

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 120114
Product Name: OP-T-DRIL FR-1501
Category: Cationic Friction Reducer
Company Name: OptiFrac Chemical Services
910, 640 - 5th Avenue SW
Calgary, AB T2P 3G4
Phone Number: (403)237-8900
Emergency Contact: 24 hour Emergency #: (CANUTEC) (613)996-6666

2. HAZARDS IDENTIFICATION

Aspiration Toxicity, Category 1

Skin Corrosion/Irritation, Category 2

Specific Target Organ Toxicity (single exposure), Category 3



GHS Signal Word: Danger

GHS Hazard Phrases: H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H335 - May cause respiratory irritation.

GHS Precaution Phrases: P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P233 - Keep container tightly closed.

GHS Response Phrases: P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.
P302+352 - IF ON SKIN: Wash with plenty of soap and water.
P332+313 - If skin irritation occurs, get medical advice/attention.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER/doctor if you feel unwell.

GHS Storage and Disposal Phrases: P403 - Store in well-ventilated place.

Potential Health Effects (Acute and Chronic): Prolonged or repeated skin contact may cause defatting and dermatitis.

Inhalation: May cause respiratory tract irritation.

Skin Contact: May cause irritation with burning pain, itching and redness.

Eye Contact: May cause eye irritation.

Ingestion: Aspiration hazard. May cause irritation of the digestive tract.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Ingredient(s)	Concentration
64742-47-8	Hydrotreated light distillate (petroleum)	20.0 -30.0 %
69418-26-4	Cationic copolymer of acrylamide	20.0 -30.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Seek medical advice/attention immediately.
In Case of Skin Contact:	Wash exposed area with soap and water thoroughly. Remove contaminated clothing and wash before reuse. Seek medical advice/attention if irritation develops or persists.
In Case of Eye Contact:	Immediately flush eyes with running water for at least 15 minutes. Remove contact lenses if present after the first 5 minutes. Seek medical advice/attention if irritation develops or persists.
In Case of Ingestion:	Rinse mouth with water. Do NOT induce vomiting. Never give anything to and unconscious person. Seek medical advice/attention immediately.
Note to Physician:	Based on the individual reactions of the patient, the physician's judgment should be used to treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt:	> 200.00 F (93.3 C) Method Used: TAG Open Cup
Explosive Limits:	LEL: UEL:
Autoignition Pt:	No data.
Suitable Extinguishing Media:	Use dry chemical, CO2, Foam, or water spray (product will become very slippery when water is added) to extinguish fire. Use water spray to cool the containers exposed to the fire.
Unsuitable Extinguishing Media:	Do not apply water to spills. Water will produce extremely slick surfaces.
Fire Fighting Instructions:	Fire fighters should wear appropriate protective clothing and the appropriate self contained breathing apparatus (if necessary).
Flammable Properties and Hazards:	Product is not combustible. Heating could cause decomposition of the product and expansion that could lead to rupture of the container.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	No specific precautions necessary. Wear appropriate personal protection equipment.
Environmental Precautions:	Prevent product from entering sewers and water systems.
Steps To Be Taken In Case Material Is Released Or Spilled:	Collect liquid by absorbing with an inert material (e.g. vermiculite, dry sand, earth), clean contaminated surface thoroughly, and place in a container for disposal according to local regulations.



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7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	Avoid prolonged or repeated contact with eyes, skin, or clothing. Wash thoroughly after handling. Avoid breathing product vapors or mists. Use with adequate ventilation. Keep containers closed when not in use. Do not add water to product; solidification may occur.
Precautions To Be Taken in Storing:	Store in a dry, cool, and well ventilated away from heat sources and incompatible materials. Keep containers securely sealed. Protect containers from physical damage and check regularly for leaks. Protect from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Components (Chemical Name)	OSHA TWA	ACGIH TWA	Other Limits
64742-47-8	Hydrotreated light distillate (petroleum)		TLV: 200 mg/m3	
69418-26-4	Cationic copolymer of acrylamide			
Respiratory Equipment (Specify Type):	Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.			
Eye Protection:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Chemical safety goggles.			
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure.			
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure.			
Engineering Controls (Ventilation etc.):	Use local and/or general exhaust ventilation to maintain airborne concentrations below irritating levels or airborne exposure limits, whichever is lower. Local exhaust is generally preferred because it can control the emission of the contaminant at its source, preventing dispersion of it into the general work area.			
Work/Hygienic/Maintenance Practices:	An eye wash station should be accessible in the immediate area of use. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.			
Environmental Exposure Controls:	Do not apply water to spills. Water will produce extremely slick surfaces.			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[] Gas [X] Liquid [] Solid		
Appearance and Odor:	White. hydrocarbon-like.		
Melting Point:	No data.		
Boiling Point:	No data.		
Autoignition Pt:	No data.		
Flash Pt:	> 200.00 F (93.3 C) Method Used: TAG Open Cup		
Explosive Limits:	LEL:		UEL:
Specific Gravity (Water = 1):	0.98 to 1.08		
Density:	8.1 ot 9.0		



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Vapor Pressure (vs. Air or mm Hg):

Vapor Density (vs. Air = 1):

Evaporation Rate:

Solubility in Water:

Percent Volatile: 0.0 % by weight.

10. STABILITY AND REACTIVITY

Reactivity: Under normal conditions of storage and use, hazardous reactions will not occur.

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability: Do not add water to product; solidification may occur. Protect from freezing.

Incompatibility - Materials To Avoid:

Hazardous Decomposition or Byproducts: Reactive or incompatible with the following materials: acids, Bases, Strong oxidizing agents.

Possibility of Hazardous Reactions: Decomposition by fire may produce the following hazardous gases and vapors: Nitrogen oxides, Carbon monoxide, Carbon dioxide.

Conditions To Avoid - Hazardous Reactions: Will occur [] Will not occur [X]

11. TOXICOLOGICAL INFORMATION

Toxicological Information: The product has not been tested. Any statements on toxicology have been derived from products of a similar structure and composition.

Carcinogenicity/Other Information: CAS# 64742-47-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Ingredient(s)	NTP	IARC	ACGIH	OSHA
64742-47-8	Hydrotreated light distillate (petroleum)			A4	
69418-26-4	Cationic copolymer of acrylamide				

12. ECOLOGICAL INFORMATION

General Ecological Information: The product has not been tested. Any statements on eco-toxicology have been derived from products of a similar structure and composition.

Results of PBT and vPvB assessment: CAS# 64742-47-8:
LC50, Bluegill (*Lepomis macrochirus*), 5900. UG/L, 4 D, Mortality, Water temperature: 18.00 C C, pH: 7.50.
Result:
Age Effects.
- Report to Nalco Chemical Company: Four-Day Static Fish Toxicity Studies with D-2303 in Rainbow Trout and Bluegills: IBT No. A615, Hamlin, J., 1971



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13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: RCRA: It is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

Disposal: Whatever cannot be saved for recovery or recycling should be disposed of in accordance with local, state, and federal regulations. Consult state or local regulation for any additional handling, treatment, or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal, or recycling facility.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.
DOT Hazard Class:
UN/NA Number:

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.
UN Number:
Hazard Class:

TDG Classification:

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Ingredient(s)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
64742-47-8	Hydrotreated light distillate (petroleum)	No	No	No
69418-26-4	Cationic copolymer of acrylamide	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Acute (immediate) Health Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Chronic (delayed) Health Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Fire Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sudden Release of Pressure Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Reactive Hazard

CAS #	Ingredient(s)	Canadian NPRI	Canadian IDL	Canadian DSL
64742-47-8	Hydrotreated light distillate (petroleum)	Yes	No	Yes
69418-26-4	Cationic copolymer of acrylamide	No	No	Yes

CAS #	Ingredient(s)	Other US EPA or State Lists
64742-47-8	Hydrotreated light distillate (petroleum)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
69418-26-4	Cationic copolymer of acrylamide	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

CAS #	Ingredient(s)	International Regulatory Lists
64742-47-8	Hydrotreated light distillate (petroleum)	

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69418-26-4 Cationic copolymer of acrylamide

Canadian WHMIS Classification:



CLASS D, DIVISION 2, SUBDIVISION B: Toxic Materials (Mutagenicity, skin sensitization, irritation, etc.)

Regulatory Information:

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

16. OTHER INFORMATION

Revision Date: 11/21/2014

Additional Information About
This Product:Company Policy or
Disclaimer:

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.