



FR-2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 02/26/2015

Version: 1.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier

Product Form: Mixture

Product Name: FR-2

Synonyms: Cationic Friction Reducer

Intended Use of the Product

Use of the Substance/Mixture: Friction Reducer. For professional use only.

Name, Address, and Telephone of the Responsible Party

Customer

Economy® Polymers & Chemicals

435 E. Anderson Road

77047 Houston, TX

T 713-723-8416

www.economypolymers.com

Emergency Telephone Number

Emergency number : CHEMTREC 1-800-424-9300 (US); 703-527-3887 (International, collect calls are accepted)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

STOT SE 3 H336

Asp. Tox. 1 H304

Aquatic Acute 2 H401

Aquatic Chronic 2 H411

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H304 - May be fatal if swallowed and enters airways
 H336 - May cause drowsiness or dizziness
 H401 - Toxic to aquatic life
 H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements (GHS-US)

: P261 - Avoid breathing vapors, mist, spray.
 P271 - Use only outdoors or in a well-ventilated area.
 P273 - Avoid release to the environment.
 P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 - Call a POISON CENTER or doctor if you feel unwell.
 P331 - If swallowed, do NOT induce vomiting.
 P391 - Collect spillage.
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.
 P501 - Dispose of contents/container to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: Inhalation may aggravate those with pre-existing conditions including: skin, eye, and respiratory conditions.

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Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide	(CAS No) 69418-26-4	15 – 40	Comb. Dust
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	10 - 30	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

Ingestion: Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: May be fatal if swallowed and enters airways. Vapors may cause drowsiness and dizziness.

Inhalation: May cause drowsiness or dizziness.

Skin Contact: May cause mild skin irritation.

Eye Contact: May cause slight irritation to eyes.

Ingestion: May be fatal if swallowed and enters airways.

Chronic Symptoms: Not available

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but will burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Nitrogen oxides. Carbon oxides (CO, CO₂). Hydrocarbons.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

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Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapors, mist, spray). Use only outdoors or in a well-ventilated area. Do not allow product to spread into the environment. Do not get in eyes, on skin, or on clothing.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Collect spillage. Absorb and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Do not pressurize, cut, or weld containers.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store in a well-ventilated place. Keep container tightly closed. Keep/Store away from extremely high or low temperatures, direct sunlight, ignition sources, incompatible materials.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Specific End Use(s)

Friction Reducer. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Petroleum distillates, hydrotreated light (64742-47-8)		
British Columbia	OEL TWA (mg/m ³)	200 mg/m ³ (application restricted to conditions in which there are negligible aerosol exposures)

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment: Protective goggles. Gloves. Insufficient ventilation: wear respiratory protection. Protective clothing.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

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Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Not available

Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Translucent, yellow liquid
Odor	: Mild, hydrocarbon
Odor Threshold	: Not available
pH	: 6 - 9
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: -15 °C (5°F)
Freezing Point	: Not available
Boiling Point	: > 100 (>212°F)
Flash Point	: > 100 °C (>212°F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: 1.03-1.06
Solubility	: Soluble in water.
Log Pow	: Not available
Log Kow	: Not available
Viscosity	: Approx. 1200 cps
Explosion Data – Sensitivity to Mechanical Impact	: Not available
Explosion Data – Sensitivity to Static Discharge	: Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Stable at standard temperature and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂). Nitrogen oxides. Hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity : Not classified

LD50 and LC50 Data Not available

Skin Corrosion/Irritation: Not classified **pH:** 6 - 9

Serious Eye Damage/Irritation: Not classified **pH:** 6 - 9

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

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Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: May cause drowsiness or dizziness.

Symptoms/Injuries After Skin Contact: May cause mild skin irritation.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: May be fatal if swallowed and enters airways.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat (mg/l)	> 5.2 mg/l/4h

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Toxic to aquatic life with long lasting effects.

Petroleum distillates, hydrotreated light (64742-47-8)	
LC50 Fish 1	45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	4720 mg/l (Exposure time: 96 h - Species: Den-dronereides heteropoda)
LC 50 Fish 2	2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Persistence and Degradability

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Persistence and Degradability	May cause long-term adverse effects in the environment.

Bioaccumulative Potential

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Bioaccumulative Potential	Not established.

Petroleum distillates, hydrotreated light (64742-47-8)	
BCF fish 1	61 - 159

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/DOT/TDG

49 CFR 173.120 (3) A combustible liquid that does not sustain combustion is not subject to the requirements of this subchapter as a combustible liquid. Either the test method specified in ASTM D 4206 or the procedure in appendix H of this part may be used to determine if a material sustains combustion when heated under test conditions and exposed to an external source of flame.

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UN Number Not regulated for transport
UN Proper Shipping Name Not regulated for transport
Additional Information Not regulated for transport
Transport by sea Not regulated for transport
Air transport Not regulated for transport

SECTION 15: REGULATORY INFORMATION


US Federal Regulations

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SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide (69418-26-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Petroleum distillates, hydrotreated light (64742-47-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

US State Regulations

Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide (69418-26-4)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Petroleum distillates, hydrotreated light (64742-47-8)	
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour	
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	

Canadian Regulations

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WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
	
Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-propenamide (69418-26-4)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
Petroleum distillates, hydrotreated light (64742-47-8)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

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

SECTION 16: OTHER INFORMATION

Revision date : 02/26/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Asp. Tox. 1	Aspiration hazard Category 1

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Comb. Dust	Combustible Dust
Flam. Liq. 3	Flammable liquids Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
	May form combustible dust concentrations in air
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Party Responsible for the Preparation of This Document

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713-723-8416; 1-800-231-2066

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

North America GHS US 2012 & WHMIS