

Material Safety Data Sheet

WFR-61LA

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

1. Product and Company Identification

Material name	WFR-61LA
Patent Number	Not available
Revision date	December-16-2010
Version No.	1
CAS #	Mixture
Product use	Friction Reducer
Manufacturer information	Weatherford Fracturing Technologies 515 Post Oak Blvd Suite 1000 Houston , TX 77027 US
Supplier information	Weatherford Fracturing Technologies 515 Post Oak Blvd Suite 1000 Houston, TX 77027 US

2. Hazards Identification

Emergency overview	<p>WARNING</p> <p>Harmful by inhalation. Harmful: may cause lung damage if swallowed. Irritating to eyes and skin. Contains a component that may cause cancer. Prolonged exposure may cause chronic effects. Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.</p>
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Skin contact.
Eyes	Avoid contact with eyes. Causes eye irritation.
Skin	Avoid contact with the skin. Contact with skin may cause irritation.
Inhalation	Do not breathe vapor. Harmful if inhaled. May cause irritation of respiratory tract.
Ingestion	Do not ingest. Harmful: may cause lung damage if swallowed. May cause stomach distress, nausea or vomiting.
Target organs	Respiratory system.
Potential environmental effects	Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Sodium Chloride	7647-14-5	5 - 10
Ammonium chloride	12125-02-9	3 - 7
Petroleum Distillates	64742-47-8	15 - 40
Alcohols, C12-16, Ethoxylated	68551-12-2	3 - 7

4. First Aid Measures**First aid procedures****Eye contact**

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops or persists.

Skin contact

Immediately take off all contaminated clothing. Rinse skin with water.

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Ingestion

Get medical attention immediately. Rinse mouth. If ingestion of a large amount does occur, seek medical attention.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures**Flammable properties**

Burning may produce thick, irritating smoke.

Extinguishing media**Suitable extinguishing media**

Water. Water fog. Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters**Specific hazards arising from the chemical**

Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters

In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Move containers from fire area if you can do it without risk. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

6. Accidental Release Measures

Personal precautions

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away. Stay upwind. Keep out of low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Should not be released into the environment.

Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

Never return spills in original containers for re-use.

7. Handling and Storage

Handling

Do not handle or store near an open flame, heat or other sources of ignition. Do not smoke. All equipment used when handling the product must be grounded. Do not breathe vapors or spray mist. Avoid contact with eyes. Use only with adequate ventilation. Wear personal protective equipment. Avoid release to the environment. Wash thoroughly after handling. Avoid prolonged exposure.

Storage

Keep away from heat and sources of ignition (spark or flame). The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Exposure limits**ACGIH****Components****CAS #****TWA****STEL****Ceiling**

Ammonium chloride

12125-02-9

10 mg/m³20 mg/m³

Not established

Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment**Eye / face protection**

Avoid contact with eyes. Wear safety glasses with side shields.

Skin protection

Impervious gloves. Wear suitable protective clothing.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. A NIOSH- approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.



General hygiene considerations

When using do not smoke. Avoid contact with eyes. Avoid contact with skin.

9. Physical & Chemical Properties

Appearance	Opaque liquid.
Color	Milky. White
Odor	Oily.
Odor threshold	Not available
Physical state	Liquid.
Form	Liquid.
pH	Not available
Melting point	Not available
Freezing point	-4 °F (-20 °C)
Boiling point	> 212 °F (> 100 °C)
Flash point	> 201 °F (> 93.9 °C)
Evaporation rate	Not available
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.053 @25 C
Relative density	1.0529 g/cm ³ estimated
Solubility (water)	Not available
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	> 419 °F (> 215 °C)
Decomposition temperature	Not available
VOC	50 %
Pour point	5 °F (-15 °C)

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Avoid temperature extremes.
Incompatible materials	Oxidizing agents.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NO _x).
Possibility of hazardous reactions	Hazardous polymerization does not occur.

13. Disposal Considerations

Disposal instructions

Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

Department of Transportation (DOT) Requirements

Not regulated as hazardous goods.

Department of Transportation (DOT) Requirements**Bulk**

Not regulated as hazardous goods.

Department of Transportation (DOT) Requirements

Not regulated as dangerous goods.

Canadian Transportation of Dangerous Goods (TDG) Requirements

Not regulated as hazardous goods.

IMDG

Not regulated as hazardous goods.

IATA

Not regulated as hazardous goods.

15. Regulatory Information

Labelling**Contains**

Alcohols, C12-16, Ethoxylated, Ammonium chloride, Petroleum Distillates, Sodium Chloride

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

U.S. - FDA - Food Additives Generally Recognized as Safe (GRAS)

Ammonium chloride	12125-02-9	21 CFR 184.1138
Sodium Chloride	7647-14-5	21 CFR 182.70, 21 CFR 182.90

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

Ammonium chloride: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

No



Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

International regulations
Canada - WHMIS - Ingredient Disclosure List

Ammonium chloride 12125-02-9 1 %

State regulations

WARNING: This product contains a chemical known to the State of California to cause cancer.

U.S. - Massachusetts - Right To Know List

Ammonium chloride 12125-02-9 Present

U.S. - Minnesota - Hazardous Substance List

Ammonium chloride 12125-02-9 Present (fume)

U.S. - New Jersey - Right to Know Hazardous Substance List

Ammonium chloride 12125-02-9 sn 0093

U.S. - Pennsylvania - RTK (Right to Know) List

Ammonium chloride 12125-02-9 Environmental hazard

U.S. - Rhode Island - Hazardous Substance List

Ammonium chloride 12125-02-9 Toxic (fume); Flammable (fume)

U.S. - Texas - Effects Screening Levels - Long Term

Ammonium chloride 12125-02-9 10 µg/m3 ESL (fume)

Petroleum Distillates 64742-47-8 350 µg/m3 ESL

U.S. - Texas - Effects Screening Levels - Short Term

Ammonium chloride 12125-02-9 100 µg/m3 ESL (fume)

Petroleum Distillates 64742-47-8 3500 µg/m3 ESL

16. Other Information

HMIS® ratings

Health: 1
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 1
Instability: 0



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Disclaimer

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