




Prepared according to Global Harmonized System (GHS) standards.

<b>1</b>	<b>Substance/Product Identification</b>
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*The Lubrizol Corporation*  
 29400 Lakeland Boulevard  
 Wickliffe, Ohio 44092  
 Tel: (440) 943-4200

<b>Product Trade Name</b>	<b>FZ1509AX</b>
<b>CAS Number</b>	Not applicable for mixtures.
<b>Synonyms</b>	None.
<b>Generic Chemical Name</b>	Mixture.
<b>Recommended Use</b>	Multipurpose.
<b>Restrictions on use</b>	Not determined.
<b>Created Date</b>	20 December 2011
<b>Preparation/Revision Date</b>	22 August 2013
<b>Transportation Emergency Phone No.</b>	FOR TRANSPORT EMERGENCY call CHEMTREC: (+1) 703-527-3887 (outside the U.S.), 1-800-424-9300 (in the U.S.)
<b>MSDS No.</b>	23460455-1122368-1018331-102103

<b>2</b>	<b>Hazards Identification</b>
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<b>Appearance</b>	Dark amber colored liquid.
<b>Odor</b>	Mild
<b>Classification</b>	Sensitization - skin category 1B Hazardous to the aquatic environment (chronic hazard) category 4
<b>Target Organs</b>	Not determined.
<b>Symbol(s)</b>	
<b>Signal Word</b>	Warning.
<b>Hazard statement</b>	May cause an allergic skin reaction. May cause long lasting harmful effects to aquatic life.
<b>Other Hazards</b>	None identified.
<b>Precaution(s)</b>	Avoid breathing dust / fume / gas / mist / vapors / spray. Wear protective gloves. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
<b>Storage Procedures</b>	Store away from oxidizers.
<b>Disposal</b>	All disposal practices must be in accordance with local, national and international regulations.

*See Section 11 for complete health hazard information.*

<b>3</b>	<b>Composition/Information on Ingredients</b>
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**Hazardous Ingredients**

Comp	CAS No.	Percentage (by wt.)	Carcinogen
Hydrocarbon polymer	Confidential.	From 20 to 29.9 percent	N/E
Borate ester	Confidential.	From 0.5 to 1.5 percent	N/E

<b>4</b>	<b>First Aid Measures</b>
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<b>Eyes</b>	Rinse cautiously with water for 20 minutes or until chemical is removed. Remove contact lenses, if present and easy to do. If eye irritation persists, get medical attention.
<b>Skin</b>	Wash with plenty of soap and water. Remove contaminated clothing. If skin irritation or rash occurs: Get medical attention.

Laundry contaminated clothing before reuse.

**Inhalation**

Remove exposed person to fresh air if adverse effects are observed. If irritation persists or if toxic symptoms are observed, get medical attention.

**Ingestion**

Do NOT induce vomiting. Never give anything by mouth to a person who is losing consciousness, unconscious or convulsing. Immediately call a poison center or doctor if you feel unwell.

**Advice for the protection of first-aid providers**

When providing first aid always protect yourself against exposure to chemicals or blood born diseases by wearing gloves, masks and eye protection. After providing first aid wash your exposed skin with soap and water.

**Additional Information**

Note to physician: Treat symptomatically.

<b>5</b>	<b>Fire Fighting Measures</b>
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**Flash Point**

197 °C, 386.6 °F PMCC (Typical)

**Extinguishing Media**

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

**Unsuitable Extinguishing Media**

Not determined.

**Firefighting Procedures**

Recommend wearing self-contained breathing apparatus. Do not use a water jet. Use water to cool containers exposed to fire. A solid stream of water will spread the burning material. Spills produce extremely slippery surfaces. Do not release chemically contaminated water into drains, soil or surface water.

**Unusual Fire & Explosion Hazards**

Burning may produce irritating, toxic and obnoxious fumes. Container may rupture in a fire situation. DO NOT USE a solid stream of water. See section 10 for additional information.

<b>6</b>	<b>Accidental Release Measures</b>
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**Personal precaution, protective equipment and emergency procedures**

Only trained personnel should be permitted in area. Do not touch or walk through spilled material. Personal protective equipment must be worn. Ventilate area if spilled in a confined space or other poorly ventilated area. Material on floor may be slippery.

**Environmental precaution and protective procedures.**

Take precautions to avoid release to the environment. Do not flush into surface water, sanitary sewer or ground water system.

**Methods for clean-up and removal**

Pick up free liquid for recycle and/or disposal. Pump any free liquid into an appropriate closed container. Residual liquid can be absorbed on inert material. Place in metal containers for recovery or disposal.

<b>7</b>	<b>Handling and Storage</b>
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**Pumping Temperature**

Ambient

**Maximum Handling Temperature**

70 °C, 158 °F

**Handling Procedures**

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. When handling, do not eat, drink, or smoke. Avoid breathing dust, fume, gas, mist, vapors or spray. Ground and bond containers when transferring material. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Laundry contaminated clothing before reuse. Empty containers retain material residue. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

**Maximum Storage Temperature**

Not determined.

**Storage Procedures**

Store separately from oxidizers. Take precautions to avoid release to the environment. Store in a dry, well-ventilated place. Store separately from incompatible materials. Keep container tightly closed. Containers which are open must be carefully resealed and kept upright to prevent leakage. Do not store in open, unlabeled or mislabeled containers. See section 10 for incompatible materials.

**Maximum Loading Temperature**

70 °C, 158 °F

<b>8</b>	<b>Exposure Controls/Personal Protection</b>
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**Exposure Limits****EU**

Not applicable.

**UK**

Not applicable.

**Ireland**

Not applicable.

**India**

Not applicable.

**Cyprus**

Not applicable.

<b>Other Exposure Limits</b>	Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH TWA of 5 mg per cubic meter.
<b>Engineering Controls</b>	Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Under normal use conditions, respirator is not usually required. Use disposable dust/mist mask if the recommended exposure limit is exceeded.
<b>Eye Protection</b>	Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.
<b>Gloves Procedures</b>	Consult clothing/glove manufacturer to determine appropriate type of glove for given situation. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear.
<b>Clothing Recommendation</b>	Long sleeve shirt is recommended. Wear a chemically protective apron when contact with material may occur. Use chemically protective boots when necessary to avoid contaminating shoes. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. Launder contaminated clothing before reuse.
<b>Hygiene Measures</b>	Wash thoroughly after handling this product. Do not eat, drink or smoke when using this product.

<b>9</b>	<b>Physical and Chemical Properties</b>
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<b>Flash Point</b>	197 °C, 386.6 °F PMCC (Typical)
<b>Upper Flammable Limit</b>	Not determined.
<b>Lower Flammable Limit</b>	Not determined.
<b>Autoignition Point</b>	Not determined.
<b>Decomposition Temperature</b>	Not determined.
<b>Explosion Data</b>	Material does not have explosive properties.
<b>Vapor Pressure</b>	Not determined.
<b>pH</b>	Not determined.
<b>Specific Gravity</b>	0.85 (15.6 °C)
<b>Bulk Density</b>	7.06 Lb/gal, 0.85 Kg/L
<b>Water Solubility</b>	Insoluble.
<b>Percent Solid</b>	Not determined.
<b>Percent Volatile</b>	Not determined.
<b>Volatile Organic Compound</b>	Not determined.
<b>Vapor Density</b>	Not determined.
<b>Evaporation Rate</b>	Not determined.
<b>Water/Octanol Coefficient</b>	Not determined.
<b>Odor</b>	Mild
<b>Odor Threshold</b>	Not determined.
<b>Appearance</b>	Dark amber colored liquid.
<b>Viscosity</b>	205 Centistokes (25 °C) 81 Centistokes (40 °C) 13.7 Centistokes (100 °C)
<b>Boiling Point</b>	Not determined.
<b>Boiling Point Range</b>	Not determined.
<b>Pour Point Temperature</b>	-48 °C, -54 °F
<b>Melting / Freezing Point</b>	Not determined.

*The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted.*

<b>10</b>	<b>Stability and Reactivity</b>
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<b>Stability</b>	Material is normally stable at moderately elevated temperatures and pressures.
<b>Decomposition Temperature</b>	Not determined.
<b>Incompatibility</b>	Nitrates Peroxides. Chlorates
<b>Polymerization</b>	Will not occur.
<b>Thermal Decomposition</b>	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released.
<b>Conditions to Avoid</b>	Do not expose to excessive heat, ignition sources, or oxidizing materials.

<b>11</b>	<b>Toxicological Information</b>
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**-- ACUTE EXPOSURE --**

<b>Eye Irritation</b>	Not expected to cause eye irritation. Based on data from components or similar materials.
<b>Skin Irritation</b>	Not expected to be a primary 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.
<b>Respiratory Irritation</b>	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from similar materials.
<b>Dermal Toxicity</b>	The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials.
<b>Inhalation Toxicity</b>	No data available to indicate product or components may be a toxic inhalation hazard.
<b>Oral Toxicity</b>	The LD50 in rats is > 10,000 mg/Kg. Based on data from components or similar materials. Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in pulmonary edema and chemical pneumonitis.
<b>Dermal Sensitization</b>	May cause skin sensitization. Based on data from components or similar materials.
<b>Inhalation Sensitization</b>	No data available to indicate product or components may be respiratory sensitizers.
<b>Aspiration Hazard</b>	Not determined.

**-- CHRONIC EXPOSURE --**

<b>Chronic Toxicity</b>	No data available to indicate product or components present at greater than 1% are chronic health hazards.
<b>Carcinogenicity</b>	This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Reproductive Toxicity</b>	No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.
<b>Teratogenicity</b>	No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

**-- ADDITIONAL INFORMATION --**

<b>Other</b>	No other health hazards known.
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<b>12</b>	<b>Ecological Information</b>
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**-- ENVIRONMENTAL TOXICITY --**

<b>Freshwater Fish Toxicity</b>	Not determined.
<b>Freshwater Invertebrates Toxicity</b>	Not determined.
<b>Algal Inhibition</b>	Not determined.
<b>Saltwater Fish Toxicity</b>	Not determined.
<b>Saltwater Invertebrates Toxicity</b>	Not determined.
<b>Bacteria Toxicity</b>	Not determined.
<b>Miscellaneous Toxicity</b>	Not determined.

**-- ENVIRONMENTAL FATE --**

<b>Biodegradation</b>	At least 25% of the components in this product show moderate biodegradation based on OECD 301-type test data
<b>Bioaccumulation</b>	25% or greater of the components potentially bioconcentrate, based on octanol/water coefficients.
<b>Soil Mobility</b>	Not determined.
<b>Notes</b>	None known.

<b>13</b>	<b>Disposal Considerations</b>
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<b>Disposal Considerations</b>	All disposal practices must be in accordance with local, regional, national and international regulations. Do not dispose in landfill.
<b>Contaminated Containers or Packaging</b>	Empty container retains product residue and can be hazardous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat, flame, sparks, static electricity, or other sources of ignition. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

<b>14</b>	<b>Transport Information</b>
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<b>ICAO/IATA I</b>	Not regulated.
<b>ICAO/IATA II</b>	Not regulated.
<b>IMDG</b>	Not regulated.
<b>IMDG EMS Fire</b>	Not applicable.
<b>IMDG EMS Spill</b>	Not applicable.
<b>IMDG MFAG</b>	Not applicable.
<b>MARPOL Annex II</b>	Not determined.
<b>USCG Compatibility</b>	Not determined.

*Review classification requirements before shipping materials at elevated temperatures.*

15	<b>Regulatory Information</b>
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**-- Global Chemical Inventories --**

<b>USA</b>	All components of this material are on the US TSCA Inventory or are exempt.
<b>Other TSCA Reg.</b>	None known.
<b>EU</b>	To obtain information on the REACH compliance status of this product, please visit <a href="http://Lubrizol.com/REACH">Lubrizol.com/REACH</a> , or e-mail us at <a href="mailto:REACH_MSDS_INQUIRIES@Lubrizol.com">REACH_MSDS_INQUIRIES@Lubrizol.com</a>
<b>Japan</b>	All components are in compliance with the Chemical Substances Control Law of Japan.
<b>Australia</b>	All components are in compliance with chemical notification requirements in Australia.
<b>New Zealand</b>	This product requires notification before sale in New Zealand.
<b>Canada</b>	All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
<b>Switzerland</b>	This product requires notification before sale in Switzerland.
<b>Korea</b>	All components are in compliance in Korea.
<b>Philippines</b>	All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
<b>China</b>	This product requires notification in China.
<b>Taiwan</b>	May require notification before sale in Taiwan.
<b>Miscellaneous Regulatory Information</b>	Not determined.

**-- Other U.S. Federal Regulations --**

<b>SARA Ext. Haz. Subst.</b>	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.								
<b>SARA Section 313</b>	This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.								
<b>SARA 311 Classifications</b>	<table border="1"> <tr> <td>Acute Hazard</td> <td>Yes</td> </tr> <tr> <td>Chronic Hazard</td> <td>No</td> </tr> <tr> <td>Fire Hazard</td> <td>No</td> </tr> <tr> <td>Reactivity Hazard</td> <td>No</td> </tr> </table>	Acute Hazard	Yes	Chronic Hazard	No	Fire Hazard	No	Reactivity Hazard	No
Acute Hazard	Yes								
Chronic Hazard	No								
Fire Hazard	No								
Reactivity Hazard	No								
<b>CERCLA Hazardous Substances</b>	None known.								

**-- State Regulations --**

<b>Cal. Prop. 65</b>	This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components: < 0.01 ppm lead
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**-- Product Registrations --**

<b>U.S. Fuel Registration</b>	Not applicable.
<b>Finnish Registration Number</b>	Not Registered
<b>Swedish Registration Number</b>	Not Registered
<b>Norwegian Registration Number</b>	Not Registered
<b>Danish Registration Number</b>	Not Registered
<b>Swiss Registration Number</b>	Not Registered
<b>Italian Registration Number</b>	Not Registered

**-- Other / International --**

<b>Miscellaneous Regulatory Information</b>	Not determined.
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16	<b>Other Information</b>
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<b>Issuing Department</b>	Product Safety and Compliance Department (440-943-1200)
<b>Created Date</b>	20 December 2011
<b>Preparation/Revision Date</b>	22 August 2013

<b>US NFPA Codes</b>	<table border="1"> <thead> <tr> <th>Health</th> <th>Fire</th> <th>Reactivity</th> <th>Special</th> </tr> </thead> <tbody> <tr> <td align="center">2</td> <td align="center">1</td> <td align="center">1</td> <td align="center">N/E</td> </tr> </tbody> </table>	Health	Fire	Reactivity	Special	2	1	1	N/E
Health	Fire	Reactivity	Special						
2	1	1	N/E						

**HMIS Codes**

Health	Fire	Reactivity
2	1	1

**Revision Indicators**

This MSDS has no revisions since 22 August 2013

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