

Safety Data Sheet

PAFR-917

Friction Reducer – High and Ultrahigh TDS Brines
High Viscosity Friction Reducer – High TDS Brines

SECTION 1 – PRODUCT AND SUPPLIER IDENTIFICATION

Product: PAFR-917
Supplier: SingleTrack Solutions Corp.
Address: 4838 Richard Road SW, Calgary, Alberta, Canada T3E 6L1
Office: 1-587-353-4119

Product detail

Product Name : PAFR-917

Synonyms: N/A

CAS No.: 64742-47-8 / 79-06-1 / 15214-89-8

SECTION 2 – HAZARD(S) IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification: Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Skin irritation - Category 2; Eye irritation - Category 2; Skin sensitization - Category 1; Germ cell mutagenicity - Category 1; Carcinogenicity - Category 1B; Reproductive toxicity - Category 1; Specific target organ toxicity (single exposure) - Category 1; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 1

Label Elements



Signal Word:

Danger

Hazard Statement(s):

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

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- H317** May cause an allergic skin reaction.
- H319** Causes serious eye irritation.
- H335** May cause respiratory irritation.
- H336** May cause drowsiness or dizziness.
- H340** May cause genetic defects.
- H350** May cause cancer.
- H360** May damage fertility or the unborn child.
- H370** Causes damage to organs.
- H372** Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention:

- P201** Obtain special instructions before use.
- P202** Do not handle until all safety precautions have been read and understood.
- P260** Do not breathe dust/fume/gas/mist/vapors/spray.
- P264** Wash hands and skin thoroughly after handling.
- P270** Do not eat, drink or smoke when using this product.
- P271** Use only outdoors or in a well-ventilated area.
- P272** Contaminated work clothing must not be allowed out of the workplace.
- P280** Wear protective gloves, protective clothing, eye protection, face protection. Response:
- P301 + P312** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
- P302 + P352** IF ON SKIN: Wash with plenty of water.
- P304 + P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313** IF exposed or concerned: Get medical advice or attention.
- P330** Rinse mouth.
- P333 + P313** If skin irritation or rash occurs: Get medical advice or attention.
- P337 + P313** If eye irritation persists: Get medical advice or attention.
- P362 + P364** Take off contaminated clothing and wash it before reuse. Storage:
- P403 + P233** Store in a well-ventilated place. Keep container tightly closed.
- P405** Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national and international regulations.

Note: 0% of the mixture consists of an ingredient or ingredients of unknown acute toxicity (oral).
10 - 30% of the mixture consists of an ingredient or ingredients of unknown acute toxicity (dermal)

Other Hazards: None known.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Distillates (petroleum), hydrotreated light	64742-47-8	30 - 60*	Kerosene	Distillate fuel oils, light
Acrylamide solid	79-06-1	10 - 30*	Acrylic acid amide	Propenamide
1-Propanesulfonic acid, 2-methyl-2-((1-oxo-2-propenyl)amino)-	15214-89-8	10 - 30*	Not available	2-acrylamido-2-methylpropanesulfonate

Notes

Concentrations are expressed in % weight/weight.

*The actual concentration or concentration range is withheld as a trade secret.

SECTION 4 – FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Center or doctor. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). If exposed or concerned, get medical advice or attention.

Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If skin irritation or a rash occurs, get medical advice or attention. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Quickly and gently blot or brush chemical off the face. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs, have victim lean forward to reduce the risk of aspiration. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If on skin

skin sensitizer. May cause an allergic skin reaction in some people. In sensitized people, contact with a very small amount of product can cause an allergic reaction. Symptoms include redness, rash, itching and swelling. This reaction can spread from the hands or arms to the face and body. Repeated

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exposure will make the reaction worse. May cause moderate to severe irritation. Symptoms include pain, redness, and swelling.

If inhaled

Can irritate the nose and throat. Can harm the nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

If in eyes

May cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

May be mutagenic based on information for closely related chemicals.

May cause reproductive effects. May cause cancer.

May be harmful if swallowed.

May be harmful in contact with skin.

Immediate Medical Attention and Special Treatment

Target Organs

Skin, nervous system, eyes, nervous system, respiratory system, reproductive system.

Special Instructions

None known.

Medical Conditions Aggravated by Exposure

None known.

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use extinguishing agent suitable for surrounding fire. Water, Carbon Dioxide, Foam, Dry chemical.

Unsuitable Extinguishing Media

Do not use direct streams of large volumes of water as this may spread the fire.

Specific Hazards Arising from the Product

Sealed systems of product may over pressurize when heated and rupture or explode. In a fire, the following hazardous materials may be generated: Carbon oxides.

Special Protective Equipment and Precautions for Fire-fighters

No special precautions are necessary. Knock down vapors or gases with water fog or fine water spray. Use water spray to cool containers/tanks. Dike and recover contaminated water for appropriate disposal.

When fighting chemical fires, emergency responders should wear NIOSH approved self-contained breathing apparatus and appropriate protective clothing.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

See Section 8 for appropriate personal protective equipment. Ensure adequate ventilation in area. Keep out unnecessary and unprotected personnel. Eliminate all ignition sources. Use grounded, explosion-proof equipment.

Environmental Precautions

Prevent product from entering drains, soil, ditches, sewers, waterways and/or groundwater.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources. Stop or reduce leak if safe to do so.

Small spills or leaks

contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Large spills or leaks: dike spilled product to prevent runoff. Contain and soak up spill with absorbent that does not react with spilled product. Do NOT use combustible materials such as sawdust. Remove or recover liquid using pumps or vacuum equipment. Place used absorbent into suitable, covered, labelled containers for disposal. Clean up residual contamination with water and place in appropriate containers for disposal. Dispose of in accordance with local or federal regulations.

SECTION 7 – HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe in this product. Wash hands thoroughly after handling this product and before eating, using the washroom, or leaving work area. Do not eat, drink, or smoke in areas where product is handled. Employees should wash hands after working with product and before going on breaks outside of the work area. Do not get in eyes, on skin or on clothing. Only use where there is adequate ventilation. Do not take contaminated clothing home. Do not ingest product. Wear personal protective equipment to avoid direct contact with this chemical. See Section 8 for appropriate Personal Protective Equipment (PPE). Avoid generating vapors or mists. Remove and wash contaminated clothing before re-use.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight. Separate from incompatible materials. Keep containers tightly closed when not in use. Storage containers should be in a contained area to control any spills or leaks. No smoking around storage area. Store locked up.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV®		Alberta		SASK	
	TWA	STEL [C]	OEL	STEL	OEL	STEL
Distillates (petroleum), hydrotreated light	5 mg/m3 (l) A4	Not established	5 mg/m3	Not established	5 mg/m3	Not established
Acrylamide solid	0.03 mg/m3 (IFV) Skin A4	Not established	0.03 mg/m3 Skin	Not established	0.03 mg/m3	0.09 mg/m3 Skin
1-Propanesulfonic acid, 2-methyl-2-((1-oxo-2-propenyl)amino)-	Not established	Not established	Not established	Not established	Not established	Not established

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value.

TWA = Time-Weighted Average.

STEL = Short-term Exposure Limit.

C = Ceiling limit.

OEL = Occupational Exposure Limit

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OEL values are for Oil Mist. There are no established TLV or OEL's for petroleum distillates.

I = Inhalable particulate matter.

A4 = Not classifiable as a human carcinogen.

IFV = Inhalable fraction and vapor.

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control the amount in the air. An eyewash and safety shower should be within acceptable distance to the work area. While handling the product, do not eat or drink, wash hands before breaks and at the end of workday.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear gloves with appropriate chemical resistance, see manufacturers specifications for suitability. If a splashing hazard exists wear chemical protective clothing e.g., gloves that extend up arms, aprons, boots.

Respiratory Protection

If conditions exist above the OEL wear a NIOSH approved air-purifying respirator with an organic vapor cartridge.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Tan viscous liquid
Odour	Gasoline-like
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Boiling point/Initial boiling point	Not available
Boiling Range	Not available
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid)
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.05 at 20°C
Solubility	Soluble in water; Insoluble in Oil
Partition Coefficient, n- Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid

SECTION 10 – STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Oxides of carbon.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; ingestion; eye contact.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Distillates (petroleum), hydrotreated light	Not available	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
Acrylamide solid	Not available	124 mg/m3	400 mg/m3
1-Propanesulfonic acid, 2- methyl-2- ((1-oxo-2- propenyl)amino)-	Not available	5400 mg/kg (rat)	Not available

ATE (Inhalation)

No information was located.

ATE (Oral)

Oral ATEmix =602 mg/kg

0 % of the mixture consists of an ingredient or ingredients of unknown acute toxicity (oral)

ATE (Dermal)

Dermal ATEmix = 1031 mg/kg

10 - 30 % of the mixture consists of an ingredient or ingredients of unknown acute toxicity (dermal)

Skin Corrosion/Irritation

May cause moderate or severe irritation based on information for closely related materials. Symptoms include pain, redness, and swelling.

Serious Eye Damage/Irritation

Causes serious eye irritation based on skin irritation information. Symptoms include sore, red eyes, and tearing.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

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May cause depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Skin Absorption

No information was located.

Ingestion

May cause irritation of the gastrointestinal tract.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause effects on the central nervous system.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer.

Skin sensitizer. May cause an allergic reaction (skin sensitization) based on limited evidence. Sensitization may occur following exposure to the liquid or vapour.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Distillates (petroleum), hydrotreated light	Group 3	A3	Not Listed	Not Listed
Acrylamide solid	Group 2A	A3	Reasonably anticipated	Not Listed
1-Propanesulfonic acid, 2- methyl-2- ((1-oxo-2- propenyl)amino)-	Not Listed	Not designated	Not Listed	Not Listed

May cause cancer based on animal studies.

Key to Abbreviations

IARC = International Agency for Research on Cancer.

Group 2A = Probably carcinogenic to humans.

Group 3 = Not classifiable as to its carcinogenicity to humans.

ACGIH® = American Conference of Governmental Industrial Hygienists.

A3 = Animal carcinogen.

NTP = National Toxicology Program.

Reasonably anticipated = Reasonably anticipated human carcinogen.

OSHA = US Occupational Safety and Health Administration.

Reproductive Toxicity

Development of Offspring

Components of this product have been shown to cause birth defects and reproductive disorders in laboratory animals.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

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Components of this product have been shown to cause mutagenic effects in laboratory animals.

Interactive Effects

No information was located.

SECTION 12 – ECOLOGICAL INFORMATION

Do not allow product to contaminate domestic or irrigation water supplies, lakes, streams, ponds or rivers.

Ecotoxicity

No information was located.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Distillates (petroleum), hydrotreated light	2.9 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour)	Not available	Not available	Not available
Acrylamide solid	Not available	Not available	Not available	Not available
1-Propanesulfonic acid, 2- methyl-2-((1-oxo-2-propenyl)amino)-	Not available	Not available	Not available	Not available

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product Disposal

This material is classified as hazardous by the Hazardous Products Regulations (SOR/2015-17). Do NOT dump into any sewers, on the ground or into any body of water. Dispose of unused product in accordance with local environmental and public health regulations. Follow label warnings even if container appears to be empty.

Packaging Disposal

Dispose of or recycle empty containers through an approved waste management facility.

SECTION 14 – TRANSPORTATION INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

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SECTION 15 – REGULATORY INFORMATION

Canadian Regulations: This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no) *
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product are listed on the inventory administered by the governing country(s) or are exempt.
 A "No" indicates that one or more components of the product are not listed on the inventory administered by the governing country(s)

SECTION 16 – OTHER INFORMATION

These SDS summaries at the date of issue our best knowledge of the health and safety hazard information of the product, and how to safely handle and use the product in the workplace. Since Dyna Energy Consulting Inc cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company. Our responsibility for product as sold is subject to our standard term and conditions, a copy of which is sent to our customers and is also available upon request.

Last Revision Date: 9/14/2023