# Safety Data Sheet - GHS
# Inhibited Ethylene Glycol 80%

Date of Revision: June 19, 2019

## Section 1 - Chemical Product and Company Identification

| | |
|---|---|
| **Product Name** | Inhibited Ethylene Glycol 80% |
| **Synonyms** | IEG 80 |
| **Product Use** | Industrial Heat Transfer Fluid |
| **Restrictions On Use** | Not Applicable |
| **Supplier** | CFR Chemicals<br>38451 Range Road 22<br>County of Red Deer T4E 2N6 |
| **General Assistance** | 1 (877) 269-3419 |
| **Emergency Telephone** | **Not Dangerous Goods – Call General Assistance** |
| **Date of Preparation of SDS** | **April 1, 2017** |

## Section 2 – Hazard Identification

**Signal Word** Warning

**GHS Pictogram(s)**

Hazard Statement:

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H373 | May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed. |

Precautionary Statement

Prevention

| | |
|---|---|
| P260 | Do not breathe dust/gas/mist/vapours. |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/eye protection/face protection. |

Response

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|---|---|
| P301 + P312 +P330 | IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse Mouth. |
| P314 | Get medical advice/attention if you feel unwell. |

Storage

No Statements.

Disposal

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|---|---|
| P501 | Dispose of contents/container to an approved waste disposal unit. |

**GHS Classification** Acute Toxicity (oral) (Category 4)
Specific target organ toxicity - repeated exposure, oral (Kidney) (Category 2)

**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 |
|---|---|---|---|
| Ethylene Glycol | 1,2-ethanediol, EG, Glycol | 80% | 107-21-1 |
| Water | Aqua | 18 – 20% | 7732-18-5 |
| Potassium hydroxide | Caustic Potash, Lye | 0 - 2% | 1310-5-3 |
| Phosphoric acid, 75%, aqueous solution | Orthophosphoric Acid | 0 - 2% | 7664-38-2 |
| Disodium tetraborate, pentahydrate | Not Applicable | 0 – 0.1% | 12173-04-3 |
| Sodium 4(or 5)-methyl-1H-benzotriazolide | Not Applicable | 0 – 0.5% | 64665-57-2 |
| Polydimethylsiloxane | Not Applicable | 0 – 0.5% | 63147-62-9 |
| Silica filled polydimethylsiloxane | Not Applicable | 0 – 0.5% | 67762-90-7 |
| Sucrose distearate | Not Applicable | 0 – 0.5% | 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**

Harmful if swallowed. May cause damage to the kidneys if swallowed. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. May cause slight eye and skin irritation. Symptoms include: Redness, swelling, itching and dryness. Suspected of damaging the unborn child.

**Note to Physician**

Kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhea, lumbar pain shortly after ingestion, and possibly narcosis and death. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! May cause significant renal, respiratory, and CNS toxicity. May cause significant acidosis. Call a doctor or poison control center for guidance.

## Section 5 – Fire-Fighting Measures

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|---|---|
| **Flash Point (°C)** | Not flammable |
| **Flash Point Method** | PMCC |
| **Auto Ignition Temperature** | 225°C |
| **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

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|---|---|
| **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

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|---|---|
| **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** | **Exposure Limits** |
|---|---|
| Ethylene Glycol | **Canada, Alberta OHSC Code**<br>100mg/m$^3$<br>**ACGIH TLV**<br>TLV: 100mg/m$^3$ |
| Potassium hydroxide | **Canada, Alberta OHSC Code**<br>None established<br>**ACGIH**<br>Ceiling: 2mg/m$^3$ |
| Phosphoric acid, 75%, aqueous solution | **Canada, Alberta OHSC Code**<br>1mg/m$^3$<br>**ACGIH**<br>TWA: 1mg/m$^3$<br>STEL: 3mg/m$^3$<br>**OSHA PEL**<br>TWA 1mg/m$^3$ |
| Disodium tetraborate, pentahydrate | **Canada, Alberta OHSC Code**<br>TWA: 1mg/m$^3$<br>Ceiling: 3mg/m$^3$<br>**ACGIH**<br>TWA: 2mg/m$^3$ |
| Sodium 4(or 5)-methyl-1H-benzotriazolide | **Canada, Alberta OHSC Code**<br>None established |
| Polydimethylsiloxane | **Canada, Alberta OHSC Code**<br>None established |
| Silica filled polydimethylsiloxane | **Canada, Alberta OHSC Code**<br>None established |
| Sucrose distearate | **Canada, Alberta OHSC Code**<br>TWA: 10mg/m$^3$ (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. Odourless. | **Boiling Point** | Not Available |
| **Vapour Pressure** | 0.06 kPa (20.0°C) | **Boiling Point Range** | Not applicable. |
| **Vapour Density** | 2.14 (Air = 1) | **Melting Point** | Not Available |
| **Specific Gravity** | 1.090 – 1.110 | **Freezing Point** | Not Available |
| **Partition coefficient (n-octonal/water)** | Not available. | **Lower Explosive Limit (LEL)** | Not Available |
| **pH** | 8.5-8.7 Neat<br>9-9.2 (5% solution in water) | **Upper Explosive Limit (UEL)** | Not Available |
| **Flashpoint (Method)** | Not flammable | **Auto Ignition temperature** | 225°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

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|---|---|
| **Reactivity** | No specific test data related to reactivity available for this product. |
| **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 oxidizing agents. 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**

Harmful if absorbed through the skin. May cause skin 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-benzotriazolide | 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**

Slightly irritating to the eye.

**Respiratory or skin sensitization**

No data available. Not expected to be a sensitizer.

**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.

**Reproductive toxicity** Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

**Teratogenicity** Laboratory experiments have shown teratogenic effects.

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

No data available

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

Oral - May cause damage to organs through prolonged or repeated exposure. - Kidney

**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.

**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 28.6mgL | Fish – Pisces | 96 Hr |
| Phosphoric acid, 75%, aqueous solution | LC50 138mgL | Fish – Pisces | 96 Hr |
| Disodium tetraborate, pentahydrate | LC50 100 – 1000mg/L | Fish – Pisces | 96 Hr |
| | EC50 340mg/L | Daphnia – Dapnhia magna | 24 Hr |
| Sodium 4(or 5)-methyl-1H-benzotriazolide | LC 50 25mgL | 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)
**Not Dangerous Goods**

## 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 | June 19, 2019 |

SDS Prepared by: CFR Lab Manager

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