Safety Data Sheet - GHS
CFR Super Hydrate Breaker

Date of Revision: March 15, 2022

Section 1 - Chemical Product and Company Identification

Product Name	CFR Super Hydrate Breaker
Synonyms	Not applicable
Product Use	Solvent; De-icing fluid
Restriction on Use	None identified
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 Danger

GHS Pictogram(s)

Hazard Statement:

H225	Highly flammable liquid and vapour.
H301 +H311 +H331	Toxic if swallowed, in contact with skin or if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

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 no 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	IF ON SKIN: Wash with plenty of water.

P303 + P361 + P353	IF ON SKIN (or hair) Take off immediately all contaminated clothing, rinse skin with water (or shower).
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311	IF exposed or concerned: Call a POISON CENTRE or doctor/physician.
P314	Get medical advice/attention if you feel unwell.
P321	Specific Treatment (see label)
P330	Rinse mouth.
P332 + P313	If skin irritation occurs: get medical advice/attention.
P337 + P313	If eye irritation persists: get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: use water fog, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage

P403 + P233 + P235	Store in well-ventilated place. Keep contained tightly closed. Keep Cool
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)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 2A)
Specific target organ toxicity – single exposure (Category 1)
Specific target organ toxicity – repeated exposure (Category 2)

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%	67-56-1
Isopropanol	2-propanol; IPA; Isopropyl Alcohol; 1-methylethanol; 1-methylethyl alcohol; 2-	< 30%	67-63-0

	hydroxypropane; i-propanol; propan-2-ol; sec-propanol.		
Ethylene Glycol	1,2-ethanediol, EG, Glycol	< 10%	107-21-1
Ethyl Ether	Diethyl ether, Ether, Ethyl oxide	< 10%	60-29-7

* = Various ** = Mixture *** = Proprietary

Chemical Formula Mixture

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) ~10°C
Flash Point Method PMCC
Auto Ignition Temperature > 399°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 Extinguising 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 environmentmust 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. Store in a cool place below 49°C (120F).
Incompatible Conditions	Heat, Flames, Sparks.
Incompatible Materials	Strong acids, strong bases, alkali metals, halogens, strong oxidizing agents.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name	**Exposure Limits**
Methanol	**Canada, Alberta, Occupational Health and Safety Cote (table 2: OEL)** TWA: 200ppm STEL: 250ppm
Isopropanol	**Canada, Alberta, Occupational Health and Safety Cote (table 2: OEL)** STEL: 400ppm TWA: 200ppm

Ethylene Glycol	**Canada, Alberta OHSC Code** 100mg/m^3
Ethyl Ether	**Canada, Alberta OHSC Code** TWA: 400 ppm STEL: 500 ppm

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**	Insoluble
Appearance & Odour	Clear, Colourless. Distinct odour.	**Boiling Point**	>35°C
Vapour Pressure	0.08hPa (20°C)	**Boiling Point Range**	Not applicable
Vapour Density	>1.11 (Air = 1)	**Melting Point**	<-13°C
Specific Gravity	0.80 – 0.83	**Freezing Point**	<-13°C
Partition coefficient (n-octonal/water)	Not available	**Lower Explosive Limit (LEL)**	1.7%
pH	~7	**Upper Explosive Limit (UEL)**	48%
Flashpoint (Method)	~10°C	**Auto Ignition temperature**	> 399°C
Odour Threshold	Not available	**Evaporation Rate**	Not available
Flammability (Solid, Gas)	Not available		
Decomposition Temperature	Not available	**Viscosity**	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 Under normal conditions of storage and use, hazardous reactions will not occur

Conditions to avoid Heat, flames and sparks.

Materials to avoid Strong acids, strong bases, alkali metals, halogens, strong oxidizing agents.

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	-
	LC50 Inhalation gas	Rat	73mg/L	4 Hr
Isopropanol	LD50 Oral	Rat	5045mg/kg	-
	LD50 Dermal	Rabbit	12870mg/kg	-
Ethylene Glycol	LD50 Oral	Rat	4700mg/kg	-
	LD50 Dermal	Rabbit	10626mg/kg	-
Ethyl Ether	LC50 Inhalation gas	Mouse	31000mg/kg	30 mins
	LD50 Oral	Rat	1215mg/kg	-
	LD50 Dermal	Rabbit	14.2g/kg	-

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation

Causes eye irritation.

Respiratory or skin sensitization

No data available

Mutagenicity No data available

Carcinogenicity

IARC:

Methanol	3 Not classifiable as to carcinogenicity in humans
Isopropanol	3 Not classifiable as to carcinogenicity in humans
Ethylene Glycol	3 Not classifiable as to carcinogenicity in humans
Ethyl Ether	3 Not classifiable as to carcinogenicity in humans

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

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

Specific target organ toxicity - single exposure (Globally Harmonized System)
May cause drowsiness or dizziness. Causes damage to organs.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard No data available

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	Acute LC50 15400mg/L	Fish – Lepomis macrochirus	96 Hr
	NOEC 7900mg/L	Fish – Oryzias Latipes	200 Hr
	Acute EC50 >10000mg/L	Daphnia – Daphnia magna	48 Hr
Isopropanol	Acute LC50 9640mg/L	Fish – Pimephales promelas	96 Hr
	Acute EC50 5102mg/L	Daphnia – Daphnia magna	24 Hr
Ethylene Glycol	Acute LC50 18500mg/L	Fish – Oncorhynchus mykiss	96 Hr
	Acute LC50 >1000mg/L	Fish – Leuciscus idus	48 Hr
	Acute EC50 74000mg/L	Daphnia – Daphnia magna	24 Hr
Ethyl Ether	Acute LC50 2560mg/L	Fish – Pimephales promelas	96 Hr

Persistence and degradability

Biodegradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

PBT and vPvB assessment 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	UN1993, Flammable Liquid, N.O.S. (Ethyl Ether), 3. PG II
Class	3
UN Number	UN1993
Packaging Group:	II

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	March 15, 2022

SDS Prepared by: CFR Lab Manager

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