



SAFETY DATA SHEET

Version: 1.2
Revision Date: 7/14/20

This material is to be used for research purposes only under the supervision of a technically qualified individual. The toxicological properties may have not been completely characterized. Please determine your responsibilities under your local regulations.

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

Identification

Product Name: Oil Fortifier
Additional identification
Chemical name: Not applicable for mixtures.

Recommended use and restriction on use

Recommended use: Not Determined
Restrictions on use:

Details of the supplier of the safety data sheet

Company Name: Opti-Lube Inc
Address: 1646 W Business Park Drive, Suite B
Orem, UT 84058
USA
Telephone: 801-491-3717

Emergency telephone number:

FOR TRANSPORT EMERGENCY CALL (+1) 801-850-8553, OR WITHIN THE USA 801-491-3717

2. Hazard(s) identification

Hazard Classification

Skin Corrosion/Irritation Category 2
Serious eye damage Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger
GHS Hazard Phrase: May be harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause long lasting harmful effects to aquatic life.



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| GHS Precaution Phrase: | Do not breath dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves /protective clothing/eye protection/face protection. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. |
| GHS Response Phrases: | IF SWALLOWED: Do NOT induce vomiting. Get medical attention. IF ON SKIN: Remove / take off immediately all contaminated clothing. Wash affected area with soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor / physician immediately. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Get immediate medical advice/attention. If skin irritation occurs, get medical advice / attention. In case of fire, use appropriate media specified in Section 5 herein. Collect Spillage. |
| GHS Storage and Disposal Phrases: | Store in a cool well ventilated place. Dispose of contents/ container (in accordance with local / regional / national / international regulation). |

3. Composition/Information on Ingredients

| CAS Number | EC Number | Index Number | Hazardous Componentes (Chemical Name) | Concentraion |
|------------|-----------|--------------|---------------------------------------|--------------|
| Mixture* | Mixture | Mixture | Highly Refined Mineral Oil C15-C50 | 93% |
| 68649-42-3 | 272-028-3 | N/A | Zinc alkyl dithiophosphate | >1% |

4. First-aid Measures

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| In Case Of Inhalation: | Remove to fresh air. If not breathing, give artificial respiration and contact a physician immediately. If breathing is difficult, administer oxygen and contact a physician immediately. |
| In Case Of Skin Contact: | Wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. |
| In Case Of Eye Contact: | Immediately flush with plenty of water, alternately lifting the upper and lower eyelids. If appropriate, after 5 minutes, remove contact lenses and continue flushing the eyes for an additional 15 minutes. Get medical a attention immediately. |
| In Case Of Ingestion: | If swallowed, do NOT induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. |

5. Fire-fighting measures

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| Flash Point: | > 150 °C (302 F) |
| Explosive Limits: | Not determined |
| Autoignition Point: | Not determined |
| Suitable Extinguishing Media: | Use foam, dry chemical or carbon dioxide (CO2) to extinguish flames. |



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| Fire Fighting Instructions: | As in any fire, wear self-contained breathing apparatus pressure-demand MSHA / NIOSH (approved or equivalent) and full protective gear. |
| Flammable Properties And Hazards: | This material will burn although it is not easily ignited. |

6. Accidental release measures

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| Protective Precautions, Protective Equipment and Emergency Procedures: | Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. |
| Environmental Precautions: Steps To Be Taken In Case Material Is Released Or Spilled: | Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean spill as soon as possible, observing precautions in Exposure Controls / Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. If heated material is spilled, allow to cool before proceeding with disposal methods. Initial Containment: Contain spilled material with dikes or absorbents. Do not allow material to enter soil, surface water, or sewer system. If possible, try to contain floating material. Large Spills Procedure: Contain spilled material. Vacuum or sweep up material and place in a disposal container. Absorb residue with inert material (e.g., dry sand or earth,) then place in a chemical waste container. Do not flush to sewer. Use explosion-proof equipment during clean-up. Small Spills Procedure: Absorb spills with inert material. Transfer to a chemical waste container and dispose of properly. Spills are extremely slippery and should be cleaned up immediately. |
| Miscellaneous: | Report spills to local authorities and / or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required. |

7. Handling and Storage

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| Precautions To Be Taken In Handling and Storing: | Proper handling and storage temperatures for this material are time and temperature dependent and are necessary to avoid decomposition that releases hazardous fumes. If adequate engineering controls are used, short term activities such as loading, unloading and in-line blending may occur at temperatures ranging from 80 – 85 C (176 – 185 F.) During shipment by railcar or tank truck, loading temperatures as high as 80 – 85 C (176 – 185 F) may be used and are expected to drop to 66 C (150 F) or lower within 7 days. Storage temperatures for up to 2 weeks should not exceed 66 C (150 F.) The recommended long-term (2 weeks or more) storage temperature is ambient to 45 C (113 F) maximum. Do not get in eyes, on skin, or on clothing. Avoid contact of heated material with eyes, skin and clothing. Do not breathe vapor or fumes. Do not breathe gas. Wash thoroughly after handling. |
| Unusual Handling Hazards: | Toxic quantities of hydrogen sulfide may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H ₂ S is present. Do not attempt to rescue of a person over exposed to H ₂ S without wearing approved supplied air or self-contained breathing equipment. If there is a potential for exceeding one half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H ₂ S, the concentration should be measured by the use of fixed or portable devices. |



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General Handling Information: The recommended reheating medium is hot water or regulated low pressure steam. Care must be taken not to exceed the temperatures stated above when reheating this material in order to avoid decomposition that released hazardous fumes. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

| Component | Agency | TWA | STEL | Ceiling | Notification |
|---------------------------------------|----------|---------------------|----------------------|---------|--------------|
| Highly refined mineral oil (C15- C50) | ACGIH | 5 mg/m ³ | 10 mg/m ³ | -- | -- |
| Highly refined mineral oil (C15- C50) | OSHA Z-1 | 5 mg/m ³ | -- | -- | -- |

Respiratory Equipment (Specify Type): No respiratory protection is normally required. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU.) Where risk assessment shows air-purifying respirators are appropriate, use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Eye Protection: Chemical safety goggles.

Skin Protection: Wear protective, chemical resistant gloves to minimize skin contamination. Wear chemical resistant boots or overshoes. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Wash hands thoroughly after handling.

Engineering Controls: Provide exhaust ventilation or other engineering controls (Ventilation etc.): to keep the airborne concentrations of vapors or particles below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

9. Physical and chemical properties

Form: Liquid

Appearance (Color): Amber

Odor: Petroleum

Odor Threshold: Not determined

Melting Point: Not determined

Boiling Point: Not determined

Autoignition Point: Not determined

Flash Point: > 150 C (302 F)

Explosive Limits: Not determined

Upper / Lower Flammability or Explosive Limits: Not determined

Specific Gravity (Water = 1): 0.87

Vapor Pressure (vs. Air or mm Hg): Not determined

Vapor Density (vs. Air = 1): Not determined

Relative Density: 7.29 lb/gal @ 25 C

Evaporation Rate: Not determined



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| Solubility in Water: | Insoluble |
| pH: | Not determined |
| Percent Volatile: | Not determined |
| Partition Coefficient: | n-octanol / water: Not determined |
| Decomposition Temperature: | Not determined |
| Viscosity: | 9.70 cSt |

10. Stability and reactivity

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| Stability: | This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. |
| Incompatibility - Materials To Avoid: | Avoid contact with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. |
| Hazardous Decomposition Or Byproducts: | Hydrogen Sulfide, Alkyl Mercaptans. Highly dependent on or combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may for oxides of Nitrogen, Phosphorus, Sulfur, Zinc and Calcium. |
| Hazardous Polymerization: | Hazardous polymerization is not known to occur. |
| Conditions To Avoid: | Open flames, sparks, and temperatures above the material flash point. Do not exceed temperature listed in Section 7. |

11. Toxicological Information

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| Skin Effects: | Repeated contact with the skin may cause irritation. Contact with the skin may cause an allergic skin reaction. Symptoms may include pain, itching, discoloration, swelling and blistering. Not expected to be harmful to internal organs if absorbed through the skin. If this material is heated, thermal burns may result from skin contact. |
| Eye Effects: | Contact with the eyes causes permanent damage, including blindness. Symptoms may include pain, tearing, reddening, swelling and impaired vision. If this material is heated, thermal burns may result from eye contact. |
| Acute Dermal Effects: | LD50: > 5000 mg/kg (rabbit) |
| Acute Oral Effects: | LD50: 2900 mg/kg (rat) |
| Acute Inhalation Effects: | Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing. Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death. This material may decompose and release hydrogen sulfide gas when heated above 100 C or stored at temperatures above 80 C for more than 5 days. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure at high levels, H ₂ S |



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may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation to the eyes, nose and throat. Moderate levels can cause headache, dizziness, nausea and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma and death. After a serious exposure, symptoms usually begin immediately. The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be immediately dangerous to life and death (IDLH).

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|----------------------------------|-------------------|
| Germ Cell Mutagenicity: | No data available |
| STOT - Single Exposure: | No data available |
| STOT - Repeated Exposure: | No data available |

12. Ecological Information

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|---------------------------------------|--|
| Ecotoxicity: | This material is expected to be toxic to aquatic organisms. The product hasn't been tested. The statement derived from the properties of the individual components. |
| Persistence and Degradability: | This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material. |
| Bioaccumulative Potential: | No data available. |
| Mobility in Soil: | No data available. |
| PBT/VPvB Assessment: | No data available. |
| Other Adverse Effects: | No data available. |

13. Disposal considerations

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| Waste Disposal Methods: | Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations |
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14. Transport Information

DOT

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|---------------------------------|--|
| UN Number: | NA 3082 |
| Packing Group: | III |
| UN Proper Shipping Name: | UN 3082, Zinc Alkyl Dithiophosphate Class 3 PG 9, MARINE POLLUTANT |

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)

| | |
|------------------------------------|--------|
| Transport Hazard Class(es): | 9, III |
|------------------------------------|--------|

Maritime Transport IMDG/GGVSea

| | |
|------------------------------------|--------|
| Transport Hazard Class(es): | 9, III |
| Marine Pollutant: | Yes |



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Transport Hazard Class(es): 9, PG. 3

* This material is not regulated for US DOT transportation in quantities less than 119 gallons per 49 CFR 173:120

(b)(1). Does not apply to transportation by vessel, aircraft or package shipping services.

** This material is a marine pollutant when shipped in quantities greater than 119 gallons.

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 transport of the material. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory Information**EPCRA 311/312 Categories:**

1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: YES
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

Regulatory Lists Searched:

- | | |
|---------------------|----------------------|
| 01-1=IARC Group 1 | 03=EPCRA 313 |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK |
| 02=NTP Carcinogen | 06=NJ RTK |
| | 07=PA RTK |

The following components of this material are found on the regulatory lists indicated: Zinc alkyl dithiophosphate - 03, 06

Chemical Inventories: All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

WHMIS Classification:

Class D, Division 2, Subdivision B: Toxic Material - Skin or Eye Irritation

16. Other information, including date of preparation or last revision**HMIS Hazard ID**

| | |
|-------------------------|---|
| Health | 2 |
| Flammability | 1 |
| Physical Hazards | 0 |

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

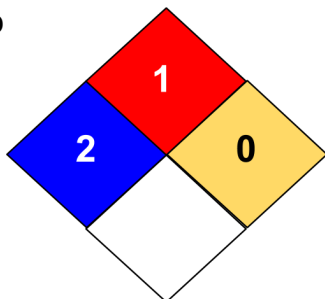
*Chronic health effect



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NFPA Hazard ID



| |
|-------------------------|
| Flammability |
| Health |
| Physical Hazards |
| Reactivity |

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

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Source of Information: Internal Company data and other publically available resources.

Further Information: Contact Supplier (see Section 1)

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