



## I. Chemical Product and Company Identification

Product Name: WFR-5W  
Identification #: 35-470-1501  
Product Use/Class: Friction Reducer  
Supplier: Nabors Completion and Production Services  
515 W. Greens Road, Suite 1100, Houston, TX 77067  
Supplier Tracking Code: 1120  
Emergency Contact: CHEMTREC 1 (800) 424-9300  
Prepared By: KLH  
Date Prepared: 06/02/2011

## II. Composition/Information on Ingredients

Chemical Name: Hydroreated paraffinic solvent  
CAS Number: 64742-47-8  
Percent by Mass Less Than: 20-30

### Exposure Limits

Threshold Limit Value - Time Weighted Average: N/A  
Threshold Limit Value - Short Term Exposure Limit: N/A  
Permissible Exposure Limit - Time Weighted Average: N/A  
Permissible Exposure Limit - Ceiling: N/A  
Company Threshold Limit - Time Weighted Average: N/A  
Skin: N/A

Chemical Name: Ethoxylated alcohol blend  
CAS Number: proprietary  
Percent by Mass Less Than: <5

### Exposure Limits

Threshold Limit Value - Time Weighted Average: N/A  
Threshold Limit Value - Short Term Exposure Limit: N/A  
Permissible Exposure Limit - Time Weighted Average: N/A  
Permissible Exposure Limit - Ceiling: N/A  
Company Threshold Limit - Time Weighted Average: N/A  
Skin: N/A

## III. Hazardous Identification

**Emergency Overview:** Viscous, white liquid with a hydrocarbon odor.  
**WARNING!**  
May cause irritation to eyes and skin.  
Slippery when wet, therefore avoid contact with water.  
Wash thoroughly after handling.

**Eye Contact:** Contact may cause eye irritation with tearing, redness, and swelling.  
**Skin Contact:** Skin contact may cause irritation of the skin, especially with prolonged contact, due to the defatting nature of some product components. Symptoms may include soreness, inflammation, a burning sensation, dryness, cracking, and possible dermatitis.  
**Inhalation:** Inhalation of the vapors may irritate the respiratory tract.  
**Ingestion:** Low ingestion hazard in normal use.  
**Chronic Harards:** Not Determined

<b>Primary Route(s) of Entry:</b>	<input checked="" type="checkbox"/> Skin Contact	<input checked="" type="checkbox"/> Eye Contact	<input type="checkbox"/> Ingestion
	<input checked="" type="checkbox"/> Skin Absorbtion	<input checked="" type="checkbox"/> Inhalation	

#### **IV. First Aid Measures**

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eye lids occasionally. Seek medical attention immediately.

**Skin Contact:** Immediately wash skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention if irritation occurs. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Inhalation:** If exposure by inhalation is suspected, remove victim to fresh air. If breathing stops, give artificial respiration. If breathing is difficult, have a trained medical person give oxygen. Seek medical aid if any breathing difficulties occur.

**Ingestion:** If swallowed, vomiting may occur spontaneously, but **DO NOT INDUCE VOMITING**. If vomiting occurs, keep head below hips to prevent aspiration into the lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

#### **V. Fire Fighting Measures**

**Flash Point:** >200

**Auto Ignition Temperature:** >93.3

**Lower Explosive Temp.:** Not Available

**Upper Explosive Temp.:** Not available

**Extinguishing Media:** Not available

**Unusual Fire and Explosive Harards:** Use water fog or fine spray, carbon dioxide, dry chemical, or foam. Do not use a direct water stream. It will spread the fire.

**Special Fire Fighting Procedures:** Spills of this product produce extremely slippery surfaces. Containers may explode when involved in a fire. Toxic gases and vapors may be released in a fire.

#### **VI. Accidental Release Measures**

**Steps to be Taken in Case Material is Released or Spilled:** Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.

#### **VII. Handling and Storage**

**Handling:** Wear appropriate personal protective equipment. Ventilate the area of the leak or spill. Isolate the hazard area. Keep unnecessary and unprotected personnel from entering the area. Do not flush with water. Contain and recover the liquid when possible. Collect the liquid in an appropriate container. Then absorb the residue with an inert material (e.g. vermiculite, dry sand, earth), and place the used absorbent in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to the sewer! After cleaning, flush away traces with water.

**Storage:** Avoid contact with eyes, skin, and clothing.  
 Avoid breathing vapor or mist.  
 Use with adequate ventilation.  
 Wash thoroughly after handling.  
 Keep containers closed when not in use.

**VIII. Exposure Controls/Personal Protection**

**Engineering Controls:** Store in a cool, dry, well-ventilated area away from incompatible materials and sources of ignition.  
 Avoid elevated temperatures.  
 Do not allow to freeze. This may impair product performance or impair product integrity.

**Respiratory Protection:** Use local and/or general exhaust ventilation to maintain airborne concentrations below exposure limits. 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. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, the most recent edition, for details.

**Skin Protection:** Chemical resistant gloves and protective clothing are recommended to minimize contact with the product.

**Eye Protection:** Wear safety glasses with side shields (or goggles) and a face shield. Do not wear contact lenses.

**Other Protective Equipment:** An eye wash station and safety shower should be accessible in the immediate area of use. Protective equipment should be cleaned thoroughly after each use.

**Hygienic Practices:** Wash hands thoroughly with soap and water after handling and before eating, drinking, using tobacco, or using the toilet. Use only with adequate ventilation. Remove contaminated clothing and wash before reuse. Do not eat, smoke or drink where material is handled, processed or stored.

**IX. Physical and Chemical Properties**

<b>Boiling Point:</b>	Not available	<b>Vapor Density:</b>	Similar to water
<b>Odor:</b>	hydrocarbon	<b>Odor Threshold:</b>	Not Determined
<b>Appearance:</b>	Viscous, white liquid	<b>Evaporation Rate:</b>	Not Available
<b>Solubility in H2O:</b>	Limited by viscosity	<b>Specific Gravity:</b>	0.99 - 1.05
<b>Freeze Point:</b>	<-15.0°F (< -26.0°C )	<b>pH at 50.0%:</b>	6.0-8.0 for a 1% solution in water.
<b>Vapor Pressure:</b>	Similar to water.	<b>Viscosity:</b>	Not Available
<b>Physical State:</b>	Liquid		
<b>Coefficient of Water Oil Distribution:</b>	Not Determined		

**X. Stability and Reactivity**

Conditions to Avoid: Avoid heat, flames, ignition sources, and incompatibles.  
 Incompatibility: Strong oxidizing agents and strong acids. Oxidizers may cause exothermic reactions.  
 Hazardous Decomposition Products: Thermal decomposition or combustion may produce ammonium, carbon dioxide, carbon monoxide, and nitrogen oxides.  
 Hazardous Polymerization: Will not occur under normal conditions.  
 Stability: Stable under ordinary conditions of use and storage.

**XI. Toxicological Properties**

Toxicological Properties: N/A  
 Oral: (Rat): Product: >10,000 mg/Kg; Hydrotreated paraffinic solvent: >5 g/Kg; Ethoxylated alcohols: 1.6 - 2.5 g/Kg.  
 Dermal: Product: >10,000 mg/Kg; Hydrotreated paraffinic solvent: >3.16 g/Kg; Ethoxylated alcohols: >2.0 g/Kg.  
 Inhalation: Product: >20 mg/L.

**XII. Ecological Information**

Ecological Properties: N/A  
 Ecotoxicity: Product- green algae: 72 hr. IC50: >100 mg/L, zebra fish: 96 hr. LC50: >100 mg/L, daphnia magna: 96 hr. EC50: >100 mg/L  
 Chemical Fate Information: No product information is available.

**XIII. Disposal Consideration**

Disposal Method: Dispose of in accordance with local, state and federal regulations. Prevent entry into sewers or waterways.  
 RCRA Status: Discarded product, as sold, would not be considered a RCRA Hazardous Waste (40 CFR 261), since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

**XIV. Transportation Information**

**XV. Regulatory Information**

OSHA: Hazardous  
 TSCA Status: The ingredients of this product are listed on the Toxic Substances Control Act.  
 CERCLA SARA: None  
 SARA Section 313 Required Reporting:

Chemical	CAS Number	WT/WT%
Hydrotreated paraffinic solvent	64742-47-8	20-30
Ethoxylated alcohol blend	proprietary	<5

**XVI. Other Information**

Other Information: NA = Not applicable ND = Not Determined NI = No Information NE = Not Established  
 MSDS Updated: 3/20/2013  
 MSDS Printed: 3/13/2015

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, or when used in conjunction with other products, exposures must be evaluated by the user so that appropriate handling practices and training programs can be established to ensure safe workplace operations. This information is confidential to Nabors Completion & Production Services Company (Nabors) and intended solely for the use of the individual or entity to whom they are directly distributed. Distribution or use beyond the individual or entity is strictly prohibited without the consent of Nabors.