

### Section 1 - Chemical Product and Company Identification

<b>Product Name</b>	CFR R-2103
<b>Synonyms</b>	R-2103, CFR Glycol pH Adjuster, Glycol pH Adjuster
<b>Product Use</b>	pH adjuster for Glycols
<b>Restrictions On Use</b>	Not Applicable
<b>Supplier</b>	CFR Chemicals 38451 Range Road 22 County of Red Deer T4E 2N6
<b>General Assistance</b>	1 (877) 269-3419
<b>Emergency Telephone</b>	<b>613-966-6666 (CANUTEC 24 Hour Phone Number)</b>
<b>Date of Preparation of SDS</b>	<b>April 1, 2017</b>

### Section 2 – Hazard Identification

**Signal Word** Danger  
**GHS Pictogram(s)**



**Hazard Statement:**

H290	May be corrosive to metals
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H314	Causes severe skin burns and eye damage.

**Precautionary Statement**

P234	Keep only in original container.
P260	Do not breathe dusts or mists.
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**

P321	Specific treatment (see supplemental first aid instructions on this label).
P301 + P310	IF SWALLOWED: Immediately call a POISON Center or doctor/physician
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.

**Storage**

P405	Store locked up.
P406	Store in corrosion resistant container.

**Disposal**



# Safety Data Sheet - GHS

## CFR R-2103

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P501

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

### GHS Classification

Corrosive to metals (Category 1)  
Acute Toxicity (oral) (Category 3)  
Skin corrosion/irritation (Category 1A)  
Serious eye damage/irritation (Category 1)

### HMIS Classification

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

### Potential Health Effects

Inhalation May be harmful if inhaled.  
Skin Causes severe skin burns and eye damage.  
Eye Causes serious eye irritation.  
Ingestion Toxic if swallowed.

## Section 3 – Composition Information on Ingredients

HAZARDOUS INGREDIENT, Common Name	Hazardous Ingredient, Synonyms	PERCENT	CAS NUMBER
Potassium Hydroxide	Caustic potash, lye, potash lye, KOH	10 – 40%	1310-58-3
Water	H <sub>2</sub> O, Aqua	60 – 90%	7732-18-5

\* = 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 burns by all exposure routes. Product is a corrosive material. Ingestion causes severe swelling, severe damage to delicate tissues, and danger of perforation.

**Note to Physician**

Treat symptomatically.

### Section 5 – Fire-Fighting Measures

<b>Conditions of Flammability</b>	Not flammable or combustible.
<b>Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
<b>Unusual Fire/</b>	
<b>Explosion Hazard</b>	No data available.
<b>Hazardous Combustion</b>	
<b>Products</b>	Potassium oxides.
<b>Fire Fighting Equipment</b>	Wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode
<b>Firefighters</b>	No data available.

### Section 6 – Accidental Release Measures

<b>Personal precautions</b>	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.
<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>Methods and materials for containment and cleaning up</b>	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### Section 7 – Handling and Storage

<b>Precautions for safe handling</b>	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
<b>Conditions for safe storage</b>	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.
<b>Incompatible Materials</b>	Acids, Nitro compounds, Magnesium, Copper. Metals, Light metals. Contact with aluminum, tin and zinc liberates hydrogen gas. Alkali metals, halogens, azides, anhydrides.

### Section 8 – Exposure Controls / Personal Protection

**Occupational Exposure Limits**
**Ingredient Name**

Potassium Hydroxide

**Exposure Limits**

Canada, Alberta OHSC Code

Ceiling: 2mg/m<sup>3</sup>  
**ACGIH**  
 TLV: 2.00mg/m<sup>3</sup>

### 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

<b>Physical State</b>	Liquid	<b>Water Solubility</b>	miscible
<b>Appearance &amp; Odour</b>	Clear, colourless. Odourless.	<b>Boiling Point</b>	100°C
<b>Vapour Pressure</b>	17 mmHg (20.0°C)	<b>Boiling Point Range</b>	Not Available.
<b>Vapour Density</b>	>1 (Air = 1)	<b>Melting Point</b>	<-40°C
<b>Specific Gravity</b>	1.21-1.24	<b>Freezing Point</b>	<-40°C
<b>Partition coefficient (n-octonal/water)</b>	Not available.	<b>Lower Explosive Limit (LEL)</b>	Not Available
<b>pH</b>	13	<b>Upper Explosive Limit (UEL)</b>	Not Available
<b>Flashpoint (Method)</b>	Not flammable	<b>Auto Ignition temperature</b>	Not Available
<b>Odour Threshold</b>	Not available.	<b>Evaporation Rate</b>	Not available.
<b>Flammability (Solid, Gas)</b>	Not available.	<b>Viscosity</b>	Not available.
<b>Decomposition Temperature</b>	Not available.		

## Section 10 – Stability and Reactivity

**Reactivity** Thermal decomposition generates: Corrosive vapours.

**Chemical stability** Stable under recommended storage conditions.

**Possibility of hazardous** No data available.

**reactions**

**Conditions to avoid** High temperatures, fire conditions.

**Materials to avoid** Acids, Nitro compounds, Magnesium, Copper. Metals, Light metals. Contact with aluminum, tin and zinc liberates hydrogen gas. Alkalai metals, halogens, azides, anhydrides.

**Hazardous decomposition products**

Potassium oxides.

### Section 11- Toxicological Information

**Information on Likely Routes of Exposure**

**Inhalation** May be harmful if inhaled.  
**Skin** Causes severe skin burns and eye damage.  
**Eye** Causes serious eye irritation.  
**Ingestion** Toxic if swallowed.

**Acute and Chronic Toxicity**

Toxic if swallowed.

**Acute toxicity**

Product/Ingredient Name	Result	Species	Dose	Exposure
Potassium hydroxide	LD50 Oral	Rat	333mg/kg	-

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

**Serious eye damage/ Eye irritation**  
Corrosive to eyes.

**Respiratory or skin sensitization**  
No data available

**Mutagenicity** No data available

**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 probable, possible or confirmed human carcinogen by ACGIH.

**Reproductive toxicity** No data available

**Teratogenicity** No data available

**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.

**Synergistic effects**                      No data available

### Section 12 – Ecological Information

**Toxicity**

Product / Ingredient Name	Result	Species	Exposure
Potassium Hydroxide	LC50 80mg/L	Fish Gambusia affinis	96 Hr

**Persistence and degradability**    The methods for determining the biological degradability are not applicable to inorganic substances.

**Bioaccumulative potential**            No data available

**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)

<b>Shipping Name</b>	UN3266, Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide), 8, III
<b>Class</b>	8
<b>UN Number</b>	UN3266
<b>Packaging Group:</b>	III

### 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.



# Safety Data Sheet - GHS

## CFR R-2103

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### Section 16 – Other Information

REVISION SUMMARY:

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SDS Prepared by: CFR Lab Manager

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