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SAFETY DATA SHEET

1. Identification

Product name LUBRODAL F AL 4112

Other means of identification No data available.

Recommended use: Metalworking fluid

Restrictions on use: Industrial use only

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Fuchs Lubricants Co.
Address: 17050 Lathrop Avenue
Harvey, Illinois 60426
Telephone: 708-333-8900
Fax: 708-333-9180

Contact Person: EHS Department
E-mail: sds@fuchsus.com

Emergency telephone number: 708-333-8900 (Bus. hrs) 800-255-3924 (24 hrs)

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.

3. Composition/information on ingredients



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Hazardous Component(s):

| Chemical name | CAS-No. | Concentration |
|----------------------|--------------|---------------|
| Graphite | 7782-42-5 | 20 - 50% |
| Petroleum distillate | Confidential | 1 - 5% |
| Ethoxylated alcohol | Confidential | 1 - 5% |

Specific chemical identities and/or exact percentages have been withheld as trade secrets.

4. First-aid measures

| | |
|----------------------|--|
| Ingestion: | Rinse mouth thoroughly. Call a POISON CENTER/doctor/.../if you feel unwell. Do NOT induce vomiting. |
| Inhalation: | Move to fresh air. Call a POISON CENTER/doctor/.../if you feel unwell. |
| Skin Contact: | Remove contaminated clothing and shoes. Wash contact areas with soap and water. If skin irritation occurs: Get medical advice/attention. |
| Eye contact: | Flush thoroughly with water. If irritation occurs, get medical assistance. Continue to rinse for at least 15 minutes. |

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

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

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, fog, CO₂, dry chemical, or regular foam. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Heat may cause the containers to explode. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.



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Special protective equipment for fire-fighters:

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ensure adequate ventilation.

Methods and material for containment and cleaning up:

Absorb with sand or other inert absorbent. Stop the flow of material, if this is without risk.

Environmental Precautions:

Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:

End-users should follow industry best practices for handling and using this product.

Guidance may be found using the current version of ASTM Standard E1497-05: Standard Practice for Selection and Safe Use of Water-Miscible and Straight Oil Metal Removal Fluids Contains amines. Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines. Contains a component that when heated at or above 300F (150C) may generate Formaldehyde vapors. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Do not expose to intense heat as product may expand and pressurize container.

Conditions for safe storage, including any incompatibilities:

Store in original tightly closed container. Avoid contact with oxidizing agents. Store away from incompatible materials.



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8. Exposure controls/personal protection

Exposure Limits

| Chemical name | type | Exposure Limit Values | Source |
|---------------------------------|------|--|---|
| Graphite - Respirable fraction. | TWA | 2 mg/m ³ | US. ACGIH Threshold Limit Values (03 2012) |
| Graphite - Total dust. | PEL | 15 mg/m ³ | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Graphite - Respirable fraction. | PEL | 5 mg/m ³ | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Graphite | TWA | 15 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| Petroleum distillate - Mist. | PEL | 5 mg/m ³ | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Petroleum distillate | PEL | 100 ppm 400 mg/m ³ | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016) |
| Petroleum distillate | TWA | 100 ppm 400 mg/m ³ | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |

Protective Measures:

Use personal protective equipment as required.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from supervisor on the company's respiratory protection standards.

Eye Protection:

Wear safety glasses with side shields (or goggles).

Skin and Body Protection:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:

liquid

Form:

No data available.

Color:

Gray

Odor:

Mild

Odor threshold:

No data available.

pH:

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| | |
|--|---------------------------------|
| Melting point/freezing point: | No data available. |
| Initial boiling point and boiling range: | No data available. |
| Flash Point: | not applicable |
| 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: | 1.08 |
| Solubility(ies) | |
| Solubility in water: | Miscible with 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: | > 21 mm ² /s (40 °C) |
| Other information | |
| VOC: | 0.01 g/l |

10. Stability and reactivity

| | |
|--|--|
| Reactivity: | Not reactive during normal use. |
| Chemical Stability: | Material is stable under normal conditions. |
| Possibility of hazardous reactions: | None under normal conditions. |
| Conditions to avoid: | Avoid heat or contamination. |
| Incompatible Materials: | No data available. |
| Hazardous Decomposition Products: | Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. formaldehyde |

11. Toxicological information

Information on likely routes of exposure



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Ingestion: Harmful if swallowed. May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Prolonged skin contact may cause redness and irritation.

Eye contact: Eye contact is possible and should be avoided.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix (): > 5000 mg/kg

Dermal

Product: ATEmix (): > 5000 mg/kg

Inhalation

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

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.



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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**In vitro**

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

General information: This product has not been evaluated for ecological toxicity or other environmental effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. It is the responsibility of the product user or owner to determine at the time of disposal, which waste regulations must be applied.

Contaminated Packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.



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14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

15. Regulatory information

US Federal Regulations

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

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

None

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

16. Other information, including date of preparation or last revision

Issue Date: 23.02.2017

Revision Date: 23.02.2017

Version #: 1.2

Further Information: No data available.

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.