

Section 1 - Chemical Product and Company Identification

Product Name	CFR OP 101 Ethylene Glycol Inhibitor
Synonyms	OP 101, OP-101
Product Use	Various use, chemical intermediate, heat transfer fluid
Restrictions On Use	Not Applicable
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:

H302
H314

Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary Statement

P260
P264
P270
P280

Do not breath dust/gas/mist/vapours.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/eye protection/face protection.

Response

P321
P363
P301 + P312
P301 + P330 + P331
P303 + P361 + P353

P304 + P340
P305 + P351 + P338

Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
IF SWALLOWED: Immediately call a POISON Center or doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P405

Store locked up.

Disposal

P501

Dispose of contents/container to an approved waste disposal unit.

GHS Classification

Acute Toxicity (oral) (Category 4)
Skin corrosion/irritation (Category 1A)



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HMIS Classification

Health Hazard	1
Chronic Health Hazard	*
Flammability	1
Physical Hazards	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin.
Eye	Causes eye irritation.
Ingestion	May be harmful if swallowed.

Section 3 – Composition Information on Ingredients

HAZARDOUS INGREDIENT, Common Name	Hazardous Ingredient, Synonyms	PERCENT	CAS NUMBER
Potassium hydroxide	Caustic Potash, Lye	10 – 41.6%	1310-5-3
Phosphoric acid, 75%, aqueous solution	Orthophosphoric Acid	10 – 40%	7664-38-2
Ethylene Glycol	1,2-ethanediol, EG, Glycol	1 – 40%	107-21-1
Disodium tetraborate, pentahydrate	Not Applicable	1 – 20%	12173-04-3
Sodium 4(or 5)-methyl-1H-benzotriazolide	Not Applicable	0.49 – 10.2%	64665-57-2
Polydimethylsiloxane	Not Applicable	0.5 – 2%	63147-62-9
Silica filled polydimethylsiloxane	Not Applicable	0.01 – 1%	67762-90-7
Sucrose distearate	Not Applicable	0.01 – 1%	27915-16-0

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

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 centre or physician. If alert, rinse mouth and drink ½ to 1 glass of water to help dilute the material. Do not give liquids to a drowsy, convulsion, or unconscious patient. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so vomit does not enter the lungs. 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 both Acute and Delayed

Causes severe skin burns and irritation. Swallowing a small quantity of this material will result in a severe health hazard.

Note to Physician

No information available.

Section 5 – Fire-Fighting Measures

Flash Point (°C)	Not applicable
Flash Point Method	PMCC
Auto Ignition Temperature	No data available
Conditions of Flammability	Not flammable or combustible.
Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media	Water jet.
Unusual Fire/Explosion Hazard	No data available.
Hazardous Combustion Products	Carbon oxides.
Fire Fighting Equipment	Wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.
Special Precautions for Firefighters	No data available.

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. Vapour 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	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7 – Handling and Storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Conditions for safe storage	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic.
Incompatible Materials	Strong Acids, Strong Bases.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name

Ethylene Glycol

Exposure Limits

Canada, Alberta OHSC Code

 100mg/m³

ACGIH TLV

 TLV: 100mg/m³

Potassium hydroxide

Canada, Alberta OHSC Code

None established

ACGIH

 Ceiling: 2mg/m³

Phosphoric acid, 75%, aqueous solution

Canada, Alberta OHSC Code

 1mg/m³

ACGIH

 TWA: 1mg/m³

 STEL: 3mg/m³

OSHA PEL

 TWA 1mg/m³

Disodium tetraborate, pentahydrate

Canada, Alberta OHSC Code

 TWA: 1mg/m³

 Ceiling: 3mg/m³

ACGIH

 TWA: 2mg/m³

Sodium 4(or 5)-methyl-1H-benzotriazole

Canada, Alberta OHSC Code

None established

Polydimethylsiloxane

Canada, Alberta OHSC Code

None established

Silica filled polydimethylsiloxane

Canada, Alberta OHSC Code

None established

Sucrose distearate

Canada, Alberta OHSC Code

 TWA: 10mg/m³ (Stearates in general)

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 respiratory 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. 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	miscible
Appearance & Odour	Clear, colourless to pale yellow. Odourless.	Boiling Point	100°C
Vapour Pressure	17 mmHg (20.0°C)	Boiling Point Range	100 – 196°C
Vapour Density	>1 (Air = 1)	Melting Point	<-40°C
Specific Gravity	1.44	Freezing Point	<-40°C
Partition coefficient (n-octanol/water)	Not available.	Lower Explosive Limit (LEL)	Not Available
pH	10.30 (neat)	Upper Explosive Limit (UEL)	Not Available
Flashpoint (Method)	Not flammable	Auto Ignition temperature	Not Available
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	Thermal decomposition generates: Corrosive vapours.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No data available.
Conditions to avoid	No data available.
Materials to avoid	Strong acids. Strong bases.
Hazardous decomposition products	Carbon oxides.

Section 11- Toxicological Information

Information on Likely Routes of Exposure

Inhalation:

May be harmful if inhaled. May cause respiratory tract irritation.

Skin contact

Causes severe skin burns and irritation.

Eye contact

May cause eye irritation.

Ingestion

May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, lumbar pain, oliguria, uremia, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure, pulmonary edema, and severe kidney damage may develop. May be fatal if swallowed, lethal dose in adult humans for ethylene glycol is approximately 100 mL

Acute and Chronic Toxicity

Poison. Toxic if swallowed. If swallowed there is a risk of blindness.

Acute toxicity

Product/Ingredient Name	Result	Species	Dose	Exposure
Ethylene Glycol	LD50 Oral	Rat	4700mg/kg	-
	LD50 Dermal	Rabbit	10626mg/kg	-
Potassium hydroxide	LD50 Oral	Rat	333mg/kg	-
Phosphoric acid, 75%, aqueous solution	LD50 Oral	Rat	4400mg/kg	-
Disodium tetraborate, pentahydrate	LD50 Oral	Rat	>2000mg/kg	-
	LD50 Dermal	Rabbit	>2000mg/kg	-
Sodium 4(or 5)-methyl-1H-benzotriazole	LD50 Oral	Rat	640 – 1980mg/kg	-
	LD50 Dermal	Rabbit	>2000mg/kg	-
Polydimethylsiloxane	No data available			
Silica filled polydimethylsiloxane	No data available			
Sucrose distearate	No data available			

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/ Eye irritation

Not classified.

Respiratory or skin sensitization

Not classified.

Mutagenicity

Not classified.

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.

Reproductive toxicity

Not classified.

Teratogenicity

Not classified.

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

No data available.

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

No data available.

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 No data available.

Potential Delayed Health Effects No data available.

Long Term Exposure

Potential immediate Health Effects No data available.

Potential Delayed Health Effects No data available.

Potential Chronic Effects No data available.



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Synergistic effects

No data available

Section 12 – Ecological Information

Toxicity

Product / Ingredient Name	Result	Species	Exposure
Ethylene Glycol	LC50 18500mg/L	Fish – Oncorhynchus mykiss	96 Hr
	LC50 >1000mg/L	Fish – Leuciscus idus	48 Hr
	EC50 74000mg/L	Daphnia – Daphnia magna	24 Hr
Potassium hydroxide	LC50 28.6mg/L	Fish – Pisces	96 Hr
Phosphoric acid, 75%, aqueous solution	LC50 138mg/L	Fish – Pisces	96 Hr
Disodium tetraborate, pentahydrate	LC50 100 – 1000mg/L	Fish – Pisces	96 Hr
	EC50 340mg/L	Daphnia – Daphnia magna	24 Hr
Sodium 4(or 5)-methyl-1H-benzotriazole	LC 50 25mg/L	Fish – Oncorhynchus mykiss	96 Hr
	EC 50 280mg/L	Daphnia – Daphnia magna	24 Hr
Polydimethylsiloxane	No data available		
Silica filled polydimethylsiloxane	No data available		
Sucrose distearate	No data available		

Persistence and degradability	No data available.
Bioaccumulative potential	Does not bioaccumulate.
Mobility in soil	No data available.
PBT and vPvB assessment	No data available

Section 13 – Disposal Considerations

Product

Do not discharge substance/product into sewer system. Dispose of in accordance with national, regional, and local regulations.

Contaminated packaging

Dispose of as unused product in a licensed facility. Recommend crushing, puncturing, or other means to prevent unauthorized use of used containers. Do not cut, weld, or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled materials and runoff and contain with soil, waterways, drains, and sewers.

Section 14 - Transportation Information

CANADA Transportation of Dangerous Goods (TDG)

Shipping Name	UN3082, Environmentally Hazardous Substances, liquid, N.O.S. (Ethylene Glycol), 9, III
Class	9
UN Number	UN3082
Packaging Group:	III



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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

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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