SAFETY DATA SHEET

1. Identification

Identification

Product name: **LUBRIZOL® 1395, 362895QBR**

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 face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

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

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

3. Composition/information on ingredients

Chemical name	CAS number	Percent by Weight
Zinc alkyldithiophosphate	68457-79-4	80 – 90%
Mineral oil	Mixture	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.

4. First-aid measures

Ingestion: Rinse mouth. Call a POISON CENTER or doctor/ physician if you feel unwell. Get medical attention if symptoms occur.

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. Wash with soap and water. If skin irritation occurs, get medical attention. Get medical attention if symptoms occur. Launder contaminated clothing before reuse.

Eye contact: Rinse cautiously with water for several minutes. Flush thoroughly with water. If irritation occurs, get medical assistance. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

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: Move containers from fire area if you can do so without risk. Use water to cool containers exposed to fire. 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: Not determined.

Specific hazards arising from the chemical: Elevated temperatures may liberate toxic gases. See section 10 for additional information.

Special protective equipment and precautions for fire-fighters

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: Ensure adequate ventilation and take proper precautions if decomposition is suspected. 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.

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.

7. Handling and storage

Precautions for safe handling: 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. This product contains Zinc Dialkyl Dithio Phosphate (ZDDP). Do not reheat or store over maximum handling and storage temperatures. Heating above the maximum handling temperature can generate hazardous decomposition products (see Section 10). If product heating is required, ensure temperatures are constantly monitored and stay below the maximum handling temperature. Never use pressurized steam heat. Pressurized steam heat increases the risk of decomposition. When heating to normal handling temperatures, avoid local overheating. If product is overheated or decomposition is suspected, activate your Emergency Response Plan. Additional handling information may be found in the American Chemistry Council document “Safe Handling Guidelines for ZDDP Components and Blends” (www.americanchemistry.com).
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. Keep container closed. 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, as amended (02 2012)
Mineral oil - Mist.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Mineral oil - Mist.	STEL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Mineral oil - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)

Appropriate engineering controls: Ensure proper monitoring, enclosure and ventilation of any bulk container unloading, storage and all storage tank activities, as overheating could lead to hydrogen sulfide (H2S) in headspace. Observe all occupational exposure limits. 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. Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.

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. When material is heated, wear gloves to protect against thermal burns. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear.

Other:	Thermally protective apron and long sleeves are recommended when volume of hot material is significant. 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. Use respirator with an organic vapor and dust/mist cartridge if the recommended 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.
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

Appearance	
Physical state:	liquid
Form:	liquid
Color:	Amber to light green
Odor:	characteristic of sulfur-containing compounds
Odor threshold:	No data available.
pH:	Not applicable based on solubility in water.
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 Pa (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):	water: 1,625 mg/l (72 °F (22 °C)) The product has poor water-solubility.
Partition coefficient (n-octanol/water):	0.69 (Measured)
Auto-ignition temperature:	464 °F (240 °C)
Decomposition temperature:	421 °F (216 °C)
Viscosity:	12.5 mm2/s (212 °F (100 °C)) 131.6 mm2/s (40 °C (104 °F))
Other information	
VOC:	< 0.6 %
Pour Point Temperature:	-21 °C

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions. Material is stable under normal conditions.

Possibility of hazardous reactions: Can decompose at elevated temperatures. At elevated temperature may liberate toxic gas. Can decompose at elevated temperatures.

Conditions to avoid: Keep away from heat, sparks and open flame. Temperatures in excess of max handling and storage temperature guidance provided in "Handling and Storage" section. Steam. If heating is required take care to prevent the presence of localized hotspots which could lead to high skin temperatures and result in decomposition. Do not allow water to enter shipping container or transfer lines. Steam. Excessive heat.

Incompatible Materials: The presence of water may lead to acidic species that can catalyze a decomposition. 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 decompositon may generate phosphorus oxides and other phosphorus containing compounds. Thermal decompositon 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

Mineral oil: Vapour: LC 50 (Rat, , 4 h): > 20.01 mg/l (Read across) Not classified
Vapour Dusts, mists and fumes: LC 50 (Rat, , 4 h): > 5.01 mg/l (Read across) Not classified

Dusts, mists and fumes

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.

Other effects:

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), as amended:

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

Product: Toxic to aquatic life with long lasting effects.

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 or ID 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
Environmental Hazards	Zinc alkyldithiophosphate
Special precautions for user:	None established

IMDG

UN number or ID 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
Environmental Hazards	Zinc alkyldithiophosphate
Special precautions for user:	None established

IATA

UN number or ID number:	UN 3082
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.(Zinc alkyldithiophosphate)
Transport Hazard Class(es):	
Class:	9
Label(s):	9MI
Packing Group:	III
Environmental Hazards	Zinc alkyldithiophosphate
Special precautions for user:	None established

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.

TSCA Section 5(a)2 Significant New Use Rule (SNURs) (40CFR 721, Subpt E)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4)

Chemical Identity	CAS number	Reportable quantity
Zinc alkyldithiophosphate	68457-79-4	*See regulation for further details
Isobutyl alcohol	78-83-1	5000 lbs

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

None present or none present in regulated quantities.

SARA 313 (TRI Reporting)

Chemical Identity	CAS number	Reporting threshold for other uses	Reporting threshold for manufacturing and processing
Zinc alkyldithiophosphate	68457-79-4	10000 lbs	25000 lbs

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

Inventory Status

Australia (AIIC)

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.

Great Britain (UK REACH)

To obtain information on the UK 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.

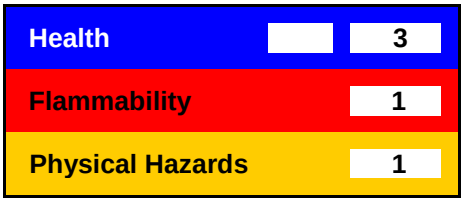
Turkey (KKDIK)
To obtain information on the KKDIK compliance status of this product, please e-mail REACH@SDSInquiries.com.

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.

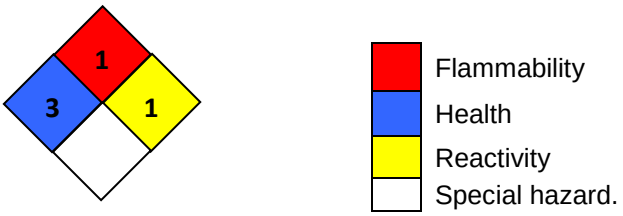
16.Other information, including date of preparation or last revision

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:	12/02/2022
Version #:	7.0
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.