

SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

Product identifier

Product name: LUBRIZOL[®] FS1200BX

Additional identification

Chemical name: Mixture
CAS-No.: Not applicable.

Recommended use and restriction on use

Recommended use: Not determined.
Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Supplier

Company Name: THE LUBRIZOL CORPORATION
Address: 29400 LAKELAND BOULEVARD
WICKLIFFE, OH 44092-2298
US
Telephone: (440)943-1200

Emergency telephone number:

FOR TRANSPORT EMERGENCY CALL CHEMTREC (+1)703 527 3887, OR WITHIN USA 800 424 9300 (LUBRIZOL)

2. Hazards Identification

Classification of the substance or mixture

Prepared according to Global Harmonized System (GHS) standards.

Skin Corrosion/Irritation	Category 3
Serious Eye Damage/Eye Irritation	Category 2A
Acute hazards to the aquatic environment	Category 2
Chronic hazards to the aquatic environment	Category 2

Label Elements



Signal Words: Warning

Hazard Statement(s): H316: Causes mild skin irritation.
H319: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement

Prevention: P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear eye protection/face protection.

Response: P332+P313: If skin irritation occurs: Get medical advice/attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.
P391: Collect spillage.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None identified.

3. Composition/Information on Ingredients

Mixtures

Chemical name	CAS number	Percent by Weight
Mineral oil	64742-55-8	40 - 50%
Olefin sulfide	Confidential	1 - 5%
Phosphoric acid esters/amine salt	Confidential	0.5 - 1%
Alkenyl amine	Confidential	0.1 - 0.5%

Trade secret information: A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First aid measures

Description of first aid measures

Inhalation: Remove exposed person to fresh air if adverse effects are observed.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact: Take off contaminated clothing and wash before re-use. Wash with soap and water. If skin irritation occurs, get medical attention. Launder contaminated clothing before reuse.

Ingestion: Rinse mouth. Get medical attention if symptoms occur. Do not induce vomiting.

Most important symptoms and effects, both acute and delayed: See section 11.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
Extinguishing media	
Suitable extinguishing media:	CO ₂ , Dry chemical or Foam. Water can be used to cool and protect exposed material.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazard arising from the chemical:	When heated, hazardous gases may be released including: sulfur dioxide. A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information.
Advice for firefighters	
Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Recommend wearing self-contained breathing apparatus.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations.
Environmental Precautions:	Avoid release to the environment. Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.
Methods and material for containment and cleaning up:	Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.
Reference to other sections:	See sections 8 and 13 for additional information.

7. Handling and Storage:

Precautions for safe handling:	Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures. Use grounding and bonding connection when transferring material. In case of spills, beware of slippery floors and surfaces. Vapours are heavier than air and will tend to accumulate in low areas. Avoid use in confined areas without adequate ventilation. Areas of inadequate ventilation could contain concentrations high enough to cause eye irritation, headaches, respiratory discomfort or nausea. Avoid contact with eyes. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid environmental contamination.
Maximum Handling Temperature:	70 °C 158 °F

Conditions for safe storage, including any incompatibilities:

Do not store in open, unlabeled or mislabeled containers. Store away from incompatible materials. See section 10 for incompatible materials.

Maximum Storage Temperature:

45 °C 113 °F

8. Exposure Controls/Personal Protection

Control Parameters:

Occupational Exposure Limits

Chemical name	type	Exposure Limit Values	Source
Mineral oil - Inhalable fraction.	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values (03 2014)
Mineral oil - Inhalable fraction.	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values (03 2014)
Mineral oil - Inhalable fraction.	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values (03 2014)
Mineral oil - Inhalable fraction.	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)

Appropriate engineering controls:

Vapors are heavier than air and will tend to accumulate in low areas. Avoid use in confined areas without adequate ventilation. No special requirements under ordinary conditions of use and with adequate ventilation.

Individual protection measures, such as personal protective equipment

General information:

Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield. If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand Protection:

Use nitrile or neoprene gloves. Use good industrial hygiene practices. In case of skin contact, wash hands and arms with soap and water. Chemical resistant gloves

Other:

No data available.

Respiratory Protection:

Use disposable dust/mist mask if the recommended exposure limit is exceeded. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Under normal use conditions, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

Hygiene measures:

Observe good industrial hygiene practices. Avoid contact with eyes.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Amber

Odor:	strong
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	129 °C (PMCC)
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.

Upper/lower limit on flammability or explosive limits

Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.

Vapor pressure:	No data available.
Vapor density (air=1):	No data available.
Relative density:	0,851 - 0,891 (15,6 °C)

Solubility(ies)

Solubility in Water:	Insoluble in water
Solubility (other):	No data available.

Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	No data available.

Viscosity:	148 mm ² /s (25 °C); 74 mm ² /s (40 °C) 12 mm ² /s (100 °C)
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Explosive properties:	No data available.
Oxidizing properties:	No data available.
Pour Point Temperature	-48 °C

Other information

Bulk density:	7,26 lb/gal (25 °C)
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10. Stability and Reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	Will not occur.
Conditions to Avoid:	Do not expose to excessive heat, ignition sources, or oxidizing materials.
Incompatible Materials:	Strong oxidizing agents. Strong acids. Strong oxidizing agents.

Hazardous Decomposition Products: Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released. Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

11. Toxicological Information

Information on likely routes of exposure

Inhalation: No data available.

Ingestion: No data available.

Skin Contact: Causes mild skin irritation.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity

Oral

Product: Not classified for acute toxicity based on available data. Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain.

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Skin Corrosion/Irritation:

Product: 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. Prolonged or repeated contact may cause irritation.
Remarks: Causes mild skin irritation.

Serious Eye Damage/Eye Irritation:

Product: Remarks: Causes serious eye irritation.

Respiratory sensitization:

No data available

Skin sensitization:

Mineral oil Classification: Not a skin sensitizer. (Read across)

Olefin sulfide Classification: Skin sensitizer (Measured) May cause sensitization by skin contact.

Phosphoric acid esters/amine salt Classification: May cause sensitization by skin contact. (Measured)

Alkenyl amine Remarks: May cause skin sensitization in sensitive individuals.

Specific Target Organ Toxicity - Single Exposure:

Product: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

Alkenyl amine Respiratory tract irritation.

Aspiration Hazard:

Mineral oil

Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death.

Alkenyl amine

Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death.

Chronic Effects

Carcinogenicity:

Product:

This product contains mineral oils which are severely refined and not considered carcinogenic. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Mineral oil

All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test. This product contains mineral oils which are severely refined and not considered carcinogenic.

Germ Cell Mutagenicity:

Phosphoric acid esters/amine salt

This material has not exhibited mutagenic or genotoxic potential in laboratory tests.

Alkenyl amine

This material has not exhibited mutagenic or genotoxic potential in laboratory tests.

Reproductive toxicity:

Phosphoric acid esters/amine salt

Based on available data this product is not expected to be classified a reproductive hazard.

Specific Target Organ Toxicity - Repeated Exposure:

Phosphoric acid esters/amine salt

This material was evaluated in a 28-day oral gavage study (OECD 407) in rats. Treatment related effects included microscopic changes in the adrenal glands of male and female rats and kidneys of male rats at 150 and 500 mg/kg/day. The NOAEL for this study was 150 mg/kg/day.

Alkenyl amine

Oral: Target Organ(s): digestive organs

12. Ecological Information

Ecotoxicity

Fish

Phosphoric acid esters/amine salt

LC 50 (Rainbow Trout, 4 Days): 24 mg/l
NOEC (Rainbow Trout, 4 Days): 3,2 mg/l
LC 50 (Fathead Minnow, 4 Days): 8,5 mg/l

Alkenyl amine

LC 50 (Fathead Minnow, 4 d): 0,11 mg/l
LC 50 (Rainbow Trout, 4 d): 1,3 mg/l
LC 50 (Sheepshead Minnow, 4 d): 0,9 mg/l

Aquatic Invertebrates

Mineral oil

EC 50 (Water flea (Daphnia magna), 2 d): > 10 000 mg/l
EC 50 (Water flea (Daphnia magna), 21 d): > 10 mg/l
NOEC (Water flea (Daphnia magna), 21 d): 10 mg/l

Olefin sulfide	EC 50 (Water flea (Daphnia magna), 2 d): 63 mg/l
Phosphoric acid esters/amine salt	EC 50 (Water flea (Daphnia magna), 2 d): 91,4 mg/l EC 50 (Water flea (Daphnia magna), 21 d): 0,66 mg/l NOEC (Water flea (Daphnia magna), 21 d): 0,12 mg/l
Alkenyl amine	EC 50 (Water flea (Daphnia magna), 2 d): 0,011 mg/l EC 50 (Water flea (Daphnia magna), 21 d): 0,27 mg/l NOEC (Water flea (Daphnia magna), 21 d): 0,013 mg/l

Toxicity to Aquatic Plants

Olefin sulfide	EC 50 (Alga, 3 d): > 100 mg/l
Phosphoric acid esters/amine salt	EC 50 (Green algae (selenastrum capricomutum), 4 Days): 6,4 mg/l NOEC (Green algae (selenastrum capricomutum), 4 Days): 1,7 mg/l
Alkenyl amine	EC 50 (Alga, 3 d): > 0,1 mg/l

Toxicity to soil dwelling organisms

No data available

Sediment Toxicity

No data available

Toxicity to Terrestrial Plants

No data available

Toxicity to Above-Ground Organisms

No data available

Toxicity to microorganisms

Olefin sulfide	EC 50 (Sludge, 0,1 d): > 10 000 mg/l
Phosphoric acid esters/amine salt	EC 50 (Sludge, 0,1 Days): 2 433 mg/l
Alkenyl amine	EC 50 (Sludge, 0,1 d): 15,5 mg/l

Persistence and Degradability

Biodegradation

Mineral oil	OECD TG 301 F, 31 %, 28 d, Not readily degradable.
Olefin sulfide	OECD TG 301 B, 13 %, 28 d, Not readily degradable.
Phosphoric acid esters/amine salt	Inherent Sludge, 3,6 %, 28 d, Not readily degradable. OECD TG 301 B, 7,4 %, 28 d, Not readily degradable.
Alkenyl amine	OECD TG 301 D, 44 %, 28 d, Readily biodegradable OECD TG 301 D, 72 %, 42 d, Not readily degradable. OECD TG 301 B, 66 %, 28 d, Readily biodegradable

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Alkenyl amine	Bioconcentration Factor (BCF): 500 (calculated)
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Partition Coefficient n-octanol / water (log Kow)

Olefin sulfide	Log Kow: 6 (Measured)
Alkenyl amine	Log Kow: 7,5 (calculated)

Mobility:

No data available

Other Adverse Effects: No data available.

13. Disposal Considerations

Disposal methods: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated Packaging: Container packaging may exhibit hazards.

14. Transport Information

IATA

UN Number: UN 3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(Alkenyl amine)
Transport Hazard Class(es): 9
Packing Group: III
Cargo aircraft only: Allowed.

ADR

International standards

IMDG

UN Number: UN 3082
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Alkenyl amine)
Transport Hazard Class(es): 9
Packing Group: III

Code of Emergency Measure:

Domestic Standard: In compliance with domestic law.

Environmental hazards:

Special precautions for user: No special precautions.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

None known.

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. For transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.:

Inventory Status

Australia (AICS)

All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)

All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

China (IECSC)

All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACH)

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 (ENCS)

All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)

All components are in compliance in Korea.

New Zealand (NZIoC)

All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)

All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)

All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Taiwan (TCSCA)

All components of this product are listed on the Taiwan inventory.

United States (TSCA)

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

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

16. Other Information

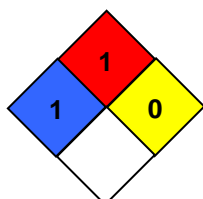
Key literature references and sources for data: Internal company data and other publically available resources.

HMIS Hazard ID

Health	1
Flammability	1
Physical Hazards	0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID



Red	Flammability
Blue	Health
Yellow	Reactivity
White	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 21.04.2015

Disclaimer:

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.