



MOOREFLO HYDRAULIC SDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product Name on Label: MOOREFLO HYDRAULIC OIL
 Other Identification: VISCOSITY GRADES 15, 22, 32, 46, 68, 100, 150 & 220
 Use of the substance/mixture: HYDRAULIC FLUID
 Company name : MOORE OIL COMPANY
 4033 WEST CUSTER AVE
 MILWAUKEE, WI 53209 (414) 462-3200
 Emergency number: (800) 424-9300 - CHEMTREC

SECTION 2: Hazards identification

Classification of the substance or mixture: Petroleum-Hydrocarbon-oil
 Label elements: N/A
 Other hazards: N/A
 Unknown acute toxicity (GHS-US): N/A

SECTION 3: Composition/information on ingredients

| <u>OSHA PELL</u> | | <u>ACGIH TLV</u> | | | | | | | |
|------------------|---|------------------|-------------------|-------------|-------------------|-------------------|------------|------------|---------------------------|
| <u>WT%</u> | <u>NAME</u> | <u>CAS NO.</u> | <u>TWA</u> | <u>STEL</u> | <u>TWA</u> | <u>STEL</u> | <u>LDa</u> | <u>LCb</u> | |
| | | | mg/m ³ | | mg/m ³ | mg/m ³ | | | |
| 25 to 99* | Lubricating oils Petroleum, hydrotreated spent | 64742-58-1 | 5 ^c | N/A | 5 ^c | 10 ^{c,d} | N/A | N/A | (>2000mg/kg) ^d |
| 0 to 75* | Residual oils Bright stock solvent-dewaxed | 64742-62-7 | 5 ^c | N/A | 5 ^c | 10 ^{c,d} | >10000 | N/A | (>2000) ^d |
| 0 to 8* | Viscosity index Improver | N/A** | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 0 to 1* | Zinc Dialkyldithiophosphates*** | N/A** | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| < to 0.5 | Methacrylate Copolymer | N/A** | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

*Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

**Supplier advises that this is a trade secret. N/A= Not Available

^aOral-Rat LD 50 (mg/kg) ^bInhalation-Rat LC 50 ^cBased on Oil mist, mineral ^dSkin-Rabbit LD 50

SECTION 4: First aid measures

INHALATION Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.



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EYE CONTACT If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

SKIN CONTACT Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists. If product is injected under pressure into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, a physician should immediately evaluate the individual as a medical emergency.

SWALLOWING If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by the mouth.

NOTE TO PHYSICIANS: Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident

SECTION 5: Fire-fighting measures

FLASH POINT (METHOD USED): 356oF (180oC) (minimum) Cleveland Open Cup

FLAMMABLE LIMITS IN AIR: Lower: Not Available Upper: Not Available

HAZARDOUS COMBUSTION PRODUCTS: Decomposition and combustion materials may be toxic. Burning may produce hydrogen sulfide, sulfides, alkyl mercaptans, aldehydes, nitrogen oxides, phosphorus oxides, sulfur oxides, nitrogen, carbon monoxide, and unidentified organic compounds.

AUTOIGNITION TEMPERATURE: Not Available.

CONDITIONS OF FLAMMABILITY: Heat, sparks or flame. Products may burn, but do not ignite readily.

FIRE FIGHTING INSTRUCTIONS: Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

FIRE AND EXPLOSION HAZARDS: Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Products are not sensitive to mechanical impact or static discharge.

| HAZARD RATING | NFPA / HMIS CLASSIFICATION |
|---------------|----------------------------|
| 0= LEAST | HEALTH HAZARD (BLUE) 1 |
| 1= SLIGHT | FIRE HAZARD (RED) 1 |
| 2= MODERATE | REACTIVITY (YELLOW) 0 |
| 3= HIGH | SPECIFIC HAZARD (WHITE) - |
| 4= EXTREME | |

SECTION 6: Accidental release measures

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in Section 9: Exposure Controls/Personal Protection. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid liquid for possible recovery, or sorb with compatible



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sorbent material and shovel with a clean tool into a sealable container for disposal. Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal.

SECTION 7: Handling and storage

Precautions for safe handling: Keep away from sparks or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean tools and explosion-proof equipment. When transferring product, storage tanks, tanker trucks, and rail tank cars should be grounded and bonded. These products have a low vapor pressure and are not expected to present an inhalation hazard under normal temperatures and pressures. However, when aerosolizing, misting, or heating these products, do not breathe vapor or mist. Use in a well-ventilated area. Avoid contact with eyes, skin, clothing and shoes.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain residue and can be dangerous.

SECTION 8: Exposure controls/personal protection

Control parameters: Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

Exposure controls

RESPIRATORY PROTECTION: No respiratory protection is normally required. Use NIOSH-certified, air-purifying respirators with combination P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits providing that the respirator's maximum use concentration is not exceeded. Consult an Industrial Hygienist for respirator selection guidance. Protection provided by air-purifying respirators is limited.

EYE PROTECTION: Wearing chemical goggles is recommended. Contact lens use is not recommended without eye protection.

SKIN PROTECTION: No skin protection is normally required. Where prolonged or repeated skin contact is likely, wear neoprene, nitrile (4 mil minimum) PVC (polyvinyl chloride) or equivalent protective gloves; use of natural rubber or equivalent gloves is not recommended. When products are heated and skin contact is likely, wear heat-insulating gloves, boots, and other protective clothing. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant face shield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

PERSONAL HYGIENE: Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard leather articles, such as shoes, saturated with these products.



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OTHER PROTECTIVE EQUIPMENT: Where spills and splashes are likely, facilities storing or using these products should be equipped with emergency eyewash equipped with clean water in the immediate work area.

SECTION 9: Physical and chemical properties

| | |
|--|--|
| PHYSICAL STATE, APPEARANCE & ODOR: | Liquid, amber, petroleum odor |
| ODOR THRESHOLD: | Not available |
| MOLECULAR WEIGHT: | Not applicable |
| SPECIFIC GRAVITY: . | 88(water=1) (approximately) |
| DENSITY: | 7.3 LB/US gal (880 g/l) (approximately) |
| VAPOR DENSITY: | Not available |
| VAPOR PRESSURE: | less than 0.1 mm Hg at 68o F (20o C) |
| BOILING POINT: | 475oF (246oC) (minimum) |
| FREEZING/MELTING POINT: | Not available [pour point 21oF (6oC)(max)] |
| pH: | Not applicable |
| EVAPORATION RATE: | Not available |
| SOLUBILITY IN WATER: | Insoluble |
| FLASH POINT: | 356oF (180oC) (min) Cleveland Open Cup |
| FLAMMABLE LIMITS IN AIR: | |
| LOWER: Not available | UPPER: Not available |
| AUTOIGNITION TEMPERATURE: Not available. | |

SECTION 10: Stability and reactivity

Reactivity: Polymerization is not known to occur under normal temperatures and pressures. Not reactive with water.

Chemical stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions: Avoid oxidizing agents, acids, or reactive halogens

Conditions to avoid (e.g., static discharge, shock, or vibration): Avoid heat, sparks, or flame.

Incompatible materials: Avoid oxidizing agents, acids, or reactive halogens

Hazardous decomposition products: None under normal temperatures and pressures.

SECTION 11: Toxicological information

SENSITIZATION: Based on best current information, there is no known human sensitization associated with these products.

MUTAGENICITY: Experimental evidence suggests that these products do not cause mutagenesis.

CARCINOGENICITY: Based on best current information, for the components listed in Section 2, there is no known carcinogenicity as regulated by OSHA; as categorized by ACGIH A1 or A2 substances; as categorized by IARC Group 1 Group 2A, or Group 2B agents; or as listed by NTP as either known carcinogens or substances for which there is limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

REPRODUCTIVE TOXICITY: Based on best current information, there is no known reproductive toxicity associated with these products.

TERATOGENICITY: Based on best current information, there is no known reproductive toxicity associated with these products.



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TOXICOLOGICALLY SYNERGISTIC PRODUCT(S): Based on best current information, there is no known reproductive toxicity associated with these products.

SECTION 12: Ecological information

Eco-toxicity (aquatic and terrestrial, where available): N/A

Persistence and degradability: N/A

Bio-accumulative potential: N/A

Mobility in soil: N/A

Other adverse effects (such as hazardous to the ozone layer): N/A

SECTION 13: Disposal considerations

DISPOSAL: Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

USEPA WASTE CODES:

These products, if discarded, are not expected to be a characteristic or listed hazardous waste. If recycled in the USA, they must be managed in accordance with 40 CFR Part 279. Processing, use, or contamination by user may change the waste code(s) applicable to the disposal of these products.

SECTION 14: Transport information

UN number: NONE

UN proper shipping name: N/A

Transport hazard class(es): NONE

Packing group, if applicable: NONE

Environmental hazards (e.g., Marine pollutant (Yes/No)): NO

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): N/A

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises: N/A

SECTION 15: Regulatory information

SARA SECTIONS 302, 304

BASED ON THE INGREDIENTS LISTED IN SECTION II, THESE PRODUCTS DO NOT CONTAIN ANY "EXTREMELY HAZARDOUS SUBSTANCES" LISTED PURSUANT TO III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) SECTION 302 OR SECTION 304 AS IDENTIFIED IN 40 CFR PART 355, APPENDIX A AND B.

SARA SECTIONS 311 AND 312

THESE PRODUCTS POSE THE FOLLOWING HEALTH HAZARDS AS DEFINED IN 40 CFR PART 370 AND ARE SUBJECT TO THE REQUIREMENTS OF SECTIONS 311 AND 312 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA)

IMMEDIATE (ACUTE) HEALTH HAZARD

DELAYED (CHRONIC) HEALTH HAZARD

SARA SECTION 313

THESE PRODUCTS CONTAIN A "TOXIC" CHEMICAL SUBJECT TO THE REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986(SARA)AND 40 CFR PART 372.



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MATERIAL

Zinc dialkylldithiophos

CAS NO.

N.Av.

CERCLA

BASED ON THE INGREDIENTS LISTED IN SECTION II, THESE PRODUCTS DO NOT CONTAIN ANY "HAZARDOUS SUBSTANCES" LISTED PURSUANT TO THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980 (CERCLA) IN 40 CFR PART 302, TABLE 302

TSCA ALL THE COMPONENTS OF THESE PRODUCTS ARE LISTED ON, OR ARE EXEMPTED 75- UCTS) ANTHRACENE

CALIFORNIA

THESE PRODUCTS MAY CONTAIN DETECTABLE AMOUNTS OF ACETALDEHYDE CAS 7440-38-2, BENZENE CAS 71-43-2, 1, 3-BUTADIENE CAS 106-99-0, CADMIUM CAS 7440-43-9, AND LEAD CAS 7439-92-1 FROM ADDITIVES. THESE PROD MAY CONTAIN DETECTABLE AMOUNTS OF BENZO (A)ANTHRACENE CAS 56-55-3, BENZO(K)FLUORANTHENE CAS 207-08-9, BENZO(A)PYRENE CAS 50-32-8, BENZO(B)FLUORANTHENE CAS 205-99-2, CHRYSENE CAS 218-0 DIBENZ(A,HCAS 53-70- 3, AND INDENO(1,2,3-CD) PYRENE CAS 193-39-5.

WARNING: THESE CHEMICALS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. OUR TESTING OF THESE PRODUCTS INDICATES THAT THESE CHEMICALS ARE NOT ALWAYS DETECTABLE. THESE PRODUCTS MAY CONTAIN DETECTABLE AMOUNTS OF ARSENIC CAS 7440-38-2, BENZENE CAS 71-43-2, CADMIUM CAS 7440-43-9, AND LEAD CAS 7439-92-1 FROM ADDITIVES.

WARNING: THESE CHEMICALS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

CANADIAN REGULATIONS

THESE PRODUCTS HAVE BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS (CPR) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

WHIMS NOT REGULATED.

CANADIAN ENVIRONMENTAL PROTECTION ACT

ALL THE COMPONENTS OF THESE PRODUCTS ARE LISTED ON, OR ARE EXEMPTED FROM THE REQUIREMENT TO BE LISTED ON, THE CANADIAN DOMESTIC SUBSTANCES LIST (DSL).

SECTION 16: Other information

The information in this Safety Sheet was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. This safety sheet was prepared and is to be used only for this product. If the product is used as a component in another product, this safety sheet information may not be applicable.