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SECTION 1. IDENTIFICATION

Product identifier used on the label
: Dual Purpose Vacuum Pump Oil

Product Code(s)
: L339 (P/N 475352); L340 (P/N 475353); L341 (P/N 475354)

Recommended use of the chemical and restrictions on use
: Hydraulic oil

Chemical family
: Mixture.

Name, address, and telephone number of the supplier:
Parker Hannifin Corporation - Sporlan Division
206 Lange Drive
Washington, MO, U.S.A.
63090
Supplier's Telephone # : (636) 239-1111

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

Name, address, and telephone number of the manufacturer:
Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements
The following label information is applicable only to the United States according to OSHA Regulations (29 CFR 1910.1200) (Hazcom 2012):

Signal Word
None required.

Hazard statement(s)
None required.

Precautionary statement(s)
None required.

The following label information is applicable only to Canada according to the Canadian Controlled Products Regulations (CPR/WHMIS):

Other hazards
Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. May be mildly irritating to eyes and skin. May cause respiratory tract irritation. Ingestion can cause gastrointestinal irritation, nausea, and diarrhea. May have laxative effects. Oils can block the skin pores causing an acne-like disorder. Overexposure to sprays or mists may cause chemical pneumonitis (inflammation of lung tissue).

Environmental precautions: Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.
SAFETY DATA SHEET

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS #</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>60.0 - 100.0</td>
</tr>
</tbody>
</table>

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

**Ingestion**: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

**Inhalation**: Move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. If irritation or symptoms develop, seek medical attention.

**Skin contact**: For skin contact, wash with soap and water while removing contaminated clothing. If irritation persists, seek prompt medical attention. Wash contaminated clothing before reuse.

**Eye contact**: Immediately flush eyes with running water for at least 5 to 10 minutes. If irritation persists, seek prompt medical attention.

Most important symptoms and effects, both acute and delayed

- May be mildly irritating to eyes and skin. May cause respiratory irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May have laxative effects. Oils can block the skin pores causing an acne-like disorder. Overexposure to sprays or mists may cause chemical pneumonitis (inflammation of lung tissue).

Indication of any immediate medical attention and special treatment needed

- Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

**Extinguishing media**

- **Suitable extinguishing media**: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

- **Unsuitable extinguishing media**: Do not use water jet, as this may spread burning material.

**Special hazards arising from the substance or mixture / Conditions of flammability**

- Not flammable under normal conditions of use. However, may ignite if exposed to extreme heat and flame. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

**Flammability classification (OSHA 29 CFR 1910.106)**

- Non-flammable.

**Explosion Data: Sensitivity to Mechanical Impact / Static Discharge**

- Not expected to be sensitive to mechanical impact or static discharge.

**Hazardous combustion products**

- Nitrogen oxides  Phosphorus compounds Hydrocarbons Carbon oxides

**Special protective equipment and precautions for firefighters**

- **Protective equipment for firefighters**: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

- **Special fire-fighting procedures**: Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.
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SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Material can create slippery conditions. Refer to protective measures listed in sections 7 and 8.

Environmental precautions
- Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Methods and material for containment and cleaning up
- Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Dike for water control. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Special spill response procedures
- If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

US CERCLA Reportable quantity (RQ): None.

Wear protective equipment during handling. Use with adequate ventilation. Avoid breathing fumes or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Keep away from acids and incompatibles. Keep containers closed when not in use. Wash thoroughly after handling.

Precautions for safe handling

Conditions for safe storage
- Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Inspect periodically for damage or leaks. Protect against physical damage. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

Incompatible materials
- Oxidizing agents.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Conditions for safe storage

Incompatible materials

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>5 mg/m³ (inhalable) (As 'Oil mist, mineral')</td>
<td>5 mg/m³ (As 'Oil mist, mineral')</td>
</tr>
</tbody>
</table>

Exposure controls

Ventilation and engineering measures
- Use with adequate ventilation. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection
- If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection
- Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.

Eye / face protection
- Safety goggles or glasses as appropriate for the job.

Other protective equipment
- Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. Ensure that eyewash stations and safety showers are close to the workstation location.
SAFETY DATA SHEET

General hygiene considerations:
Avoid breathing vapors, fumes or dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Amber liquid.</td>
</tr>
<tr>
<td>Odour</td>
<td>Petroleum odor.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>N/Av</td>
</tr>
<tr>
<td>pH</td>
<td>N/Av</td>
</tr>
<tr>
<td>Melting/Freezing point</td>
<td>Pour point -23°C/-10°F</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>N/Av</td>
</tr>
<tr>
<td>Flash point</td>
<td>240°C (465°F)</td>
</tr>
<tr>
<td>Flashpoint (Method)</td>
<td>open cup</td>
</tr>
<tr>
<td>Evaporation rate (BuAe = 1)</td>
<td>N/Av</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable.</td>
</tr>
<tr>
<td>Lower flammable limit (% by vol.)</td>
<td>N/Av</td>
</tr>
<tr>
<td>Upper flammable limit (% by vol.)</td>
<td>N/Av</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>None known.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Vapour density</td>
<td>N/Av</td>
</tr>
<tr>
<td>Relative density / Specific gravity</td>
<td>0.87</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>insoluble</td>
</tr>
<tr>
<td>Other solubility(ies)</td>
<td>N/Av</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>N/Av</td>
</tr>
<tr>
<td>or Coefficient of water/oil distribution</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>N/Av</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>N/Av</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/Av</td>
</tr>
<tr>
<td>Volatiles (% by weight)</td>
<td>N/Av</td>
</tr>
<tr>
<td>Volatile organic Compounds (VOC's)</td>
<td>N/Av</td>
</tr>
<tr>
<td>Absolute pressure of container</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Flame projection length</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Other physical/chemical comments</td>
<td>No additional information.</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.
Chemical stability: Stable under the recommended storage and handling conditions prescribed.
Possibility of hazardous reactions: Hazardous polymerization will not occur.
Conditions to avoid: Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials: Oxidizing agents.
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Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption : NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory tract irritation. Overexposure to sprays or mists may cause chemical pneumonitis (inflammation of lung tissue).

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May have laxative effects.

Sign and symptoms skin

: Direct skin contact may cause slight or mild, transient irritation.

Sign and symptoms eyes

: May cause mild irritation, redness and watering.

Potential Chronic Health Effects

: Oils can block the skin pores causing an acne-like disorder. Overexposure to sprays or mists may cause chemical pneumonitis (inflammation of lung tissue).

Mutagenicity : Not expected to be mutagenic.

Carcinogenicity : This product does not meet the criteria for carcinogens under OSHA regulations (29 CFR 1910.1200) (Hazcom 2012). No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. The following petroleum derived chemicals contain < 3% DMSO: Solvent refined heavy paraffinic distillate

Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

Senitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : Not classified as a specific target organ toxicity-single exposure. Not classified as a specific target organ toxicity-repeated exposure.

Irritancy : Mild eye irritant. Mild skin irritant.

Medical conditions aggravated by overexposure

: Pre-existing skin and respiratory disorders.

Synergistic materials : Not available.

Toxicological data

: See below for individual ingredient acute toxicity data. Contains no ingredients that are considered to have acute toxicity hazards.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LC50(4hr) inh, rat</th>
<th>LD50 (Oral, rat)</th>
<th>LD50 (Rabbit, dermal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>5.53mg/L</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

Other important toxicological hazards

: None known or reported by the manufacturer.
SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Daphnia</th>
<th>Toxicity to Algae</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LC50 / 96h</td>
<td>NOEC / 21 day</td>
<td>M Factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC / 21 day</td>
<td>M Factor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC50 / 48h</td>
<td>NOEC / 21 day</td>
<td>M Factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC50 / 96h or 72h</td>
<td>NOEC / 96h or 72h</td>
<td>M Factor</td>
</tr>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>&gt; 100 mg/L (Fathead minnow)</td>
<td>N/A</td>
<td>None.</td>
</tr>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>&gt; 10000 mg/L (Daphnia magna)</td>
<td>N/A</td>
<td>None.</td>
</tr>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>&gt; 100 mg/L (Green algae)</td>
<td>N/A</td>
<td>None.</td>
</tr>
</tbody>
</table>

Persistence and degradability: Inherently biodegradable.

Bioaccumulation potential: The product itself has not been tested.

Mobility in soil: The product itself has not been tested.

Other Adverse Environmental effects: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal: Handle waste according to recommendations in Section 7.

Methods of Disposal: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>UN Number</th>
<th>UN proper shipping name</th>
<th>Transport hazard class(es)</th>
<th>Packing Group</th>
<th>Label</th>
</tr>
</thead>
</table>
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49CFR/DOT
Additional information
None.

TDG
None. Not regulated. Not regulated none

TDG
Additional information
None.

ICAO/IATA
None. Not regulated. Not regulated none

ICAO/IATA
Additional information
None.

Special precautions for user
Appropriate advice on safety must accompany the package.

Environmental hazards
This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
This information is not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:
Components listed below are present on the following U.S. Federal chemical lists:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>TSCA Inventory</th>
<th>CERCLA Reportable Quantity(RQ) (40 CFR 117.302):</th>
<th>SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:</th>
<th>SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical Toxic Chemical</th>
<th>de minimus Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>Yes</td>
<td>N/Ap</td>
<td>N/Av</td>
<td>No</td>
<td>N/Ap</td>
</tr>
</tbody>
</table>

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: None.
Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:
The following chemicals are specifically listed by individual States:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>California Proposition 65 Listed</th>
<th>Type of Toxicity</th>
<th>State &quot;Right to Know&quot; Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>No</td>
<td>N/Ap</td>
<td>No</td>
</tr>
</tbody>
</table>

Canadian Information:
Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.
SAFETY DATA SHEET

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

International Information:
Components listed below are present on the following International Inventory list:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>European EINECs</th>
<th>Australia AICS</th>
<th>Philippines PICCS</th>
<th>Japan ENCS</th>
<th>Korea KECI/KECL</th>
<th>China IECSC</th>
<th>New Zealand IOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent refined heavy paraffinic distillate</td>
<td>64741-88-4</td>
<td>265-090-8</td>
<td>Present</td>
<td>Present</td>
<td>(9)-1692</td>
<td>KE-12614</td>
<td>Present</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 16. OTHER INFORMATION

Legend:
- ACGIH: American Conference of Governmental Industrial Hygienists
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- HMIS: Hazardous Materials Identification System
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- Inh: Inhalation
- IUCLID: International Uniform Chemical Information Database
- MA: Massachusetts
- MN: Minnesota
-mppcf: million particles per cubic foot
- MSHA: Mine Safety and Health Administration
- N/Ap: Not Applicable
- N/Av: Not Available
- NFPA: National Fire Protection Association
- NIOSH: National Institute of Occupational Safety and Health
- NJ: New Jersey
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PA: Pennsylvania
- PEL: Permissible exposure limit
- RCRA: Resource Conservation and Recovery Act
- RI: Rhode Island
- RTECS: Registry of Toxic Effects of Chemical Substances
- SARA: Superfund Amendments and Reauthorization Act
- STEL: Short Term Exposure Limit
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations
- TLV: Threshold Limit Values
- TWA: Time Weighted Average
- WHMIS: Workplace Hazardous Materials Identification System

References:
Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015 (Chempendium, RTECs, HSDB, INCHEM).
European Chemicals Agency, Classification Legislation, 2015
Material Safety Data Sheets from manufacturer.

Preparation Date (mm/dd/yyyy): 09/17/2012
SAFETY DATA SHEET

Reviewed Date SDS (dd/mm/yyyy): 06/08/2015
Revision No.: 3
Revision Information: (M)SDS sections updated:
2. HAZARDS IDENTIFICATION
3. COMPOSITION/INFORMATION ON INGREDIENTS
11. Toxicological information
Other special considerations for handling:
Provide adequate information, instruction and training for operators.

HMIS Rating
★ - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
Health: 1 Flammability: 1 Reactivity: 0

NFPA Rating
0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
Health: 1 Flammability: 0 Instability: 0 Special Hazards: None.

Prepared for:
Parker Hannifin Corporation Sporlan Division
206 Lange Drive, Washington, MO 63090 U.S.A.
Telephone: (636) 239-1111
www.parker.com
Direct all enquiries to: Parker Hannifin Corp. Sporlan Division.

Prepared by:
ICC The Compliance Center Inc.
Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada)
http://www.thecompliancecenter.com

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END OF DOCUMENT