Lubrizol

Material Safety Data Sheet
FZ1505AX

Prepared according to Global Harmonized System (GHS) standards.

1 Substance/Product Identification

The Lubrizol Corporation
29400 Lakeland Boulevard
Wickliffe, Ohio 44092
Tel: (440) 943-4200

Product Trade Name	**FZ1505AX**
CAS Number	Not applicable for mixtures.
Synonyms	None.
Generic Chemical Name	Mixture.
Recommended Use	Multipurpose.
Restrictions on use	Not determined.
Created Date	12 January 2012
Preparation/Revision Date	09 September 2013
Transportation Emergency Phone No.	FOR TRANSPORT EMERGENCY call CHEMTREC: (+1) 703-527-3887 (outside the U.S.), 1-800-424-9300 (in the U.S.)
MSDS No.	13664558-4401529-0023341-102103

2 Hazards Identification

Appearance	Slightly hazy amber liquid.
Odor	Mild
Classification	Not determined.
Target Organs	Not determined.
Signal Word	Not determined.
Hazard statement	Not determined.
Other Hazards	None identified.
Precaution(s)	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
Storage Procedures	Store away from oxidizers.

See Section 11 for complete health hazard information.

3 Composition/Information on Ingredients

Hazardous Ingredients

Comp	CAS No.	Percentage (by wt.)	Carcinogen
Zinc alkyldithiophosphate	84605-29-8	From 0.5 to 1.5 percent	N/E
Hydrogen sulfide	7783-06-4	< 0.1%	N/E

4 First Aid Measures

Eyes	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.
Skin	Wash with soap and water. Remove contaminated clothing. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. CONTINUE UNTIL VICTIM RESUMES BREATHING. Call a poison center or doctor if exposed or you feel unwell.
Ingestion	DO NOT INDUCE VOMITING. Get immediate medical attention.
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. If providing CPR use mouthpieces, resuscitation bags, pocket masks or other ventilation devices. After providing first aid wash your exposed skin with soap and water.
Additional Information	Note to physician: Hydrosulfide anion is strongly bound to hemoglobin in a manner similar to cyanide. A dose of sodium

nitrite would produce methemoglobin in the blood which would then partially inactivate this poison. If exposed or concerned: Get medical attention.

5 Fire Fighting Measures

Flash Point 244 °C, 471.2 °F COC (Typical)

Extinguishing Media CO2, dry chemical, or foam. Water can be used to cool and protect exposed material.

Unsuitable Extinguishing Media Not determined.

Firefighting Procedures Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coat, pants, gloves and boots. Do not direct a solid stream of water on spilled material. Use flooding amounts of water as a fog. Use water to cool containers exposed to fire. A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. Do not release chemically contaminated water into drains, soil or surface water.

Unusual Fire & Explosion Hazards Elevated temperatures can lead to the formation of irritating fumes and vapors. Container may rupture in a fire situation. Material may contain hydrogen sulfide. Hydrogen sulfide is a toxic and flammable gas. Burning may produce irritating, toxic and obnoxious fumes. See section 10 for additional information.

6 Accidental Release Measures

Personal precaution, protective equipment and emergency procedures Keep unnecessary personnel away. Only trained personnel should be permitted in area. Personal protective equipment must be worn. Avoid contact with skin, eyes or clothing. Ventilate area if spilled in a confined space or other poorly ventilated area. Eliminate all ignition sources if safe to do so. Material on floor may be slippery.

Environmental precaution and protective procedures. Material will float on water. Do not flush into surface water, sanitary sewer or ground water system.

Methods for clean-up and removal Shut off leak if without risk. 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.

7 Handling and Storage

Pumping Temperature 15 °C, 59 °F

Maximum Handling Temperature 70 °C, 158 °F

Handling Procedures Keep away from potential sources of ignition. Liberates hydrogen sulfide gas. Open container carefully and only in adequately ventilated areas or use appropriate respiratory protection. Keep containers closed when not in use. When handling, do not eat, drink, or smoke. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Do not breath dust, fume, gas, mist, vapors or spray. Ground and bond containers when transferring material. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Launder 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 45 °C, 113 °F

Storage Procedures Do not store near potential sources of ignition. Store separately from oxidizers. Store in a dry, well-ventilated place. Odorous and toxic fumes may form from the decomposition of this product if stored at temperatures in excess of 113 deg F (45 deg C) for extended periods of time or if heat sources in excess of 250 deg F (121 deg C) are used. Keep container tightly closed. Do not store in open, unlabeled or mislabeled containers. See section 10 for incompatible materials.

Maximum Loading Temperature 70 °C, 158 °F

8 Exposure Controls/Personal Protection

Exposure Limits

EU

Comp	CAS No.	Long Term (8 Hours T.W.A.)	Short Term (15 mins.)
Hydrogen sulfide	7783-06-4	5 ppm	10 ppm

UK

Comp	CAS No.	Long Term (8 Hours T.W.A.)	Short Term (15 mins.)
Hydrogen sulfide	7783-06-4	5 ppm	10 ppm

Ireland

Comp	CAS No.	Long Term (8 Hours T.W.A.)	Short Term (15 mins.)
Hydrogen sulfide	7783-06-4	5 ppm	10 ppm

India

Comp	CAS No.	Long Term (8 Hours T.W.A.)	Short Term (15 mins.)
Hydrogen sulfide	7783-06-4	10 ppm	15 ppm

Cyprus

Comp	CAS No.	Long Term (8 Hours T.W.A.)	Short Term (15 mins.)
Hydrogen sulfide	7783-06-4	5 ppm	10 ppm

	Exposure Guidelines					
	OSHA		ACGIH		Other	
Comp	TWA	STEL	TWA	STEL	TWA	STEL
Hydrogen sulfide	N/E	20 ppm (c)	1 ppm	5 ppm	N/E	N/E

(s) - Skin exposure
(p) - Proposed limit
(c) - Ceiling exposure
(l) - Recommended exposure limit
(u) - Supplier recommended exposure limit

Other Exposure Limits 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. Material may liberate hydrogen sulfide gas. The ACGIH TLV-TWA for hydrogen sulfide is 1 ppm, the ACGIH 15 minute STEL is 5 ppm. The OSHA acceptable ceiling concentration for hydrogen sulfide is 20 ppm. A 10 minute maximum peak of 50 ppm is permitted once, only if no other measurable exposure occurs. The National Institute of Occupational Safety and Health immediately dangerous to life or health (IDLH) value is 100 ppm.

Engineering Controls Material should be handled in enclosed vessels and equipment, in which case general (mechanical) room ventilation should be sufficient. Local exhaust ventilation should be used at points where dust, mist, vapors or gases can escape into the room air. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.

Personal Protective Equipment

Respiratory Protection Use half mask respirator with an organic vapor cartridge if 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. Hydrogen sulfide causes olfactory fatigue and thus has poor warning properties. The use of a full faced supplied air respirator is recommended if exposure limits are exceeded. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

Eye Protection Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.

Gloves Procedures Nitrile. 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.

Clothing Recommendation Long sleeve shirt is recommended. Wear a chemically protective apron when contact with material may occur. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. Launder contaminated clothing before reuse.

Hygiene Measures Wash thoroughly after handling this product. Do not eat, drink or smoke when using this product.

9 Physical and Chemical Properties

Flash Point 244 °C, 471.2 °F COC (Typical)
Upper Flammable Limit Not determined.
Lower Flammable Limit Not determined.
Autoignition Point Not determined.
Decomposition Temperature Not determined.
Explosion Data Material does not have explosive properties.
Vapor Pressure Not determined.
pH Not determined.
Specific Gravity 0.87 (15.6 °C)
Bulk Density 7.23 Lb/gal, 0.87 Kg/L
Water Solubility Insoluble.
Percent Solid Not determined.
Percent Volatile Not determined.
Volatile Organic Compound Not determined.
Vapor Density Not determined.
Evaporation Rate Not determined.
Water/Octanol Coefficient Not determined.
Odor Mild
Odor Threshold Not determined.
Appearance Slightly hazy amber liquid.
Viscosity 340 Centistokes (25 °C)
150 Centistokes (40 °C)
18.1 Centistokes (100 °C)
Boiling Point Not determined.

Boiling Point Range	Not determined.
Pour Point Temperature	-36 °C, -33 °F
Melting / Freezing Point	Not determined.

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

10 Stability and Reactivity

Stability	Material is normally stable at room temperature and pressure. See the Handling and Storage Section for further details.
Decomposition Temperature	Not determined.
Incompatibility	Oxidizing agents.
Polymerization	Will not occur.
Thermal Decomposition	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released.
Conditions to Avoid	Do not expose to excessive heat, ignition sources, or oxidizing materials. High temperatures.

11 Toxicological Information

-- ACUTE EXPOSURE --

Eye Irritation	Not expected to cause eye irritation. Based on data from components or similar materials.
Skin Irritation	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.
Respiratory Irritation	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 components or similar materials. Exposure to hydrogen sulfide can cause temporary loss of the sense of smell and irritation of the eyes, nose or throat.
Dermal Toxicity	The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials.
Inhalation Toxicity	Inhalation of high concentrations of hydrogen sulfide vapor may cause loss of consciousness and death. Inhalation of lower concentrations may cause headache, dizziness and nausea.
Oral Toxicity	The LD50 in rats is > 10,000 mg/Kg. Based on data from components or similar materials.
Dermal Sensitization	No data available to indicate product or components may be a skin sensitizer.
Inhalation Sensitization	No data available to indicate product or components may be respiratory sensitizers.
Aspiration Hazard	Not determined.

-- CHRONIC EXPOSURE --

Chronic Toxicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	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.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.
Teratogenicity	No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

-- ADDITIONAL INFORMATION --

Other	No other health hazards known.

12 Ecological Information

-- ENVIRONMENTAL TOXICITY --

Freshwater Fish Toxicity	Not determined.
Freshwater Invertebrates Toxicity	Chronic effects expected at 10 - 100 mg/L based on component data.
Algal Inhibition	Not determined.
Saltwater Fish Toxicity	Not determined.
Saltwater Invertebrates Toxicity	Not determined.
Bacteria Toxicity	Not determined.
Miscellaneous Toxicity	Not determined.

-- ENVIRONMENTAL FATE --

Biodegradation	At least 25% of the components in this product show moderate biodegradation based on OECD 301-type test data.
Bioaccumulation	Less than 1.0% of the components potentially bioconcentrate, based on octanol/water coefficients.

Soil Mobility	Not determined.
Notes	None known.

13 Disposal Considerations

Disposal Considerations	All disposal practices must be in accordance with local, regional, national and international regulations. Do not dispose in landfill.
Contaminated Containers or Packaging	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.

14 Transport Information

ICAO/IATA I	Not regulated.
ICAO/IATA II	Not regulated.
IMDG	Not regulated.
IMDG EMS Fire	Not applicable.
IMDG EMS Spill	Not applicable.
IMDG MFAG	Not applicable.
MARPOL Annex II	Not determined.
USCG Compatibility	Not determined.
DOT NAERG	Not applicable.

Review classification requirements before shipping materials at elevated temperatures.

15 Regulatory Information

-- Global Chemical Inventories --

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

-- Other U.S. Federal Regulations --

SARA Ext. Haz. Subst.	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.
SARA Section 313	From 0.5 to 1.5 percent zinc compounds; contains 0.1% as Zn.

SARA 311 Classifications

Acute Hazard	No
Chronic Hazard	No
Fire Hazard	No
Reactivity Hazard	No

CERCLA Hazardous Substances None known.

-- State Regulations --

Cal. Prop. 65 This product does not intentionally contain any chemicals known by the State of California to cause cancer and/or birth defects. Moreover, we do not routinely analyze its products for impurities which may be such chemicals.

-- Product Registrations --

U.S. Fuel Registration	Not applicable.
Finnish Registration Number	Not Registered
Swedish Registration Number	Not Registered
Norwegian Registration Number	Not Registered
Danish Registration Number	Not Registered
Swiss Registration Number	Not Registered
Italian Registration Number	Not Registered

-- Other / International --

Miscellaneous Regulatory Information	Not determined.

16	**Other Information**

Issuing Department	Product Safety and Compliance Department (440-943-1200)
Created Date	12 January 2012
Preparation/Revision Date	09 September 2013

US NFPA Codes

Health	Fire	Reactivity	Special
1	1	0	N/E

HMIS Codes

Health	Fire	Reactivity
0	1	0

Revision Indicators This MSDS has no revisions since 9 September 2013