety Report.
  - BCF = Bio Concentration Factor.
  - DNEL = Derived No Effect Level.
  - PNEC = Predicted No Effect Concentration.
  - TLV = Threshold Limit Value.
- ACGIH = American Conference of Governmental Industrial Hygienists.



- REACH = Registration, Evaluation Authorization and Restriction of Chemicals.
- CLP = Classification, Labeling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- EmS = Emergency measures on Sea.
- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.
- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

*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.*

