Safety Data Sheet - GHS
CFR R-2103

Date of Revision: March 15, 2022

Section 1 - Chemical Product and Company Identification

Product Name	CFR R-2103
Synonyms	R-2103, CFR Glycol pH Adjuster, Glycol pH Adjuster
Product Use	pH adjuster for Glycols
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 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

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 postash, lye, potash lye, KOH	10 – 40%	1310-58-3
Water	H_2O, 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

Conditions of Flammability	Not flammable or combustible.
Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Unusual Fire/ Explosion Hazard	No data available.
Hazardous Combustion Products	Potassium 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	Acids, Nitro compounds, Magnesium, Copper. Metals, Light metals. Contact with aluminum, tin and zinc liberates hydrogen gas. Alkalai metals, halogens, azides, anhydrides.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name	**Exposure Limits**
	Canada, Alberta OHSC Code
Potassium Hydroxide	

Ceiling: 2mg/m^3

ACGIH

TLV: 2.00mg/m^3

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**	100°C
Vapour Pressure	17 mmHg (20.0°C)	**Boiling Point Range**	Not Available.
Vapour Density	>1 (Air = 1)	**Melting Point**	<-40°C
Specific Gravity	1.21-1.24	**Freezing Point**	<-40°C
Partition coefficient (n-octonal/water)	Not available.	**Lower Explosive Limit (LEL)**	Not Available
pH	13	**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	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)
Shipping Name UN3266, Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide), 8, III
Class 8
UN Number UN3266
Packaging Group: 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.

Section 16 – Other Information

REVISION SUMMARY:

Date of Preparation	April 1, 2017
Date of Revision	March 15, 2022

SDS Prepared by: CFR Lab Manager

CFR Chemicals Inc. provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. CFR Chemicals Inc. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, CFR CHEMICALS INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OR RELIANCE UPON THIS INFORMATION.