SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product Name:	**pHix XIV®**	**Company Name:**	OptiFrac Chemical Services
General Description:	Caustic Replacement	**Address:**	1000, 639 – 5th Ave SW. Calgary, AB, Canada
For General Information:	1-403-237-8900		T2P 0M9

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CANUTEC at 1-613-996-6666.

SECTION 2: HAZARD IDENTIFICATION

GHS Classification of the Substance

Corrosive to Metals	Category 1
Skin corrosion/irritation	Category 2
Serious Eye damage/eye irritation	Category 2A

GHS Label Elements

Signal Word: **Warning**

Symbols:

Hazard Statements:

H290 May be corrosive to metal.
H315 Causes skin irritation.
H319 Causes serious eye damage/irritation.

Prevention Statements:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response Statements:

P302+P352 IF ON SKIN: Wash with plenty of soap and water
P321 Specific Treatment (See First Aid on this label)
P332+P313 If skin irritation occurs get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists, get medical attention.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CAS#	Chemical Formula
N/A	Proprietary/Trade Secret Claimed

Substances

The identity of this material is a trade secret (29 CFR 1910.1200(i)) and is available to any attending physician, paramedical personnel and/or spill response personnel in the case of an emergency. Proprietary ingredient is non-toxic. There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, classified as hazardous to the health or environment thus do not require reporting in this section.

Mixtures

Not applicable

SECTION 4: FIRST AID MEASURES

EMERGENCY OVERVIEW

Potential Health Effects

Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.
Eye: May cause eye irritation.
Skin: May cause skin irritation. Low hazard for usual industrial handling.
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling.
Chronic: No information found.

FIRST AID MEASURES

EYES: Flush with water for at least 15 minutes while holding eyelids open. Call a physician if irritation persists. If worn, remove contacts after first 5 minutes.

SKIN: Remove contaminated clothing. Wash exposed area with soap and water for at least 15 minutes. Call a physician if rash or other symptoms develop. Launder clothing before reuse.

INGESTION: If ingested, may cause loose stools. Drink plenty (2-3 glasses) of water and immediately consult a physician. Do not induce vomiting.

INHALATION: Remove to fresh air. Treat symptoms. If symptoms persist, seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable extinguishing media – product does not support combustion, use extinguishing agent for type of surrounding fire.

Special Hazards Arising from the Substance or Mixture
No data available.

Advice for Firefighters
Wear self contained breathing apparatus for firefighting if necessary.

Further Information
No data available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods for Containment: Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for Cleaning Up: Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or waterways. Never return spills in original containers for re-use. Product can be neutralized with water or acetic acid in accordance to local, state and federal regulations. Always sample spill and calculate via titration the proper amount of neutralizing material to be used to properly neutralize.

SECTION 7: HANDLING AND STORAGE

General Handling and Storage Precautions: As with all chemical products and material, take care as to where and how you store them.

Shelf Life: No known limit. Recommended: Use within 1 year.

Special Sensitivity: None.

Storage and other Precautions: For increased shelf life keep in a closed container away from incompatible materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: **Ensure adequate ventilation.**

Protective Equipment: Use safety glasses. If splashes are likely to occur, wear goggles or face shield. Wear body-covering clothing (coveralls), including impervious rubber gloves and boots.

Respiratory Protection: Not normally required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Properties Evaluated at Ambient Temperature		**Initial Boiling Point:**	112°C (234°F)
Appearance:	Colorless Liquid	**Initial Freeze Point:**	-23°C (-10°F)
Odor:	Odorless	**Flash Point:**	N/A
Specific Gravity:	1.32 ± 0.04	**Solubility:**	Complete/100%

Note: These physical properties are typical values for this product and not specifications.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: This material is considered to be non reactive under normal conditions of use.

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: No data available.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: No data available. In the event of a fire, see section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely routes of Exposure:	Skin contact, eye contact, ingestion.
Inhalation:	May cause respiratory tract irritation. Low hazard for typical industrial handling.
Eye Contact:	Causes eye irritation.
Skin Contact:	Causes skin irritation.
Ingestion:	Ingestion of large amounts may cause gastrointestinal irritation.
LD50:	Oral, rat: LD50 = 2051 mg/kg;
Carcinogenicity:	Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology:	No information available.
Teratogenicity:	No information available.
Reproductive Effects:	No information available.
Mutagenicity:	No information available.
Neurotoxicity:	No information available.
Other Studies:	N/A

SECTION 12: ECOLOGICAL INFORMATION

Ecological Studies:
Test Procedure: Hach Reactor Digestion method for Waste Water and Sea Water. Hach Reactor Digestion Method is a semi-micro adaptation of the Standard Methods.

Test Results Conclude pHix XIV® was found to be 100% Biodegradable
COD = 9,800 mg/L, BOD = 120 mg/L @ 5 days and 155 mg/L @ 10 days

No other data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Canada
Dispose of in accordance with federal, provincial and local regulations. Empty containers may retain product residue. Dispose of empty totes, drums or pails at an approved waste management facility.

United States
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification prior to disposal.
RCRA P-Series: None listed.
RCRA U-Series: None listed

SECTION 14: TRANSPORT INFORMATION

The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG, WHMIS (Canada), and Canadian TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods. Typical proper shipping names for this product are:

US Department of Transportation (DOT):	Not Regulated as a Hazardous Material
Canadian TDG (Transportation of Dangerous Goods):	UN 1760, Corrosive Liquid, N.O.S., (Caustic Replacement), Class 8, PG III (by Aluminum Corrosion Only)

Note: The original manufacturer, formulator and/or blender has determined this product to be corrosive to Aluminum as per TDG criteria, standards and/or regulations, >6.25mm/year at 55C.

IMO (Water Transportation):	Not Regulated as a Hazardous Material
IATA (Air Transportation):	Not Regulated as a Hazardous Material
Rail:	Not Evaluated
Marine Pollutant:	This product is not a marine pollutant.
Special Precautions:	None.

SECTION 15: REGULATORY INFORMATION

United States of America Federal Regulations

TSCA

All of the chemicals are listed on the TSCA inventory.

Health & Safety Reporting List:

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA

None of the chemicals in this product are considered highly hazardous by OSHA.

United States of America State Regulations

This chemical is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

REACH Registration

The component in this product has been registered according to Article 2 REACH Regulation (EC) No. 1907/2008.

European Economic Community Classification per Directive 67/548/EEC or 1999/45/EC

Hazard Symbols:	Not available.
Risk Phrases:	None known.
Safety Phrases:	S24/25 Avoid contact with skin and eyes
WGK, Germany (Water Danger/Protection)	None known.

Canadian Regulations

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Canada - WHMIS

WHMIS 1988: Class E – by aluminum corrosion only.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List – NPRI

pHix XIV® contains no reportable ingredients as per the National Pollutant Release Inventory substance lists.

SECTION 16: OTHER INFORMATION

The information accumulated herein is believed to be accurate based on the information provided, although no guarantee or warranty, either expressed or implied is made as to the accuracy or completeness of this information, whether originating with this company or not. Recipients are advised to confirm in advance of need that the information is correct, applicable and suitable to their circumstances. The conditions or methods of handling, storage, use and disposal of the product and container are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage or use of this information or product. If the product is used as a component in another product, this information may not be applicable.

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