

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	WXB-10	Code	1471
Supplier	Trican Well Service Ltd. 2900, 645 – 7 th Ave S.W. Calgary, Alberta, T2P 4G8 For Product Information/MSDS Call: 403-266-0202 or 403-723-3688 (8:00 AM – 5:00 PM MST, Monday – Friday)	Revision Date	December 13, 2011
Product Uses	Fracturing cross linker	Supersedes Date	July 10, 2011
24 Hour Emergency Number	CANUTEC 613-996-6666 (Canada 24 hours)	Original Creation	July 7, 2005

SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Pictograms)	Workplace Hazardous Material Information System Classification
	B3 Combustible Liquid
Hazard Summary	<p>WARNING! COMBUSTIBLE LIQUID AND VAPOUR</p> <p>Avoid excessive heat, open flames, sparks and ignition sources. Liquid can release vapors that readily form flammable mixtures at or above the flashpoint.</p> <p>May cause eye, skin and respiratory irritation. Inhalation of vapours may cause respiratory irritation, headache, dizziness, nausea, loss of consciousness, and in cases of extreme exposure, possibly death.</p> <p>Avoid breathing vapours or mists. Do not ingest. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Avoid prolonged or repeated contact with skin. Wear suitable protective clothing, gloves and eye/face protection. Provide eyewash in work area.</p>
Routes of Exposure	Eye or skin contact, inhalation.
Potential Acute Health Effects	
Eyes Contact	May cause eye irritation.
Skin Contact/Absorption	Causes drying of the skin. May cause mild skin irritation.
Inhalation	May cause irritation of respiratory tract. May cause allergic reaction. Aspiration of liquid into lungs may cause chemical pneumonia. May cause central nervous system depression including headache, dizziness, drowsiness, muscle weakness, incoordination, slowed reaction time, fatigue, blurred vision, slurred speech, giddiness, tremors, unconsciousness and convulsions
Ingestion	Causes irritation of mouth, throat and stomach. Aspiration of liquid into lungs may cause chemical pneumonia including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May cause central nervous system depression including headache, dizziness, drowsiness, muscle weakness, incoordination, slowed reaction time, fatigue, blurred vision, slurred speech, giddiness, tremors, unconsciousness and convulsions.
Medical Conditions Aggravated by Exposure	Skin or respiratory disorders. Individuals with such diseases should not be exposed to this product unless properly protected.
<i>See also Toxicological Information (Section 11)</i>	
Additional Remarks	None

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Name	CAS #	% (wt)
Light hydrotreated petroleum distillate	64742-47-8	30-60
Borate salts	1319-33-1	30-60

SECTION 4. FIRST AID MEASURES

Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. If irritation persists, seek medical attention.
Skin Contact	Wash skin thoroughly with soap and water for at least 15 minutes. Remove contaminated clothing and launder before reuse. If irritation persists, seek medical attention.
Inhalation	Remove person to fresh air. If not breathing, provide artificial respiration. If breathing is difficult or symptoms develop, seek prompt medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of material into lungs. If large quantities have been swallowed, seek medical attention.
Notes to Physician	None
Additional Remarks	None

SECTION 5. FIRE FIGHTING MEASURES

Conditions of Flammability	Combustible liquid. When heated above the flashpoint, releases flammable vapours. When mixed with air and exposed to ignition source, vapours can burn in open or explode if confined.
Extinguishing Media	Use alcohol foam, CO ₂ , dry chemical or water fog. Do not use solid water stream as it may scatter material and spread the fire. Water spray may be used to cool containers exposed to fire conditions.
Protection of Firefighters	As in any fire, wear full fire fighting gear including NIOSH-approved positive pressure self-contained breathing apparatus.
Hazardous Combustion Products	Carbon monoxide, carbon dioxide and other toxic vapours.
Sensitivity to Static Discharge	Not available
Additional Remarks	None

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Eliminate all ignition sources. Isolate hazard area and restrict access. Try to work upwind of spill. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). Shut off leak if it can be done safely.
Environmental Precautions	Prevent substance from entering natural bodies of water and sewer systems. Spilled product may pose a risk to the aquatic ecosystem if released.
Clean Up Methods	SMALL SPILLS: Move containers from spill area. Absorb with an inert material. Scrape or shovel residues into a suitable, covered, properly labeled container. Dispose of via a licensed waste disposal contractor. LARGE SPILLS: Move containers from spill area. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product.
Additional Remarks	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 7. HANDLING AND STORAGE

Fire Prevention	Keep away from heat, open flames, sparks and other sources of ignition. Empty containers may contain flammable product residue. Do NOT cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity or other sources of ignition.
Worker Contact	Wear appropriate personal protective equipment. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid breathing vapours or mists. Use only with adequate ventilation. Maintain good personal hygiene. Do not smoke, eat or drink when handling this product. Wash thoroughly after

	handling product and before eating, drinking or smoking.
Storage Requirements	Store in a cool, dry, well-ventilated area, away from incompatible materials. Keep container tightly closed when not in use. Product has a shelf-life of 24 months.
Additional Remarks	None

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure Guidelines / Limits	Not established for product.
Exposure Guideline / Limits for Components	
Light hydrotreated petroleum distillate	Not available
Borate compounds, inorganic	ACGIH TLV: TWA 2 mg/m3 inhalable fraction; STEL 6 mg/m3 inhalable fraction
Please consult with local authorities for acceptable local exposure limits since values can vary from jurisdiction to jurisdiction.	
Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations below their respective allowable limits. Ensure that eyewash stations and safety showers are near the work location.
Personal Protection	Personal Protective Equipment recommendations are based on anticipated known manufacturing and use conditions. These conditions are expected to result in only incidental exposure. A thorough review of the job tasks and conditions by a safety professional is recommended, however, to determine the level of person protective equipment appropriate for these job tasks and conditions.
Respirator	A respirator should be worn if there is potential for inhalation of vapor or mist in high concentrations. A NIOSH-approved air-purifying mask equipped with organic vapour cartridges with P95 prefilters is recommended. In poorly ventilated areas or emergency situations use a NIOSH-approved atmosphere-supplying respirator.
Hands	Nitrile or neoprene gloves.
Eyes	Chemical safety goggles. Add face shield if splashing may occur.
Body	Wear long sleeves and pants to prevent prolonged or repeated skin contact. Remove contaminated clothing and launder before reuse.
Feet	Steed toed, chemical resistant boots.
Other	Emergency eyewash fountains and safety showers should be in the vicinity of any potential exposure.

Protective Clothing (Pictograms)



Additional Remarks	None
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Odor and Appearance	Hydrocarbon odor; Brown color
Odor Threshold	Not available
Specific Gravity	1.26
Flashpoint	80°C (175 F)
Lower Flammable Limit	Not available
Upper Flammable Limit	Not available
Autoignition Temperature	Not available
Vapour Density (air=1)	Not available
Vapour Pressure	Not available
Evaporation Rate	Not available
Boiling Point	Not available
Freezing / Melting Point	Not available
pH	8.5 – 10.5
Viscosity	Not available
Solubility in Water	Not available
Coefficient of Water/Oil	Not available
Additional Remarks	Bulk density 10.5 lbs per gallon.

SECTION 10. STABILITY AND REACTIVITY DATA

Chemical Stability	Stable.
Conditions of Instability	Heat, sparks, open flames.
Incompatible Material	Strong oxidizing agents.

Conditions of Reactivity	None specified
Hazardous Decomposition Products	Not available
Hazardous Polymerization	Will not occur
Additional Remarks	None

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity	Not available for product.
Acute Toxicity for Components	Not available for components.
Effects of Acute Exposure	See Hazards Identification (Section 2)
Effects of Chronic Exposure	Not available
Irritancy of Product	See Hazards Identification (Section 2)
Skin Sensitization	Not available
Respiratory Sensitization	May cause allergic respiratory reaction.
Carcinogenicity	No components listed as carcinogenic by ACGIH, IARC, OSHA or NTP.
Reproductive Toxicity	Not available
Teratogenicity	Not available
Embryotoxicity	Not available
Mutagenicity	Not available
Synergistic Products/Effects	Not available
Additional Remarks	None

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No available for product.
Aquatic Toxicity for Components Light hydrotreated petroleum distillate	The mineral oil in this product was tested according to US EPA method using freshwater marine species (<i>D. pulex</i> and <i>P. promelas</i>). Results of the for Water Accommodating Fraction are: 48 hr LC50: >100 000 mg/L 48 hr NOEC: 100 000 mg/L 96 hr LC50: >100 000 mg/L 96 hr NOEC: 100 000 mg/L
Degradability	The mineral oil in this product was tested in a standard biodegradation assay (OECD 301F) using techniques to improve its dispersion and bioavailability. It was found to rapidly and extensively biodegrade. At the end of the 28 day period, the mineral oil degraded by 78% based on the theoretical oxygen (ThO ₂) consumption. While the solvent met the OECD "ready" biodegradation requirement of at least 60% theoretical oxygen (ThO ₂) consumption after 28 days, the substance did not reach 60% in the 10-day window. However, in the introduction to Section 3 of the OECD testing guidelines, the 10-day window should not be applied to the testing of mixtures such as oils and surfactants. As, a result the mineral oil used can be classified as "Ready Biodegradable".
Bioaccumulation	Not available
Mobility	Not available
Additional Remarks	None

SECTION 13. DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Discarded product, as sold, would not be considered a RCRA Hazardous Waste. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.	
Additional Remarks	None

SECTION 14. TRANSPORT INFORMATION

TDG Classification	Not Regulated	
Marine Pollutant	Not available	
Additional Transport Information	Not regulated for shipping by Air (ICAS/IATA) or Marine (IMDG) transport.	

SECTION 15. REGULATORY INFORMATION**Canadian Regulations****WHMIS**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

DSL Inventory

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

TSCA Inventory Status

All components are included or are exempted from listing on the US Toxic Substances Control Act Inventory.

Additional Remarks

None

SECTION 16. OTHER INFORMATION**NFPA Rating**

Health: 1 Flammability: 2 Instability: 0 Special: none

HMIS Rating

Health: 1 Flammability: 2 Reactivity: 0 Other: none
0=Insignificant 1 = Slight 2= Moderate 3= High 4 = Extreme

Revisions

Reviewed and updated. Changes throughout.

Prepared by

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END OF MATERIAL SAFETY DATA SHEET