

Section 1 - Chemical Product and Company Identification

Product Name	M-HIB
Synonyms	None
Product Use	Methanol Corrosion Inhibitor
Restriction on Use	None identified
Manufacturer/Supplier	CFR Chemicals 38451 Range Road 22 County of Red Deer T4E 2N6
General Assistance	1 (877) 269-3419
Emergency Telephone	613-966-6666 (CANUTEC 24 Hour Phone Number)
Date of Preparation of SDS	April 1, 2017

Section 2 – Hazard Identification

Signal Word
GHS Pictogram(s)

Danger



Hazard Statement:

H225
H301 +H311 +H331
H370

Highly flammable liquid and vapour.
Toxic if swallowed, in contact with skin or if inhaled.
Causes damage to organs.

Precautionary Statement
Prevention

P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources.
No smoking
P233 Keep Container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use non sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
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.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P302 + P352 +P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTRE or doctor/physician if you feel unwell.
P303 + P361 + P353 IF ON SKIN (or hair) Take off immediately all contaminated clothing, rinse skin with water (or shower).



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P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor/physician.
P308 + P311	IF exposed or concerned: Call a POISON CENTRE or doctor/physician.
P321	Specific Treatment (see label)
P330	Rinse mouth.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: use appropriate media to extinguish.
Storage	
P235	Keep Cool.
P403 + P233	Store in well-ventilated place. Keep contained tightly closed.
P405	Store locked up.
Disposal	
P501	Dispose of contents/container to an approved waste disposal unit.

GHS Classification	Flammable liquids (Category 2) Acute Toxicity, Oral (Category 3) Acute Toxicity, Inhalation (Category 3) Acute Toxicity, Dermal (Category 3) Specific target organ toxicity - single exposure (Category 1)
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HMIS Classification	
Health Hazard	2
Chronic Health Hazard	*
Flammability	3
Physical Hazards	0

Potential Health Effects	
Inhalation	Toxic if inhaled. May cause respiratory tract irritation.
Skin	Toxic if absorbed through skin. May cause skin irritation.
Eye	May cause eye irritation.
Ingestion	Toxic if swallowed.

Section 3 – Composition Information on Ingredients

HAZARDOUS INGREDIENT	Hazardous Ingredient, Synonyms	PERCENT	CAS NUMBER
Methanol	Methyl alcohol, wood alcohol, carbinol, wood spirits, methyl hydroxide, methyl hydrate	60 - 70%	67-56-1
Isopropanol	IPA, Rubbing Alcohol, Isopropyl Alcohol	10 - 20%	67-63-0
Benzyl alkyl pyridinyl quaternary ammonium chloride	Not Applicable	0 - 5%	68909-18-2
Morpholine	Diethylene imidoxide, Diethylene oximide, Tetrahydro-1,4-oxazine, Tetrahydro-p-oxazine	0 - 5%	110-91-8
Ethoxylated amine	Not Applicable	0 - 10%	61791-17-1
Ethoxylated amine	Not Applicable	0 - 10%	61791-26-21
Ethoxylated Nonylphenol	Not available	0 – 3%	9016-45-1



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Cyclohexylamine

1-Aminocyclohexane;1-

0 - 5%

108-91-8

Cyclohexylamine;aminocyclohexane[qr];Aminohexahydrobenzene;aminohexahydrobenzene[qr];Aniline, hexahydro-;Benzenamine, hexahydro-;benzenamine,hexahydro-[qr]
* = Various ** = Mixture *** = Proprietary

Chemical Formula

Not Applicable

Section 4 - First Aid Measures

Inhalation

Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Eye Contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower lids. Check for and remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention.

Skin Contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Get medical attention immediately. Call a poison control center or physician. Wash out mouth with water and give one half to one glass of water to dilute stomach contents. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.

Most Important Symptoms/Effects

Acute

Poison. May be fatal if swallowed. If swallowed there is a risk of blindness. Toxic if swallowed, in contact with skin or if inhaled. Ingestion causes nausea, weakness and central nervous system effects, headache, vomiting, dizziness, symptoms of drunkenness. Coma and death due to respiratory failure may follow severe exposures: Medical treatment necessary. A latent period of several hours may occur between exposure and the onset of symptoms.

Delayed

May damage fertility or the unborn child.

Note to Physician

When plasma methanol concentration is higher than 20mg/dL, a 10% solution of ethanol in 5% aqueous dextrose is an effective intravenous antidote.

Section 5 – Fire-Fighting Measures

Flash Point (°C)

11°C

Flash Point Method

PMCC

Auto Ignition Temperature

464°C

Conditions of Flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/ hot surface. No smoking.

Extinguishing Media	Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide
Unsuitable Extinguishing Media	Water jet.
Unusual Fire/	
Explosion Hazard	Vapors may collect in low spots and "flash back" from ignition sources. Lower explosive limit = 6%, upper explosive limit = 36.5%
Hazardous Combustion	
Products	Carbon oxides
Special Protective Equipment and	
Precautions for Firefighters	Wear full firefighting gear and self-contained breathing apparatus (SCBA) for protection against possible exposure..

Section 6 – Accidental Release Measures

Personal precautions	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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.
Methods and materials for containment and cleaning up	Contain free liquid if possible. Pick up by covering with an activated carbon absorbent or other suitable inert absorbent material (e.g. sand, sawdust, general-purpose binder). Take up & place in closed containers. Ventilate area & wash spill site after material pickup is complete. Contain and dispose of wash water in accordance with local regulations.

Section 7 – Handling and Storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.
Conditions for safe storage	Keep container tightly closed in a dry and well-ventilated place.
Incompatible Conditions	Heat, Flames, Sparks.
Incompatible Materials	Oxidizing materials. Acids, Acid anhydrides, Acyl halides and Alkyl halides. Attacks copper, aluminum, zinc, nickel and cast iron.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name

Methanol

Exposure Limits

Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)

TWA: 200ppm

STEL: 250ppm

ACGIH TLV

TLV: 200ppm (SKIN)

STEL: 250ppm

OSHA PEL

200ppm (skin)

Isopropanol

Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)

	STEL: 400ppm TWA: 200ppm
	ACGIH TLV TWA: 200ppm 8 Hours STEL: 500ppm
	OSHA PEL TWA: 400ppm
Benzyl alkyl pyridinyl quaternary ammonium chloride	Exposure limits are not established for this component
Morpholine	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL) TWA: 20ppm ACGIH TLV TWA: 20ppm OSHA PEL TWA: 20ppm Exposure limits are not established for this component
Ethoxylated amine	Exposure limits are not established for this component
Ethoxylated Nonylphenol	Exposure limits are not established for this component
Cyclohexylamine	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL) TWA: 10ppm ACGIH TLV TWA: 20ppm OSHA PEL TWA: 20ppm

Personal protective equipment

Eye/face protection

Chemical safety glasses with side shields to prevent eye contact. As a general rule do not wear contact lenses when handling chemicals. If contact is possible, the following protection should be worn: Splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Wear chemical resistant gloves, impermeable protective clothing and safety shoes. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary.

General hygiene

Considerations

Handle in accordance with good industrial hygiene and safety practices. Eye wash fountains and safety showers must be easily accessible.

Specific engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Section 9 – Physical and Chemical Properties

Physical State	Liquid	Water Solubility	Completely miscible
Appearance & Odour	Clear, dark brown, pungent odour.	Boiling Point	64.7°C (Methanol)
Vapour Pressure	Not Available	Boiling Range	Not Applicable

Odour Threshold	Not Available	Melting Point	<-40°C
Evaporation Rate	Not Available	Freezing Point	<-40°C
Vapour Density	Not Available	Lower Explosive Limit (LEL)	6 % (Methanol)
Specific Gravity	0.82 – 0.84	Upper Explosive Limit (UEL)	36 % (Methanol)
pH	8.57 (5% v/v)	Partition coefficient (n-octanol/water)	Not Available
Flammability (Solid, Gas)	Not applicable.	Viscosity	Not Available
Decomposition Temperature	Not available.		

Section 10 – Stability and Reactivity

Reactivity	Containers may rupture or explode if exposed to heat.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous Reactions	Vapours may form explosive mixture with air.
Conditions to avoid	Heat, flames and sparks.
Materials to avoid	Oxidizing materials. Acids, Acid anhydrides, Acyl halides and Alkyl halides. Attacks copper, aluminum, zinc, nickel and cast iron.
Hazardous decomposition Products	Hazardous decomposition products formed under fire conditions. - Carbon oxides. Other decomposition products - No data available

Section 11- Toxicological Information

Information on Likely Routes of Exposure

Inhalation	May cause headache, nausea, dizziness, loss of coordination, central nervous system depression, respiratory tract irritation, sensitivity to light, and/or blurred vision. Coma and death due to respiratory failure may follow severe exposures: Medical treatment necessary. A latent period of several hours may occur between exposure and the onset of symptoms.
Skin contact	Harmful in contact with skin.
Eye contact	Causes serious eye irritation.
Ingestion	Poison. May be fatal if swallowed. If swallowed there is a risk of blindness.
Acute and Chronic Toxicity	Poison. Toxic if swallowed, in contact with skin or if inhaled. If swallowed there is a risk of blindness.

Acute toxicity

Product/Ingredient Name	Result	Species	Dose	Exposure
Methanol	LC50 Inhalation, vapour	Rat	128.2mg/L	4 Hr
	LD50 Oral	Rat	1187-2769mg/kg	-
	LD50 Dermal	Rabbit	17100mg/kg	-
Isopropanol	LC50 Inhalation gas	Rat	73mg/L	4 Hr
	LD50 Oral	Rat	5045mg/kg	-
	LD50 Dermal	Rabbit	12870mg/kg	-
Benzyl alkyl pyridinyl quaternary ammonium	No data available			

chloride

Morpholine	LC50 Inhalation, vapour	Rat	8mgL	Not specified
	LD50 Oral	Rat	1910mg/kg	-
	LD50 Dermal	Rabbit	500mg/kg	-
Ethoxylated amine	No data available			
Ethoxylated Nonylphenol	No data available			
Cyclohexylamine	LC50 Inhalation, vapour	Rat	7500mg/m ³	Not specified
	LD50 Oral	Rat	300mg/kg	-
	LD50 Dermal	Rabbit	277mg/kg	-

Skin corrosion/irritation No data available.

Serious eye damage/eye irritation

Components of this product (morpholine, cyclohexylamine) can cause serious damage to eyes. Eye irritant.

Respiratory or skin sensitization

Does not cause skin sensitization.

Germ cell Mutagenicity No known significant effects or critical hazards.

Carcinogenicity

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.

Reproductive toxicity Methanol may cause teratogenic/embryotoxic effects based on studies in laboratory animals.

Specific target organ toxicity - single exposure (Globally Harmonized System)

Causes damage to organs.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

This substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard No aspiration toxicity classification.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Short Term Exposure

Potential immediate Health Effects

Poison. Toxic if swallowed, in contact with skin or if inhaled. May be fatal if swallowed. If swallowed there is a risk of blindness. Causes serious eye irritation. Causes damage to organs. Ingestion causes nausea, weakness and central nervous system effects, headache, vomiting, dizziness, symptoms of drunkenness, respiratory tract irritation. Coma and death due to respiratory failure may follow severe exposures: Medical treatment necessary. A latent period of several hours may occur between exposure and the onset of symptoms.

Potential Delayed Health Effects

Symptoms may be delayed. Toxic by ingestion, inhalation or skin contact. Can cause metabolic acidosis, blindness, seizures, liver and kidney damage, unconsciousness, coma and death.

Long Term Exposure

Potential immediate Health Effects No data available.

Potential Delayed Health Effects No data available.

Potential Chronic Effects May cause liver and kidney damage.

Synergistic effects Alcohols may interact synergistically with chlorinated solvents (example - carbon tetrachloride, chloroform, bromotrichloromethane), dithiocarbamates (example - disulfiram), dimethylnitrosamine and thioacetamide.

Section 12 – Ecological Information

Toxicity

Product / Ingredient Name	Result	Species	Exposure
Methanol	LC50 15400mg/L	Fish – Lepomis macrochirus	96 Hr
	NOEC 7900mg/L	Fish – Oryzias Latipes	200 Hr
	EC50 >10000mg/L	Daphnia – Daphnia magna	48 Hr
Isopropanol	LC50 9640mg/L	Fish – Pimephales promelas	96 Hr
	EC50 5102mg/L	Daphnia – Daphnia magna	24 Hr
Benzyl alkyl pyridinyl quaternary ammonium chloride	No data available		
Morpholine	LC50 380mg/L	Fish – Oncorhynchus mykiss	96 Hr
	EC50 45mg/L	Daphnia – Daphnia magna	48 Hr
Ethoxylated amine	No data available		
Ethoxylated Nonylphenol	No data available		
Cyclohexylamine	LC50 33mg/L	Fish – Oryzias latipes	96 Hr
	ED50 36.3mg/L	Daphnia – Daphnia magna	48 Hr

Persistence and degradability

Biodegradability

Methanol	aerobic Result: 72 % - readily biodegradable Method: OECD Test Guideline 3-1D
Morpholine	aerobic Result: 93 % - readily biodegradable
Cyclohexylamine	aerobic Result: 92 % - readily biodegradable

Other components have unknown biodegradability.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

PBT and vPvB assessment

No data available.

Other adverse effects

No data available.

Section 13 – Disposal Considerations

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

Section 14 - Transportation Information

CANADA Transportation of Dangerous Goods (TDG)

Shipping Name UN1992, Flammable Liquid, Toxic N.O.S. (Methanol), 3. PG II

Class 3

UN Number UN1992

Packaging Group: II

Label



Environmental hazards	Not a marine pollutant.
Transportation in bulk, if applicable	No data available
Special Precautions	No data available

Section 15 – Regulatory Information**DSL (Canadian Domestic Substances List)
and CEPA (Canadian Environmental Protection Act)**

All components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

TSCA Inventory (8b)

All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

Section 16 – Other Information

REVISION SUMMARY:

Date of Preparation	April 1, 2017
Date of Revision	April 1, 2025

SDS Prepared by: CFR Lab Manager

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