

**Kinney, Deana (DEQ)**

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**From:** Henderson, Rick (DEQ)  
**Sent:** Tuesday, October 02, 2012 3:56 PM  
**To:** Kinney, Deana (DEQ)  
**Subject:** FW: MSDS sheets for Encana St. Excelsior  
**Attachments:** AI-2 Inhibitor.pdf; ICP-1000\_MSDS.pdf; HCL Acid (0%-7.5%).pdf; WFR-3B\_MSDS.pdf; KR-153SL\_MSDS.pdf; ClayTreatLT\_MSDS.pdf; SuperMax\_.pdf

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**From:** Henderson, Rick (DEQ)  
**Sent:** Tuesday, November 01, 2011 1:24 PM  
**To:** Wilson, Steven (DEQ)  
**Cc:** Fitch, Hal (DEQ); Biteman, Susanne (DEQ)  
**Subject:** MSDS sheets for Encana St. Excelsior

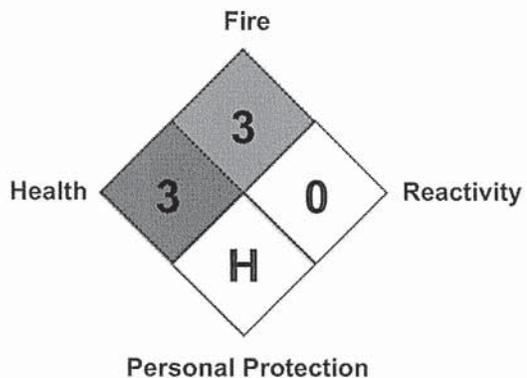
Steve, I have attached some additional MSDS's for EnCana's State Excelsior well which we had posted earlier. Would you please add these to our website.

Thanks  
Rick



**HMIS Hazard Rating:**

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal



***I. Chemical Product and Company Identification***

Product Name: Acid Inhibitor 2 (AI-2)  
Identification #: 35-405-0002  
Product Use/Class: Acid Corrosion Inhibitor  
Supplier: Superior Well Services  
Manufacturer: Weatherford Fracturing Technologies  
Emergency Contact: CHEMTREC 1 (800) 424-9300  
Prepared By: RAA  
Date Prepared: 03/17/2008

***II. Composition/Information on Ingredients***

Chemical Name: Glycol Ether  
CAS Number: 111-76-2  
Percent by Mass Less Than: 10-30

Exposure Limits

Threshold Limit Value - Time Weighted Average: 25 ppm  
Threshold Limit Value - Short Term Exposure Limit: NE  
Permissible Exposure Limit - Time Weighted Average: 25 ppm  
Permissible Exposure Limit - Ceiling: NE  
Company Threshold Limit - Time Weighted Average: NE  
Skin: NO

Chemical Name: Propargyl Alcohol  
CAS Number: 107-19-7  
Percent by Mass Less Than: 10-30

Exposure Limits

Threshold Limit Value - Time Weighted Average: 1 ppm  
Threshold Limit Value - Short Term Exposure Limit: 3 ppm  
Permissible Exposure Limit - Time Weighted Average: NE  
Permissible Exposure Limit - Ceiling: NE  
Company Threshold Limit - Time Weighted Average: NE  
Skin: NO

Chemical Name: Isopropyl Alcohol  
CAS Number: 67-63-0  
Percent by Mass Less Than: 10-30

Exposure Limits

Threshold Limit Value - Time Weighted Average: 400 ppm  
Threshold Limit Value - Short Term Exposure Limit: 500 ppm  
Permissible Exposure Limit - Time Weighted Average: 400 ppm  
Permissible Exposure Limit - Ceiling: 500 ppm  
Company Threshold Limit - Time Weighted Average: NE  
Skin: NO

Chemical Name: Proprietary Component  
CAS Number: XXXX-XX-X  
Percent by Mass Less Than: 3-7

Exposure Limits

Threshold Limit Value - Time Weighted Average: NE  
Threshold Limit Value - Short Term Exposure Limit: NE  
Permissible Exposure Limit - Time Weighted Average: NE  
Permissible Exposure Limit - Ceiling: NE  
Company Threshold Limit - Time Weighted Average: NE  
Skin: NO

### III. Hazardous Identification

<b>Effects of Overexposure</b>	Emergency Overview:	Harmful if absorbed through skin or swallowed. Flammable liquid and vapor. May cause flash fire or explosion.
	Eye Contact:	Severely irritating. If not removed promptly, product will injure eye tissue, which may result in permanent damage.
	Skin Contact:	May cause skin irritation. Allergic reaction is possible. May cause skin sensitization, an allergic reaction, which becomes evident on re-exposure to this material.
	Inhalation:	POISON! May be fatal if inhaled. May be irritating to mucus membranes and lung tissue.
	Ingestion:	POISON! Fatal if swallowed. May be irritating to mouth, throat, and stomach.
	Chronic Harards:	Overexposure may cause kidney damage. May cause liver disorder (e.g. edema, proteinuria) and damage.

Primary Route(s) of Entry:	<input checked="" type="checkbox"/> Skin Contact	<input checked="" type="checkbox"/> Eye Contact	<input checked="" type="checkbox"/> Ingestion
	<input checked="" type="checkbox"/> Skin Absorbtion	<input checked="" type="checkbox"/> Inhalation	

### IV. First Aid Measures

Eye Contact:	Immediately flush eye with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention if irritation persists.
Skin Contact:	Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing seperately before reuse.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion:	If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

### V. Fire Fighting Measures

Flash Point:	85 F
Auto Ignition Temperature:	Not Determined
Lower Explosive Temp.:	1.1%
Upper Explosive Temp.:	12.0%
Extinguishing Media:	Alcohol Foam, CO2, Dry Chemical, Foam, Water Fog
Unusual Fire and Explosive Harards:	Vapors may form explosive mixture with air. Vapors can travel to a source of ignition and flash back. Flammable liquid. Can release vapors that form explosive mixtures at temperatres at or above the flashpoint. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconitioner, or properly disposed of.
Special Fire Fighting Procedures:	Containers can build up pressure if exposed to heat (fire). As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Apply alcohol-type foam or all purpose foam by manufacturers recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires. Use water spray to cool containers.

## VI. Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Extinguish all possible ignition source until the area is determined to be free from fire or explosive hazards. Evacuate area. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Avoid runoff into storm sewers and ditches. (See section VIII.) Wear a self-contained breathing apparatus and appropriate personal protective equipment. Spilled material should be contained and disposed of properly.

## VII. Handling and Storage

Handling: Wash thoroughly after handling. Handle all chemicals with care. Ground and bond containers when transferring materials.

Storage: Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials. Store away from foodstuffs or animal feed.

## VIII. Exposure Controls/Personal Protection

Engineering Controls: Local exhaust and ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Where contact is likely, wear chemical resistant gloves, rubber boots, and chemical safety goggles plus a face shield.

Eye Protection: Wear safety glasses with side shields (or goggles) and a face shield. Do not wear contact lenses.

Other Protective Equipment: Where splashing is possible, full chemically resistant protective clothing (acid suit) and boots are required. Emergency eyewash stations and deluge showers should be available in the work area.

Hygienic Practices: Wash hands before eating. Use only in a well ventilated area. Remove contaminated clothing and wash before reuse. Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing.

## IX. Physical and Chemical Properties

Boiling Point:	180-340 F	Vapor Density:	Heavier than air
Odor:	Not Determined	Odor Threshold:	Not Determined
Appearance:	Dark Red	Evaporation Rate:	Faster than Butyl Acetate
Solubility in H <sub>2</sub> O:	Complete	Specific Gravity:	0.9700
Freeze Point:	Not Determined	pH at 50.0%:	1.5
Vapor Pressure:	Not Determined	Viscosity:	Not Determined
Physical State:	Liquid		
Coefficient of Water Oil Distribution:	Not Determined		

## ***X. Stability and Reactivity***

Conditions to Avoid:	Excessive heat. Excessive heat causes the vapor pressure to increase rapidly.
Incompatibility:	Reacts violently with oxidizing agents. Avoid contact with strong acids.
Hazardous Decomposition Products:	Carbon dioxide which can act as a asphyxiant. Carbon monoxide which is toxic if inhaled. Nitrogen oxide.
Hazardous Polymerization:	Will not occur under normal conditions.
Stability:	This product is stable under normal storage conditions.

## ***XI. Toxicological Properties***

Toxicological Properties:	No product information is available.
Oral:	No product information is available.
Dermal:	No product information is available.
Inhalation:	No product information is available.

## ***XII. Ecological Information***

Ecological Properties:	No product information is available.
Ecotoxicity:	No product information is available.
Chemical Fate Information:	No product information is available.

## ***XIII. Disposal Consideration***

Disposal Method:	Consult local, state, and federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.
RCRA Status:	DOO1-Characteristic of ignitability.

## ***XIV. Transportation Information***

DOT Proper Shipping Name:	Flammable liquids, toxic, n.o.s.
DOT Technical Name:	Contains Isopropanol and Propargyl Alcohol
DOT Hazard Class:	3
DOT Hazard Subclass:	
DOT UN/NA Number:	UN1992
Packing Group:	III
Resp. Guide Page:	

## ***XV. Regulatory Information***

OSHA:	Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)		
TSCA Status:	All components of this product are listed on the Toxic Substance Control Act Inventory or are excluded from the listing requirements.		
CERCLA SARA:	This product has been reviewed according to the EPA 'Hazard Categories' promulgated under the sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories.:		
	Immediate Health Hazard, Chronic Health Hazard, Fire Hazard		
SARA Section 313 Required Reporting:	Chemical	CAS Number	WT/WT%
	Glycol Ether	111-76-2	10-30

## ***XVI. Other Information***

Other Information:      NA = Not applicable    ND = Not Determined    NI = No Information    NE = Not Established

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, or when used in conjunction with other products, exposures must be evaluated by the user so that appropriate handling practices and training programs can be established to ensure safe workplace operations. This information is confidential to Superior Well Services, Ltd. (SWSI) and intended solely for the use of the individual or entity to whom they are directly distributed. Distribution or use beyond the individual or entity is strictly prohibited without the consent of SWSI.