SAFETY DATA SHEET

1. Identification

Identification

Product name: **FS1211AX**

Additional identification

Chemical name: Mixture

Recommended use and restriction on use

Recommended use: Fluid Supply
Restrictions on use: None identified.

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

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements:

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: not applicable

Precautionary Statements: not applicable

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

3. Composition/information on ingredients

Chemical name	CAS number	Percent by Weight
Mineral oil	64742-54-7	40 - 50%
Mineral oil	64742-55-8	20 - 30%
Mineral oil	72623-87-1	5 - 10%

Mineral oil	Not determined.	1 - 5%
Phosphoric acid esters/amine salt	Confidential	0.5 - 1%
2-Ethylhexyl methacrylate	688-84-6	0.1 - 0.5%

The mineral oil contained in this material may be described by one or more of the following CAS Nos.: 64742-54-7, 64742-65-0, 64742-55-8, and 64742-56-9.

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

4. First-aid measures

Ingestion: Treat symptomatically. Get medical attention.

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

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation or rash occurs: Get medical attention. Launder contaminated clothing before reuse.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: See section 11.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) 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 hazards arising from the chemical: 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.

Special protective equipment and precautions 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:	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. See Section 8 of the SDS for Personal Protective Equipment.
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.
Environmental Precautions:	Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.

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 breathing dust/fume/gas/mist/vapours/spray. Avoid contact with eyes, skin, and clothing. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Launder contaminated clothing before reuse.
Maximum Handling Temperature:	Not determined.
Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials. See section 10 for incompatible materials.
Maximum Storage Temperature:	Not determined.

8. Exposure controls/personal protection

Control Parameters:

Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
Mineral oil - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Mineral oil - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Mineral oil - Mist.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Mineral oil - Mist.	STEL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Mineral oil - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Mineral oil - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Mineral oil - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (02 2012)
Mineral oil - Mist.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Mineral oil - Mist.	STEL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Mineral oil - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

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

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: If contact is likely, safety glasses with side shields are recommended.

Skin Protection

Hand Protection: Nitrile. Use nitrile or neoprene gloves. Use good industrial hygiene practices. In case of skin contact, wash hands and arms with soap and water.

Other: Gloves, coveralls, apron, boots as necessary to minimize contact. Do not wear rings, watches or similar apparel that could entrap the material.

Respiratory Protection: 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. Use disposable dust/mist mask if the recommended exposure limit is exceeded.

Hygiene measures: Observe good industrial hygiene practices. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state:	liquid
Form:	liquid
Color:	Natural
Odor:	Characteristic
Odor threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	338 °F (170 °C) (Pensky-Martens Closed Cup)
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.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	0.87 60.1 °F (15.6 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	71 mm2/s (104 °F (40 °C)) 12 mm2/s (100 °C (212 °F))

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 oxidizing agents.
Hazardous Decomposition Products:	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: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity

Oral

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

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**:** Not classified as a primary skin irritant.
Remarks: 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.

Serious Eye Damage/Eye Irritation:

Product**:** Remarks: Not classified as a primary eye irritant.

Respiratory sensitization:

No data available

Skin sensitization:

Mineral oil	Classification: Not a skin sensitizer. (Read across)
Mineral oil	Classification: Not a skin sensitizer. (Read across)
Mineral oil	Classification: Not a skin sensitizer. (Literature) Not a skin sensitizer.
Mineral oil	Classification: Not a skin sensitizer. (Read across)
Phosphoric acid esters/amine salt	Classification: May cause sensitization by skin contact. (Measured) Remarks: Category 1
2-Ethylhexyl methacrylate	Remarks: Category 1B Classification: Skin sensitizer (Literature)

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

Mineral oil	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.
2-Ethylhexyl methacrylate	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.
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.

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.
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.
Mineral oil	This mineral oil has been severely refined and is not considered carcinogenic. This oil has been demonstrated to contain less than 3% extractables by the IP-346 test.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity:

Phosphoric acid esters/amine salt	This material has not exhibited mutagenic or genotoxic potential in laboratory tests.
2-Ethylhexyl methacrylate	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.

12. Ecological information

Ecotoxicity

Fish

Mineral oil	LC 50 (Fathead Minnow, 4 d): > 100 mg/l
Mineral oil	LC 50 (Fathead Minnow, 4 d): > 100 mg/l
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
2-Ethylhexyl methacrylate	LC 50 (Red Killifish, 4 d): 2.78 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
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
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
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
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
2-Ethylhexyl methacrylate	EC 50 (Water flea (Daphnia magna), 21 d): 0.105 mg/l NOEC (Water flea (Daphnia magna), 21 d): 0.105 mg/l

Toxicity to Aquatic Plants

Mineral oil	EC 50 (Alga, 3 d): > 100 mg/l NOEC (Alga, 3 d): > 100 mg/l

Mineral oil	EC 50 (Green algae (Scenedesmus quadricauda), 3 Days): > 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

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

Phosphoric acid esters/amine salt	EC 50 (Sludge, 0.1 Days): 2,433 mg/l

Persistence and Degradability

Biodegradation

Mineral oil	OECD TG 301 F, 31 %, 28 d, Not readily degradable.
Mineral oil	OECD TG 301 F, 31 %, 28 d, Not readily degradable.
Mineral oil	OECD TG 301 F, 31 %, 28 d, Not readily degradable. OECD TG 301 B, 2 %, 28 d, Not readily degradable.
Mineral oil	OECD TG 301 B, 31 %, 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.
2-Ethylhexyl methacrylate	OECD TG 301 C, 88 %, 28 d, Readily biodegradable

Bioaccumulative Potential

Bioconcentration Factor (BCF)

2-Ethylhexyl methacrylate	Bioconcentration Factor (BCF): 37 (Measured)

Partition Coefficient n-octanol / water (log Kow)

2-Ethylhexyl methacrylate	Log Kow: 4.95 (Measured)

Mobility:

No data available

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: 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

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Transport in bulk according to Annex II of MARPOL and the IBC Code
None known.

The DOT shipping information in this section is based on a bulk container. Please review the accompanying shipping papers for the correct shipping descriptions based the size of the package. 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. During 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

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4)
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 311 Classifications
None known.

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

2-Ethoxyethanol	2.00PPM
Methyl isobutyl ketone	325.00PPB
Ethyl acrylate	130.00PPB

Inventory Status

Australia (AICS)
All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)
All substances contained in this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List (DSL) or are exempt.

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 e-mail REACH@SDSInquiries.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.

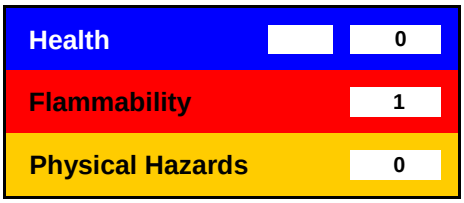
Taiwan (TCSCA)
All components of this product are listed on the Taiwan inventory.

United States (TSCA)
All substances contained in this product are listed on the TSCA inventory or are exempt.

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, including date of preparation or last revision

HMIS Hazard ID



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

NFPA Hazard ID

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

Issue Date:	11/08/2017
Version #:	1.0
Source of information:	Internal company data and other publically available resources.
Further Information:	Contact supplier (see Section 1)
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.