



SPECIALIZED LUBRICANTS

1. Substance/Product Identification

Product Name: 4007 Heat Transfer Detergent Cocktail

Company/Address: Schaeffer Mfg
102 Barton Street
Saint Louis, Missouri 63104
USA

Synonyms:

Preparation/Revision Date: 12/15/2010

Product Use/Type: Flushing agent and Lubricant for Heat Transfer Systems

Emergency Phone Number: +1 314 865-4105 (24-hour response number)
+ 1 314 865-4100 (Business hours 8:30AM-5:00PM)
1-800-325-9962 (US & Canada)

Website: www.schaefferoil.com

MSDS Number: 4007 Version 1.0

2. Hazards Identification

Appearance: Dark color

Odor: mild odor

Principal Hazards: Warning! May cause irritation to the skin and eyes. Inhalation of mist may cause respiratory tract irritation. Ingestion may cause gastrointestinal irritation. Surfaces subject to spills may become slippery. Wear protective gloves. Wash thoroughly after handling. Avoid release to the environment. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical attention. All disposal practices must be in accordance with local, national and international regulations.

**Hazardous Materials Information System
(U.S.A)**

**Health: 2
Fire: 1
Reactivity: 0**

**National Fire Protection Agency System
(U.S.A.)**

**Health: 2
Fire: 1
Reactivity: 0**

See Section 11 for complete health hazard information

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3. Composition and Information on Ingredients

Hazardous Ingredients

Ingredient Name	CAS No.	EU Number	Percentage (by wt.)
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	84605-29-8	283-392-8	2 - 5
Dodecylphenol, mixed isomers (branched)	121158-58-5	310-154-3	2-5
Heptanoic acid, mixed esters with pentaerythritol and valeric acid	68441-47-3	270-47-3	20 - 60

4. First Aid Measures

Ingestion: DO NOT INDUCE VOMITING. Get immediate medical attention

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

Inhalation: Remove to fresh air. Get medical attention if nasal, throat or lung irritation develops.

Skin: Wash thoroughly with soap and running water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Thoroughly wash clothing before reuse

Additional Information: When providing first aid always protect yourself against exposure to chemicals or blood borne diseases by wearing gloves, masks and eye protection. After providing first aid wash your exposed skin with soap and water

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5. Fire Fighting Measures:

Flash Point: 365°F/185°C Cleveland Open Cup ASTM D-92

Extinguishing Media: Water spray, dry chemical, foam, carbon dioxide or clean extinguishing agents may be used on fires involving this product.

Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear when fighting fires involving this product. Cool containers with water to prevent rupture.

Unusual Fire & Explosion: Elevated temperatures can lead to the formation of irritating fumes and vapors. See section 10 for additional information

Hazards: If heated to decomposition, the following substances may be formed: carbon monoxide , carbon dioxide and smoke . Thermal decomposition may evolve irritating vapor.

6. Accidental Release Measures

Spill Procedures and Clean up methods: Ventilate area. Clean up spills immediately. Wear protective skin and eye protection. For small spills: Add absorbent, sweep up, and dispose appropriately. Keep out of streams and waterways. For large spills: Dike to contain and pump into drums for use or disposal. In case of accidental spill or release, refer to Section 8,

Personal Protective Equipment and General Hygiene Practices

Personal Precautions: Personal protective equipment must be worn. Avoid contact with skin, eyes or clothing. Ventilate area if spilled in a confined space or other poorly ventilated area.

Environmental Precautions: Take precautions to avoid release to the environment. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to all applicable Federal, State, Provincial and local authorities and/or the United States National Response Center at (800) 424-8802 as appropriate or required.

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7. Handling & Storage

Handling: Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Avoid skin contact. Wash thoroughly after handling. Empty container contains product residue which may exhibit hazards of product. Dispose of packaging or containers in accordance with local, regional, national and international regulations

Storage: Do not store product at elevated temperatures. Store in a cool dry place that has adequate ventilation. Do not store near food or feed products. Keep containers closed when not in use.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid and/or vapor) and can be dangerous. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, sparks, static electricity or other sources of ignition. There may explode and cause injury or death. Empty containers should be completely drained, properly closed and promptly returned to a drum reconditioner or disposed of properly

8. Exposure Controls and Personal Protection

Occupational Exposure Limits

Ingredient	OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	N/E	N/E	N/E	N/E
Dodecylphenol, mixed isomers (branched)	N/E	N/E	N/E	N/E
Heptanoic acid, mixed esters with pentaerythritol and valeric acid	5.0 mg/m ³		5.0 mg/m ³	

(s)-Skin exposure

(p) proposed limit

(c) – Ceiling limit

(l) Recommended exposure limit

(u) supplier limit

(N/E) – not established

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8. Exposure Controls and Personal Protection continued

Other Exposure Limits

Engineering Controls: If user operations generate an oil mist, determine if airborne concentrations are below the OSHA Permissible Limit (PEL) of 5 mg/m³ for mineral oil mist. If not, wear a NIOSH approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Personal Protective Equipment

Gloves: Nitrile or oil resistant gloves

Protective Clothing: Wear impervious protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.

Eye Protection: Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact.

Skin Protection: Wear impervious protective clothing to prevent skin contact.

Respiratory Protection: If user operations generate an oil mist, determine if airborne concentrations are below the OSHA Permissible Limit (PEL) of 5 mg/m³ or other applicable standards for mineral oil mist. If not, wear a NIOSH approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge

9. Physical and Chemical Properties

Flash Point: 365°F/185°C Cleveland Open Cup ASTM D-92

Specific Gravity: 0.935

Upper Flammable Limit (UEL): Not established

Lower Flammable Limit (LEL): Not established

Vapor Pressure: Not Determined

Vapor Density (air =1): >1

Percent Volatile: Negligible

Evaporation Rate: Not Determined

pH: Not Applicable

Boiling Point: >600°F (>315°C)

Melting Point: Not Applicable

Appearance: Dark color

Odor: Mild odor

Solubility in Water: Negligible

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise specified

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10. Stability and Reactivity

Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Materials to Avoid: Strong acids, bases and oxidizers

Polymerization: Not expected to occur during conditions of normal use.

Thermal Decomposition: Not determined

Conditions to Avoid: May react with oxygen and strong oxidizing agents, such as chlorates, peroxides, ect.

11. Toxicological Information:

Routes of Exposure: Skin, eyes, ingestion and inhalation

Target Organs: Skin, eyes and upper respiratory tract

Acute Exposure

Ingestion: Ingestion may cause a laxative effect. This material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

Eye Contact: Slight irritation and redness to eyes

Skin Contact: Contact with skin is not expected to cause prolonged or significant irritation

Inhalation: Contains synthetic hydrocarbons and petroleum base oils. 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.

Dermal Sensitization: Product may be a dermal sensitizer

Inhalation Sensitization: Not expected to be an inhalation sensitizer.

Carcinogenicity: This product does not contain any of the chemicals listed on the United States National Toxicology Program Annual Reports on Carcinogens, The International Agency for Cancer Research Monographs and United States' Occupational Safety and Health Administrations 29CFR 1910.10 Subpart Z List.

Ames Test: Negative

The highly refined petroleum base oils contain <3% w/w DMSO extracts according to the IP 346 Test method and are not considered to be carcinogenic

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11. Toxicological Information continued:

Additional Toxicological Information: No data available to indicate the product or any of its components are present at greater than 0.1% are mutagenic, genotoxic or teatogenic

Acute toxicity

Oral

The LD50 in rats is > 10,000 mg/Kg. Based on data from components or similar materials.

Dermal

The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials.

Inhalation: No data available to indicate product or components may be a toxic inhalation hazard

Respiratory or skin sensitization: Not expected to be a respiratory or skin sensitizer

12. Environmental and Ecological Information

Ecotoxicity

Freshwater fish

The acute LC50 is 10 - 100 mg/L based on component data.

Freshwater invertebrates

Chronic effects expected at < 1 mg/L based on component data.

Algae

Not determined.

Saltwater fish

Not determined.

Saltwater invertebrates

Not determined.

Bacteria

Not determined.

Environmental Fate

Biodegradation: This material is not expected to be readily biodegradable

Bioaccumulation: Not established

Water Class Hazard (Germany): Water Hazard Class 2 1 according to appendix 4 VwVwS dated 27.7.2005

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13. Disposal Considerations

Waste Handling and Disposal: This product in its neat state when discarded or disposed of is not a hazardous waste according to United States Federal Regulations 40CFR 261.4 (b)(4). Dispose of product in accordance with all applicable Federal, State and local laws and regulations. Under RCRA, it is the responsibility of the user of this product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Do not re-use empty containers

14. Transport Information

US DOT Classification Non-Bulk: Not regulated as a hazardous material or dangerous good for transportation.

US DOT Classification Bulk: Not regulated as a hazardous material or dangerous good for transportation.

IMDG Classification: Not regulated as a hazardous material or dangerous good for transportation.

IATA/ICAO Classification: Not regulated as a hazardous material or dangerous good for transportation

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15. Regulatory Information

Hazard Symbols

EU



Xi Irritant

GHS Symbol:



Health Hazards: May be fatal if swallowed and enters airways.

US Regulations

TSCA Inventory: All of the components in this material are on the US TSCA Inventory or are exempt.

State of California Proposition 65: This product does not contain any of the chemical listed on the State of California's Proposition 65 List for chemicals classified as potential reproductive or cancer causing agents.

US EPA SARA Title III and CERCLA Listings and Reportable Quantities

This product contains 2 to 5% of Zinc alkyl dithiophosphate which listed on the US EPA's SARA Title III and CERCLA Lists as Zinc and Zinc Compounds.

US EPA Section 311/313 Classifications

None

US EPA Section 313 Chemicals

This product contains 2 to 5% of Zinc alkyl dithiophosphate which listed on the US EPA's Section 313 List as Zinc and Zinc Compounds.

US Tariff Heading Number: 3403.19.0000

Schedule B Number: 3403.19.0000

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15. Regulatory Information continued

Other Regulations:

Canada: All of the ingredients of this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substance List

Canadian WHMIS Classifications and Symbols: This product is not considered to be a WHMIS hazard

EEC: All components are in compliance with the EC Seventh Amendment Directive 92/32/EEC

16. Other Information

For additional information call +1 314-865-4100 (outside the US and Canada) or 1-800-325-9962 inside the United States and Canada.

Although the information and recommendations set forth herein (hereafter referred to as information) are presented in good faith and believed to be accurate and factual as of the date hereof, Schaeffer Mfg. Company makes no representation as to the completeness or accuracy thereof. Information is supplied upon the condition that the person receiving the same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Schaeffer Mfg. Company be responsible for damages of any natures whatsoever resulting from the use or reliance upon information. **No representation or warranty, either expressed or implied, of merchantability or fitness for a particular purpose is made with respect to information of the product to which the information refers. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.**