


Section 1 : Chemical Product and Company Identification		
<b>1.1 Product identifiers</b>		
Product Name:	Methoxylamine Hydrochloride solution	
<b>1.2 Other means of identification</b>		
Other names	O-Methylhydroxylamine hydrochloride, Methoxylamine hydrochloride, Methoxyammonium chloride, Methoxyamine Hydrochloride	
CAS No.	593-56-6	
REACH No.	01-2120105849-50-0000	
EINECS number	209-798-7	
Index no.	-	
<b>1.3 Recommended use of the chemical and restrictions on use</b>		
Identified uses	O-methylhydroxylamine is a useful intermediate to produce pharmaceuticals and agrochemicals. It is used in the stereo selective reduction of ketones. It is used as a reagent for the protection and derivatization of keto-groups of steroids particularly. It is used to detect sugars and amino sugars in glycoproteins. It is used as a powerful reducing agent in organic synthesis.	
Uses advised against	No data available	
<b>1.4 Supplier's details</b>		
Company	Deepak Nitrite Ltd. Aaditya-I, Chhani Road, Vadodara - 390 024, India Manufacturing facilities at : Vadodara, Dahej, Roha, Talaja & Hyderabad. Web : www.godeepak.com E.mail : customer.dnl@godeepak.com Tel: +91 265 276 5200/396 0200 Fax: +91 265 276 5344	
<b>1.5 Emergency phone number</b>		
	In case of Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Within USA & Canada: +1-800-424-9300, Outside USA & Canada: +1 703-527-3887 Contact no. : +91-9904406400	

Section 2 : Hazards Identification		
<b>2.1 Classification of the substance or mixture</b>		
<b>GHS classification</b> (Classification according to Regulation (EC) No 1272/2008) Health hazard : 3 Flammability : 0 Physical Hazard : 0 <b>EC classification</b> (Classification according to Directive 67/548/EEC) T : R 22-34-40-43 N : R 50		
<b>2.2 Label elements including precautionary statements</b>		
<b>Pictograms</b>		
<b>Signal word</b>	Danger                      Corrosive                      Toxic to aquatic life	
<b>Hazard statement(s)</b>	H302: Harmful if swallowed H314: Causes severe burns and eye damage H317: May cause an allergic skin reaction. H335: May cause respiratory irritation	

		<p>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.</p>
<b>Precautionary statement(s)</b>		
	Prevention	<p>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.</p>
	Response	P311 Call a POISON CENTER or doctor/ physician.
	Storage	<p>P405 : Store locked up.  P403 + P233: Store in well-ventilated place. Keep container tightly close.</p>
<b>2.3 Other hazards which do not result in classification</b>		
No data available		

Section 3 : Composition and Information on ingredients				
<b>3.1 Substances</b>				
	Molecular formula	CH <sub>5</sub> NO.HCl		
	Molecular weight	83.51 g/mol		
	Component	CAS Number	EC number	Concentration
	Water	7732-18-5	231-791-2	68-70%
	Methoxyamine Hydrochloride	593-56-6	209-798-7	30%
	Hydrochloric acid	7647-01-0	231-595-7	1-2%

Section 4 : First Aid measures	
<b>4.1 Description of necessary first-aid measures</b>	
General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin Contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician
<b>4.2 Most important symptoms / effects, acute and delayed</b>	
<p><i>The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.</i>  No further relevant information available.</p>	
<b>4.3 Indication of immediate medical attention and special treatment needed</b>	
No further relevant information available.	

Section 5 : Firefighting measures	
<b>5.1 Extinguishing Media</b>	
<b>Suitable extinguishing media</b>	
Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.	

	<b>Unsuitable extinguishing media</b>
	No data available
<b>5.2</b>	<b>Specific hazards arising from the chemical</b>
	Carbon oxides, Nitrogen Oxides (NO <sub>x</sub> ), Hydrogen chloride.
<b>5.3</b>	<b>Special protective actions for fire-fighters</b>
	Wear self-contained breathing apparatus for firefighting if necessary.

	<b>Section 6 : Accidental Release Measures</b>
<b>6.1</b>	<b>Personal precautions, protective equipment and emergency procedures</b>
	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
<b>6.2</b>	<b>Environmental precautions</b>
	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
<b>6.3</b>	<b>Methods and materials for containment and cleaning up</b>
	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
<b>6.4</b>	<b>Reference to other sections</b>
	<i>For safe handling see section 7.</i> <i>For Personal protective equipment see section 8.</i> <i>For disposal see section 13.</i>

	<b>Section 7 : Handling and Storage</b>
<b>7.1</b>	<b>Precautions for safe handling</b>
	Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. <i>For precautions see section 2.2.</i>
<b>7.2</b>	<b>Conditions for safe storage, including any incompatibilities</b>
	Keep container tightly closed in a dry and well-ventilated place.

	<b>Section 8 : Exposure Control / Personal Protection</b>										
<b>8.1</b>	<b>Control parameters / Occupational Exposure limit values</b>										
	This product does not contain any hazardous materials with occupational exposure limits established.										
<b>8.2</b>	<b>Exposure controls / Appropriate engineering controls</b>										
	Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area										
<b>8.3</b>	<b>Individual protection measures, such as Personal Protective Equipment (PPE)</b>										
	<table border="1"> <tr> <td>Skin Protection</td> <td>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.</td> </tr> <tr> <td>Hand Protection</td> <td>Handle with gloves. Gloves must be inspected prior to use. Gloves material should be impermeable and resistant to product. 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.</td> </tr> <tr> <td>Eye/Face Protection:</td> <td>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)</td> </tr> <tr> <td>Respiratory Protection</td> <td>Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).</td> </tr> <tr> <td>Hygiene measures</td> <td>Keep away from foodstuffs. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes and skin.</td> </tr> </table>	Skin 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.	Hand Protection	Handle with gloves. Gloves must be inspected prior to use. Gloves material should be impermeable and resistant to product. 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.	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)	Respiratory Protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).	Hygiene measures	Keep away from foodstuffs. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes and skin.
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Section 9 : Physical and Chemical Properties		
<b>9.1</b>	<b>Information on basic physical and chemical properties</b>	
a)	Appearance	Liquid
b)	Colour	Colourless
c)	Odour	Pungent
d)	pH ( 1% Solution)	Less than 1
e)	Boiling Point/range	105 – 110° C
f)	Crystallization point	-10° C
g)	Flash Point	No data available
h)	Auto ignition temperature	Not explosive under normal storage.
i)	Lower explosion limit	Not explosive under normal storage.
j)	Upper explosion limit	Not explosive under normal storage.
k)	Vapour Pressure	20 hPa (15 mmHg) at 28 °C (82 °F)
l)	Density at 20 Oc	1.14 g/cm <sup>3</sup>
m)	Solubility water	Soluble in water
n)	Relative vapour density	No data available
<b>9.2</b>	<b>Other safety information</b>	
a)	Dissociation constant	No data available.

Section 10 : Stability and reactivity		
<b>10.1</b>	<b>Reactivity</b>	
	No data available	
<b>10.2</b>	<b>Chemical Stability:</b>	
	Stable under recommended storage conditions.	
<b>10.3</b>	<b>Possibility of hazardous reactions</b>	
	No dangerous reactions known.	
<b>10.4</b>	<b>Conditions to Avoid:</b>	
	Incompatible materials.	
<b>10.5</b>	<b>Incompatible Materials</b>	
	Acid anhydrides, oxidizing agents.	
<b>10.6</b>	<b>Hazardous Decomposition Products:</b>	
	Hazardous decomposition products formed under fire conditions. - Hydrogen chloride Gas.	

Section 11 : Toxicological Information:		
<b>11.1</b>	<b>Information on toxicological effects</b>	
<b>a)</b>	<b>Acute toxicity</b>	
	Oral	LD50 /mouse : 642 mg/kg.
	Inhalation:	No data available
	Dermal:	LD50 /rabbit : 1500-2000 mg/kg.
<b>b)</b>	<b>Skin corrosion/irritation</b>	
	Cause severe burns.	
<b>c)</b>	<b>Serious eye damage/eye irritation</b>	
	Causes severe burns and eye damage	
<b>d)</b>	<b>Respiratory or skin sensitization</b>	
	May cause an allergic skin reaction.	
<b>e)</b>	<b>Germ cell mutagenicity</b>	
	No data available	
<b>f)</b>	<b>Carcinogenicity</b>	
	Suspected of causing cancer.	
<b>g)</b>	<b>Reproductive toxicity</b>	
	No data available	
<b>h)</b>	<b>Specific target organ toxicity (STOT) - single exposure</b>	
	Respiratory system.	

<b>i)</b>	<b>Specific target organ toxicity (STOT) - repeated exposure</b>
	Cause damage to organs through prolong or repeated exposure.
<b>j)</b>	<b>Aspiration hazard</b>
	No data available
<b>11.2</b>	<b>Additional Information</b>
	May be harmful if inhaled. Material is destructive to the tissue of the mucous membranes and upper respiratory tract.

Section 12 : Ecological Information	
<b>12.1</b>	<b>Toxicity</b>
	<ul style="list-style-type: none"> <li>• LC50 (96h) : 0.464-1 mg / l. (Danio rerio)</li> <li>EC50 - Daphnia pulex (Water flea) - 0.394 mg/l - 48 h.</li> <li>• WGK 2 water endangering</li> </ul>
<b>12.2</b>	<b>Persistence and Degradability</b>
	Is readily bio-degradable in water.
<b>12.3</b>	<b>Bio accumulative potential</b>
	Based on the partition coefficient (log Pow=-1.84 : Bio accumulatio in biota is not expected.
<b>12.4</b>	<b>Mobility in soil</b>
	No data available.
<b>12.5</b>	<b>Other adverse effects</b>
	No data available
<b>12.5</b>	<b>Results of PBT and vPvB assessment</b>
	No data available.
<b>12.6</b>	<b>Other adverse effects</b>
	No data available.

Section 13 : Disposal considerations	
<b>13.1</b>	<b>Disposal Methods</b>
<b>a)</b>	<b>Product</b>
	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.
<b>b)</b>	<b>Contaminated packaging</b>
	Dispose of as unused product.

Section 14 : Transport information				
<b>14.1</b>	<b>UN number</b>	ADR/RID: 3265	IMDG: 3265	IATA: 3265
<b>14.2</b>	<b>Proper Shipping Name</b>	ADR/RID: Corrosive liquid, acid, organic, n.o.s. (Methoxylamine hydrochloride, hydrochloric acid)	IMDG: Corrosive liquid, acid, organic, n.o.s. (Methoxylamine hydrochloride, hydrochloric acid)	IATA: Corrosive liquid, acid, organic, n.o.s. (Methoxylamine hydrochloride, hydrochloric acid)
<b>14.3</b>	<b>Transport hazard class(es)</b>	ADR/RID: 8	IMDG: 8	IATA: 8
<b>14.4</b>	<b>Packaging group</b>	ADR/RID: II	IMDG: II	IATA: II
<b>14.5</b>	<b>Environmental hazards</b>	ADR/RID: Marine Pollutant	IMDG: Marine Pollutant	IATA: Marine Pollutant
<b>14.6</b>	<b>Special precautions for user</b>	Corrosive substance		
<b>14.7</b>	<b>Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code</b>	Not applicable.		

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>
	<b>US Federal Regulations</b>
	CWA (Clean water Act)
	Clean Air Act
	OSHA-Occupational Safety and Health Administration
	CERCLA
	DSL Canada Domestic Substances list
	TSCS US Toxic Substances Control Act
<b>15.2</b>	<b>Chemical safety assessment</b>
	<i>No data available.</i>

Section 16 : Other information	
<b>16.1</b>	<b>Abbreviations and acronyms</b>
	<ul style="list-style-type: none"> <li>• <i>ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</i></li> <li>• <i>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road</i></li> <li>• <i>CAS: Chemical Abstracts Service</i></li> <li>• <i>CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</i></li> <li>• <i>CMR : Carcinogenic, Mutagenic or toxic for Reproduction</i></li> <li>• <i>DGR : Dangerous Goods Regulations (see IATA/DGR)</i></li> <li>• <i>EC50: Effective Concentration 50%</i></li> <li>• <i>EINECS : European Inventory of Existing Commercial Chemical Substances</i></li> <li>• <i>ELINCS : European List of Notified Chemical Substances</i></li> <li>• <i>EmS : Emergency Schedule</i></li> <li>• <i>GHS : Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations</i></li> <li>• <i>IATA : International Air Transport Association</i></li> <li>• <i>IATA/DGR : Dangerous Goods Regulations (DGR) for the air transport (IATA)</i></li> <li>• <i>ICAO International Civil Aviation Organization</i></li> <li>• <i>IMDG : International Maritime Dangerous Goods Code</i></li> <li>• <i>Index number : Identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008</i></li> <li>• <i>LC50: Lethal Concentration 50%</i></li> <li>• <i>LD50: Lethal Dose 50%</i></li> <li>• <i>MARPOL : Marine Pollutant as per International Convention for the Prevention of Pollution from Ships</i></li> <li>• <i>PBT : Persistent, Bioaccumulative and Toxic</i></li> <li>• <i>REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals</i></li> <li>• <i>RID: Regulation concerning the International Carriage of Dangerous Goods by Rail</i></li> <li>• <i>vPvB : very Persistent and very Bioaccumulative</i></li> </ul>
<b>16.2</b>	<b>Key literature references and sources for data</b>
	<p>a) <i>Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU</i></p> <p>b) <i>Regulation (EC) No. 1272/2008 (CLP, EU GHS)</i></p> <p>c) <i>Dangerous Goods Regulations (DGR) for the air transport (IATA)</i></p> <p>d) <i>International Maritime Dangerous Goods Code (IMDG)</i></p>



<i>Prepared by :</i>	<i>Deepak Nitrite Ltd. E.Mail : sbraval@godeepak.com</i>
<i>Revision Date</i>	<i>01-June-2020</i>
<i>Revision Summary</i>	This safety datasheet has been prepared according to the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), revision 8 and complies with the requirements of Regulation (EC) No. 1907/2006
	<p><b>DISCLAIMER:</b> Deepak Nitrite Ltd. Provides the information contained herein in good faith but makes no representation as to comprehensiveness or accuracy. This document is only as a guide to a properly trained person, for the appropriate precautions and handling of the material. Individuals receiving the information must exercise their independent</p>

End of SDS