

**MATERIAL SAFETY DATA SHEET**  
**SFR D-SOL LUBRICITY/CETANE IMPROVER DIESEL FUEL CONDITIONER**

**EMERGENCY TELEPHONE NUMBER:** HMC (Hazardous Material Compliance Corp.)  
 (Info-Trac): 1-800-535-5053 \* 352-323-3500.  
 Telephone Number for Information: 406-287-7836 \* 1-800-735-6438  
 Date Prepared: 02/21/2005 Revised: **2/8/2008**

**SECTION 1 – PRODUCT IDENTIFICATION**

**Product Name:** SFR D-SOL Lubricity/Cetane Improver Diesel Fuel Conditioner  
**Chemical Name:** Mixture  
**Product Appearance:** Product Odor:  
**Classification:** Miscellaneous fuel additive  
**Company Name:** SFR Corporation  
 P.O. Box 457  
 Whitehall, MT 59759

**SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS**

**Hazardous  
 Ingredients**

Comp	CAS #	Percentage (by weight)	Exposure Guidelines						Carcinogen
			OSHA		ACGIH		Other		
			TWA	STEL	TWA	STEL	TWA	STEL	
2-Ethylhexyl Nitrate	27247-96-7	>70%							N/E
Xylene	1330-20-7	<2%	100 ppm	150 ppm	100 ppm	150 ppm	N/E	N/E	IARC Suspect Carcinogen
Ethylbenzene	95-63-6	<.5%	100 ppm	125 ppm	N/E	125 ppm	N/E	N/E	IARC Suspect Carcinogen
Vinyl Acetate Monomer	108-05-4	<.1%	N/E	N/E	N/E	N/E	N/E	N/E	IARC Suspect Carcinogen

(S) Skin Exposure, (P) Proposed Limit © Ceiling Exposure, (I) Recommended exposure limit, (U) Supplier recommended exposure limit, (N/E) None Established

**SARA 311 Categories**

Immediate (Acute) Health Effects..... Yes  
 Delayed (Chronic) Health Effects..... Yes  
 Fire Hazard..... Yes  
 Sudden Release of Pressure Hazard..... No  
 Reactivity..... Yes

### SECTION 3 – HAZARDS IDENTIFICATION EMERGENCY OVERVIEW

**Combustible liquid. Keep away from sparks and open flames. When heated above 100 Deg Celsius, may undergo an exothermic reaction which causes a rapid rise in temperature and pressure. Rupture of storage vessels and fire should be anticipated in case of such temperature. Can cause severe lung damage and may be fatal if swallowed. May cause central nervous system depression.**

HMIS Rating- Health: 2  
Flammability: 2  
Reactivity: 1

NFPA Rating- Health: 2  
Flammability: 2  
Reactivity: 1

#### **Potential Health Effects**

##### **Eye:**

May cause eye irritation or discomfort.

##### **Skin:**

Harmful if absorbed through the skin. Prolonged or repeated contact may result in drying of the skin which may result in skin irritation and dermatitis.

##### **Inhalation:**

Vapor inhalation and/or skin absorption can cause central nervous system effects, including dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Chronic exposures may cause hearing loss, irregular heart rhythms and potential cardiac arrest. Moderately irritating to respiratory tract.

##### **Ingestion:**

Liquid can directly enter the lungs when swallowed or vomited. Serious lung damage and possibly fatal chemical pneumonia can develop if this occurs.

##### **Signs and Symptoms of Exposure:**

Effects of overexposure may include eye and skin irritation, irritation of the nose and throat. Central nervous system effects include dizziness, headache, drowsiness, loss of coordination, fatigue, giddiness, loss of appetite and abdominal pain. Symptoms of ingestion include irritation of digestive tract, nausea, vomiting and diarrhea.

##### **Carcinogenicity Information:**

Vinyl Acetate Monomer has been classified by the International Agency for Research on Cancer as possibly carcinogenic to humans (Group 2B). This IARC classification was

based upon limited evidence of carcinogenicity to animals and inadequate evidence of carcinogenicity to humans.

Ethylbenzene has been classified by IARC as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animals, but inadequate evidence in exposed humans.

**Target Organ:**

Target organs: Heart, Auditory System.

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**SECTION 4 – FIRST AID MEASURES**

**Oral** DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Aspiration of material due to vomiting can cause chemical pneumonitis Which can be fatal. Get immediate medical attention. If vomiting occurs Naturally, the casualty should lean forward to reduce the risk of aspiration.

**Eyes** Flush immediately with water for at least 15 minutes. Get immediate medical attention.

**Skin** Wash immediately with soap and water. Immediately remove Clothing. Get medical attention if irritation persists. Launder contaminated clothing before reuse and discard shoes and other leather articles saturated with the material.

**Inhalation** Remove exposed person to fresh air if adverse effects are observed. If Breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

**Notes to Physician**

Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 mls of water and mix thoroughly. Administer 5 ml/kg or 350 ml for an average adult. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk justified by the presence of additional toxic substances. Activated charcoal may induce vomiting, but may be given after emesis or lavage to absorb toxic additives. Steroid therapy in mild to moderate cases does not improve outcome. Bacterial pneumonia often occurs after exposure, but prophylactic antibiotics are not indicated and should be reserved for documented bacterial

pneumonia. Light hydrocarbons have been associated with cardiac sensitization in abuse situations. Hypoxia or the injection of adrenaline-like substances enhanced these effects.

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## **SECTION 5 – FIRE FIGHTING MEASURES**

**Flash Point** 62.8 Deg. Celsius, 145 Deg F PMCC (Typical)

### **Extinguishing Media**

CO<sub>2</sub>, dry chemical, or foam. Water can be used to cool and protect exposed material.

### **Firefighting Procedures**

Recommend wearing self-contained breathing apparatus. Water may Cause splattering.

### **Unusual Fire & Explosion Hazards**

Toxic fumes, gases or vapors may evolve on burning. Vapors may be Heavier than air and may travel along the ground to a distant ignition Source and flash back. Container may rupture on heating. Toxic nitrogen oxides may evolve when burning. The alkyl nitrate contained in this Product may decompose exothermically if heated above 120° C. Studies In the Koenen Tube Test indicate that the reaction is non-explosive even When the alkyl nitrate is present at levels up to 70%

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## **SECTION 6 – ACCIDENTAL RELEASE MEASURES**

### **Spill Procedures**

Evacuate all non-essential personnel. Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Remove sources of ignition. Ventilate spill area. Prevent entry into sewers and waterways. Pick up free liquid for Recycle and/or disposal. Residual liquid can be absorbed on inert Material. Use non-sparking tools. Check under Transportation and Labeling (DOT/CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.

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## **SECTION 7 – HANDLING AND STORAGE**

Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Ground and bond containers when transferring material. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep away from food and drinking water.

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## **SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Handling Procedures**

Keep away from potential sources of ignition. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. DO NOT HEAT. Wash thoroughly after handling. Empty containers to heat, flame, spark or other sources of ignition.

### **Storage Procedures**

Do not store near potential sources of ignition. Store in well ventilated area. Equip bulk storage tanks with overfill protection such as high level alarms or secondary containment. Store drums in area with secondary containment. Storage area should be covered to prevent rain water from entering. Store at ambient temperatures.

### **Other Exposure Limits**

Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter. The recommended TWA for 2-Ethylhexyl nitrate is 1 ppm.

### **Ventilation Procedures**

Use local exhaust ventilation to control mists or vapors. Additional Ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.

### **Gloves Procedures**

Nitrile

### **Eye Protection**

Safety glasses. If potential for splash or mist exists, wear chemical goggles or face shield.

### **Respiratory Protection**

Use NIOSH/MSHA approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus

for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

### **Clothing Recommendation**

Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. When working with heated material, wear heat protective clothing. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction.

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## **SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

**Flash Point** 62.8 Deg C, 145 Deg F PMCC (Typical)

### **Explosion Data**

Material does not have explosive properties.

**Appearance** Brown liquid

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## **SECTION 10 – STABILITY AND REACTIVITY**

**Stability** Material can become unstable at elevated temperatures and pressures

### **Decomposition**

#### **Temperature**

Not determined

### **Incompatibility**

Strong Oxidizing agents

### **Thermal Decomposition**

Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen

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## **SECTION 11 – TOXICOLOGICAL INFORMATION**

### **Oral Toxicity**

The LD50 in rats is between 2000 mg/kg and 5000 mg/kg. Based on data from components or similar materials. Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain.

### **Eye Irritation**

Moderate to strong eye irritation. Based on data from components or similar material.

### **Skin Irritation**

Skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

### **Dermal Toxicity**

The following estimated LD 50 is based on incomplete data on components. The LD 50 in rabbits is >2000 mg/Kg. Based on data from components of this material may cause systemic effects; note toxicity from other sections. Overexposure to organic nitrates by skin contact may cause headache, nausea and decreased blood pressure. 2-Ethylhexylnitrate is harmful in contact with skin.

### **Inhalation Toxicity**

The following is based on incomplete information on components. Aerosols of this material are considered toxic. Based on data from components or similar materials. High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions. overexposure to organic nitrates by inhalation may cause headache, nausea and decreased blood pressure. The LC50 in rat (4hr) for xylene is 6,700 ppm.

### **Respiratory Irritation**

Nose, throat and lung irritant. Based on data from components or similar Materials. Exposure to a high concentration of vapor or mist is irritating to the respiratory tract. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease.

### **Dermal Sensitization**

No data available to indicate product or components may be a skin Sensitizer.

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## **SECTION 12 – ECOLOGICAL INFORMATION**

### **Environmental Hazards**

Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment

### **Chronic Toxicity**

Repeated overexposure to propylene glycol ether may cause lung, liver and kidney damage. Xylene has been found to cause cardiac, liver and kidney effects, anemia and eye damage in laboratory animals. Prolonged or repeated overexposure to petroleum naphtha may cause liver and kidney damage. Chronic exposure to xylene has been shown to cause hearing loss in experimental animals.

### **Carcinogenicity**

A National Toxicology Program (NTP) study found an increased incidence of renal tubule neoplasms in male and female rats exposed to ethylbenzene by inhalation for two years. In male and female mice similarly exposed, increased incidences of alveolar/bronchiolar

neoplasms, and hepatocellular neoplasms, respectively, were observed. Ethylbenzene has been classified by IARC as a possible human Carcinogenicity in experimental animals but inadequate evidence in exposed humans.

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### **SECTION 13 – DISPOSAL CONSIDERATIONS**

#### **Waste Disposal**

This material, if discarded, is a hazardous waste under RCRA Regulation 40 CFR 261. Waste management should be in compliance with federal, state and local laws. Material, if discarded, is expected to be hazardous waste under RCRA .

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### **SECTION 14 – TRANSPORTATION INFORMATION**

#### **ICAO/IATA (US)**

Combustible liquid, n.o.s. (2-Ethylhexylnitrate, petroleum naphtha)  
Class NA1993, PG III

#### **ICAO/IATA (International)**

Flammable liquid, n.o.s. (Contains 2-Ethylhexylnitrate, Petroleum Naphtha) UN1993, PGIII  
Considered a marine pollutant when shipped in quantities greater than 119 gallons.

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### **SECTION 15 – REGULATORY INFORMATION**

#### **New Jersey Right to Know List**

Xylene, CAS # 1330-20-7, < 2.0%

#### **Pennsylvania Right to Know List:**

Xylene, CAS # 1330-20-7, < 2.0%  
Ethylbenzene, CAS # 100-41-4, < .5%

#### **Canadian Disclosure Lis**

Ethylbenzene (100-41-4)

#### **U.S. TSCA Inventory**

All components of this material are on the US TSCA Inventory or are Exempt.

#### **SARA Section 313**

Xylene (1330-20-7)

**Clean Air Act**

Vinyl Acetate Monomer (108-05-4)

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**SECTION 16 – OTHER INFORMATION**

**US NFPA Codes**

<b>Health</b>	<b>Fire</b>	<b>Reactivity</b>	<b>Special</b>
<b>2</b>	<b>2</b>	<b>1</b>	<b>N/E</b>

**HMIS Codes**

<b>Health</b>	<b>Fire</b>	<b>Reactivity</b>
<b>2</b>	<b>2</b>	<b>1</b>

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