

Protective Equipment	TDG	WHMIS
 <p>Safety glasses and chemically resistant gloves recommended</p> <p>See SECTION VIII for details</p>	<p><b>Shipping Name:</b> FLAMMABLE LIQUIDS, NOS (ISOBUTYL KETONE)  <b>TDG Classification:</b> Class 3  <b>UN Number (PIN):</b> UN 1993  <b>Packing Group:</b> PG III  <b>Emergency Response Guide Number:</b> 128  <b>Emergency Phone:</b> CHEMTREC 1-800-424-9300</p> <p>See SECTION XIV for details</p>	 <p>D2B, B3  <b>Skin and Eye Irritant, Combustible liquid.</b></p> <p>See SECTION XV for details</p>
	DOT	NFPA
	<p><b>Shipping Name:</b> FLAMMABLE LIQUIDS, NOS (ISOBUTYL KETONE)  <b>HAZMAT Classification:</b> Class 3  <b>UN Number (PIN):</b> UN 1993  <b>Packing Group:</b> PG III  <b>Emergency Phone:</b> CHEMTREC 1-800-424-9300 or +1-703-527-3387 (International)</p>	

## SECTION I: Chemical Product and Company Identification

<b>Common/Trade Name</b>	DWP-949-1
<b>Synonyms</b>	Not Available
<b>Chemical Name</b>	Not Available
<b>Chemical Formula</b>	Not Available
<b>Chemical Family</b>	Frac Additive
<b>Supplier</b>	Calfrac Well Services Corp. 717 17 <sup>th</sup> Street, Ste 1445 Denver, CO 80202
<b>Document Number</b>	MSDS-DWP-949-1 Rev 1
<b>Date of Preparation</b>	February 2, 2011
<b>Prepared By</b>	Calfrac Well Services Ltd
<b>Phone number</b>	(303) 685 7954
<b>Material Uses</b>	Frac Additive

## SECTION II: Hazards Identification

<b>Routes of Entry</b>	[XX] SKIN [XX] EYE CONTACT [XX] INHALATION [XX] INGESTION
<b>Threshold Limit Value</b>	Not determined
<b>Skin Contact</b>	May cause skin irritation. Can cause redness, inflammation and irritation on prolonged contact.
<b>Eye Contact</b>	May cause irritation, redness, tearing and pain on contact.
<b>Ingestion</b>	May cause digestive tract irritation. May cause abdominal discomfort, nausea, vomiting and diarrhea. Can cause central nervous system depression. Aspiration hazard if swallowed. Can enter lungs and cause damage.
<b>Inhalation</b>	Inhalation of vapours or mists of the product may be irritating to the upper respiratory system. Can cause central nervous system depression.

**SECTION III: Hazardous Ingredients**

Name	Percent (v/v %)	CAS#	LD <sub>50</sub> (oral rat)	LD <sub>50</sub> (dermal rabbit)	LC <sub>50</sub> (inhalation rat)
Organic acid salts	15 – 40	Trade Secret	Not determined	Not determined	Not determined
Organic acid salts	7 – 13	Trade Secret	>5 g/kg	>5 g/kg	Not determined
Organic acid salts	5 – 10	Trade Secret	Not determined	Not determined	Not determined
Ethoxylated Alcohols	15 – 40	Trade Secret	6365 mg/kg	Not determined	Not determined
Isobutyl Ketone	10 – 30	Trade Secret	5750 mg/kg	16 g/kg	Not determined
Ethoxylated phenolic resin	5 – 10	Trade Secret	Not determined	Not determined	Not determined

**SECTION IV: First Aid Measures**

<b>Skin Contact</b>	Remove contaminated clothing and launder before reuse. Flush with copious amounts of water for at least 15 minutes. Get medical attention if irritation persists.
<b>Eye Contact</b>	Flush eyes with water for at least 15 minutes while holding eyelids open. Seek immediate medical attention.
<b>Ingestion</b>	If conscious, wash out mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.
<b>Inhalation</b>	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

**SECTION V: Fire Fighting Measures**

<b>Flash Point (method)</b>	49°C (TCC)
<b>Flammable Limits</b>	Not determined
<b>Extinguishing Media</b>	Water Spray, foam, dry chemical, and carbon dioxide.
<b>Special Fire Fighting Procedures</b>	Self-contained respirators required for firefighting personnel.
<b>Unusual Fire and Explosion Hazards</b>	None known

**SECTION VI: Accidental Release Measures**

<b>Steps to be taken in case the Material is Spilled or Released</b>	Use appropriate safety equipment. For small spills, soak up with absorbent material. For large spills, dike to contain spill to prevent water pollution. Recover diked material; return recovered material to plant.
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**SECTION VII: Handling and Storage**

<b>Precautions to be taken in Handling and Storing</b>	Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Store in a cool well ventilated area.
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**SECTION VIII: Exposure Control/Personal Protection**

<b>Special Protection Information</b>	
<b>Respiratory Protection</b>	Use NIOSH/MSHA approved organic vapour cartridge respirator when ventilation is inadequate.
<b>Ventilation</b>	General mechanical
<b>Protective Gloves</b>	Chemically resistant
<b>Eye Protection</b>	Safety glasses or chemical goggles
<b>Other Protective Equipment (Specify)</b>	None known

**SECTION IX: Physical and Chemical Properties**

<b>Appearance</b>	Clear liquid
<b>Odor</b>	Slight odour
<b>Specific Gravity</b>	1.012 (calculated)
<b>Boiling Point (°C)</b>	Not determined
<b>Melting Point (°C)</b>	Not determined
<b>Solubility in Water</b>	Partially soluble
<b>Percent Volatile by Volume</b>	Not determined
<b>Evaporation Rate</b>	Not determined
<b>Vapor Pressure (mm Hg)</b>	Not determined
<b>Vapor Density (Air = 1)</b>	Not determined
<b>pH</b>	Not determined

**SECTION X: Stability and Reactivity**

<b>Stability</b>	<input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE
<b>Incompatibility (Conditions to Avoid)</b>	Oxidizing agents, reducing agents
<b>Conditions of Reactivity</b>	Not known
<b>Hazardous Decomposition Products</b>	COx
<b>Hazardous Polymerization</b>	<input checked="" type="checkbox"/> WILL NOT OCCUR <input type="checkbox"/> MAY OCCUR

**SECTION XI: Toxicological Information**

<b>Sensitization to Product</b>	Not determined
<b>Carcinogenicity</b>	Not determined
<b>Irritancy to Product</b>	Not determined
<b>Reproductive Toxicity</b>	Not determined
<b>Teratogenicity</b>	Not determined
<b>Mutagenicity</b>	Not determined
<b>Chronic Exposure</b>	Not determined
<b>Name of Toxicological Synergistic Products</b>	Not determined

**SECTION XII: Ecological Information**

<b>Ecological Information</b>	Not Available
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**SECTION XIII: Disposal Considerations**

<b>Waste Disposal Method</b>	Absorb spilled material with absorbent compound, incinerate/dispose to conform to local disposal regulations.
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**SECTION XIV: Transportation Information**

<b>Proper Shipping Name</b>	FLAMMABLE LIQUIDS, NOS (ISOBUTYL KETONE)
<b>Class</b>	Class 3
<b>TDG/DOT Label</b>	Flammable
<b>UN Number (PIN)</b>	UN 1993
<b>TDG/DOT Placard</b>	Flammable
<b>Packing Group</b>	PG III
<b>Emergency Response Guide Number</b>	128
<b>Emergency Telephone</b>	CHEMTREC 1-800-424-9300 or +1-703-527-3387 (International)

**SECTION XV: Regulatory Information**

<b>WHMIS Classification</b>	<b>Class</b> B	<b>Division</b> 2	<b>Subdivision</b>
	<b>Class</b> D	<b>Division</b> 2	<b>Subdivision</b> B
<b>This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR</b>			

**SECTION XVI: Other**

<b>Other Information</b>	December 13, 2011 Reviewed and updated information. February 2, 2011 New product introduced.
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The information contained herein is offered only as a guide to the handling of this specific product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied. Calfrac Well Services Ltd. will not be liable for any damages, losses, injuries, or consequential damages, which may result from the use of or reliance on any information contained herein.