

SAFETY DATA SHEET

1. Identification

Identification

Product name: LUBRIZOL® 1395

Additional identification

Chemical name: Zinc alkyldithiophosphate

Recommended use and restriction on use

Recommended use: Component Sales

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

Health Hazards

Skin Corrosion/Irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Unknown toxicity

Acute toxicity, inhalation, vapor 88.4 %

Acute toxicity, inhalation, dust or mist 89.0 %

Label Elements:

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.

Precautionary Statements:

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Take off contaminated clothing.

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

3. Composition/information on ingredients

General information:

Chemical name	CAS number	Percent by Weight
Zinc alkyldithiophosphate	Confidential	80 - 90%
Mineral oil	Not determined.	10 - 20%

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: Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

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

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

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

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: CO₂, Dry chemical or Foam. Water can be used to cool and protect exposed material.

Unsuitable extinguishing media: Not determined.

Specific hazards arising from the chemical: 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: Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coat, pants, gloves and boots.

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. Ventilate area if spilled in confined space or other poorly ventilated areas.

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.

Environmental Precautions: Avoid release to the environment. Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Use of steam for heating or tracing is not recommended. Additional handling information may be found in the American Chemistry Council document "Safe Handling Guidelines for ZDDP Components and Blends" (www.americanchemistry.com). Do not get in eyes. Avoid contact with skin. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Launder contaminated clothing before reuse. Avoid environmental contamination. Keep container closed when not in use and use with adequate ventilation.

Maximum Handling Temperature: 70 °C 158 °F

Conditions for safe storage, including any incompatibilities:

Avoid excessive heat. Do not store near flammable agents. Store away from incompatible materials. See section 10 for incompatible materials. 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.

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/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:

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.

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:

Wear tight-fitting goggles or face shield.

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. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear.

Other:	Wear apron or protective clothing in case of contact. Do not wear rings, watches or similar apparel that could entrap the material.
Respiratory Protection:	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. Use respirator with an organic vapor cartridge if exposure limit is exceeded.
Hygiene measures:	Observe good industrial hygiene practices. Do not get in eyes. Avoid contact with skin. Wash contaminated clothing before reuse. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties
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Appearance

Physical state:	liquid
Form:	liquid
Color:	Amber to light green
Odor:	characteristic of sulfur-containing compounds
Odor threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	> 214 °F (101 °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:	0.0025 bar (25 °C 77 °F)
Vapor density:	No data available.
Relative density:	1.17 60.1 °F (15.6 °C)
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	0.69 (Measured)
Auto-ignition temperature:	464 °F (240 °C)
Decomposition temperature:	421 °F (216 °C)
Viscosity:	12.5 mm ² /s (212 °F (100 °C)) 131.6 mm ² /s (40 °C (104 °F))

Other information

VOC: < 0.6 %

Pour Point Temperature: -6 °F (-21 °C)

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Can decompose at elevated temperatures.
Conditions to avoid:	Excessive heat. Steam.
Incompatible Materials:	Strong oxidizing agents. Contact with acids.
Hazardous Decomposition Products:	If heated to decomposition, the following substances may be formed: Hydrogen sulfide Alkyl mercaptans and sulfides may also be released. Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, sulfur oxides, mercaptans, sulfides, including hydrogen sulfide and other products of incomplete combustion. Thermal decomposition may generate phosphorus oxides and other phosphorus containing compounds. Thermal decomposition may generate zinc oxides and other zinc containing compounds.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	May be harmful if swallowed.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye damage.

Information on toxicological effects

Acute toxicity

Oral

Product: LD 50 (Rat): 3,600 mg/kg (Literature)

Dermal

Product: LD 50 (Rabbit): > 20,000 mg/kg (Literature)

Inhalation

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

Skin Corrosion/Irritation:

Product: Classification: Irritating. (Read across); Rabbit.
Remarks: Causes skin irritation.
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: Classification: Risk of serious damage to eyes. (Literature); Rabbit.
Remarks: Causes serious eye damage.

Respiratory sensitization:

No data available

Skin sensitization:

Product: Classification: Not a skin sensitizer. (Read across) Not a skin sensitizer.

Zinc alkyldithiophosphate Classification: Not a skin sensitizer. (Read across) Not a skin sensitizer.

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

Specific Target Organ Toxicity - Single Exposure:

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.

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.

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.

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:

No data available

Reproductive toxicity:

No data available

Specific Target Organ Toxicity - Repeated Exposure:

No data available

12. Ecological information

Ecotoxicity

Fish

Product: LC 50 (Rainbow Trout, 4 d): 4.5 mg/l
LC 50 (Not reported, 4 d): > 46 mg/l
NOEC (Rainbow Trout, 4 d): 1.8 mg/l

Zinc alkyldithiophosphate LC 50 (Rainbow Trout, 4 d): 4.5 mg/l
LC 50 (Not reported, 4 d): 46 mg/l
NOEC (Rainbow Trout, 4 d): 1.8 mg/l

Mineral oil LC 50 (Fathead Minnow, 4 d): > 100 mg/l

Aquatic Invertebrates

Product: EC 50 (Water flea (Daphnia magna), 2 d): 23 mg/l
NOEC (Water flea (Daphnia magna), 2 d): 10 mg/l
EC 50 (Water flea (Daphnia magna), 21 d): > 0.8 mg/l
NOEC (Water flea (Daphnia magna), 21 d): > 0.4 mg/l

Zinc alkyldithiophosphate EC 50 (Water flea (Daphnia magna), 2 d): 23 mg/l
NOEC (Water flea (Daphnia magna), 2 d): 10 mg/l
EC 50 (Water flea (Daphnia magna), 21 d): 0.8 mg/l
NOEC (Water flea (Daphnia magna), 21 d): 0.4 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

Toxicity to Aquatic Plants

Product: EC 50 (Green algae (Scenedesmus quadricauda), 3 d): 24 mg/l
NOEC (Green algae (Scenedesmus quadricauda), 3 d): 10 mg/l

Zinc alkyldithiophosphate EC 50 (Green algae (Scenedesmus quadricauda), 3 d): 24 mg/l
NOEC (Green algae (Scenedesmus quadricauda), 3 d): 1.8 mg/l

Mineral oil EC 50 (Green algae (Scenedesmus quadricauda), 3 Days): > 100 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

Product: EC 50 (Sludge, 0.1 d): > 10,000 mg/l

Zinc alkyldithiophosphate EC 50 (Sludge, 0.1 d): > 10,000 mg/l

Persistence and Degradability

Biodegradation

Product: OECD TG 301 B, 1.5 %, 28 d, Not readily degradable.

Zinc alkyldithiophosphate OECD TG 301 B, 1.5 %, 28 d, Not readily degradable.

Mineral oil OECD TG 301 B, 31 %, 28 d, Not readily degradable.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 0.69 (Measured)

Zinc alkyldithiophosphate Log Kow: 0.69 (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

UN Number:	UN 3082
UN Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.(Zinc alkyldithiophosphate)
Transport Hazard Class(es)	
Class:	9
Label(s):	9
Packing Group:	III
Marine Pollutant:	Yes
Special precautions for user:	None established

IMDG

UN Number:	UN 3082
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Zinc alkyldithiophosphate)
Transport Hazard Class(es):	
Class:	9
Label(s):	9
EmS No.:	F-A, S-F
Packing Group:	III
Marine Pollutant:	Yes
Limited quantity	5.00L
Excepted quantity	E1
Special precautions for user:	None established

IATA

UN Number:	UN 3082
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.(Zinc alkyldithiophosphate)
Transport Hazard Class(es):	
Class:	9
Label(s):	9MI
Marine Pollutant:	Yes
Packing Group:	III
Limited quantity	30.00KG
Excepted quantity	E1
Environmental Hazards	Marine Pollutant
Special precautions for user:	None established
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

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)

<u>Chemical Identity</u>	<u>CAS number</u>	<u>Reportable quantity</u>	<u>Calculated¹</u>
Isobutyl alcohol	78-83-1	5000 lbs	> 50000 lbs > 22680 kgs

¹This is the amount product/material required to be released before CERCLA reporting is required.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 311 Classifications

Skin Corrosion or Irritation
Serious eye damage or eye irritation

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>CAS number</u>	<u>Percent by Weight</u>	<u>Reportable quantity</u>
Zinc alkyldithiophosphate	Confidential	88.4 %	*See regulation for further details
Isobutyl alcohol	78-83-1	0.5 %	5000 lbs

*These specific chemicals are not listed please check the generic entries on the SARA 304 listings for applicability.

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>CAS number</u>	<u>Percent by Weight</u>	<u>Reporting threshold for other uses</u>	<u>Reporting threshold for manufacturing and processing</u>
Zinc alkyldithiophosphate	Confidential	88.4 %	10000 lbs	25000 lbs

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

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.

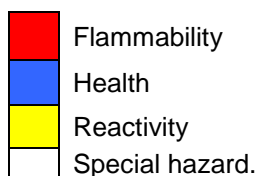
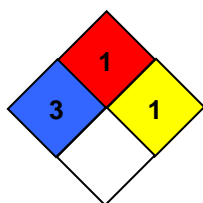
16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	3
Flammability	1
Physical Hazards	1

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: 04/02/2018
Version #: 3.3
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.