SAFETY DATA SHEET

Valvoline™ MULTI-VEHICLE TRANSFER CASE FLUID
™ Trademark, Ashland or its subsidiaries, registered in various countries
855459


SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Trade name: Valvoline™ MULTI-VEHICLE TRANSFER CASE FLUID
™ Trademark, Ashland or its subsidiaries, registered in various countries

Recommended use of the chemical and restrictions on use

<table>
<thead>
<tr>
<th>Details of the supplier of the safety data sheet</th>
<th>Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashland P.O. Box 2219 Columbus, OH 43216 United States of America</td>
<td>1-800-ASHLAND (1-800-274-5263)</td>
</tr>
</tbody>
</table>

EHS Customer Requests@ashland.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Skin sensitization: Category 1

GHS Label element
Hazard pictograms: ![ ]

Signal Word: Warning

Hazard Statements: May cause an allergic skin reaction.

Precautionary Statements: If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use.

Prevention:
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves.
Response:
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:
Dispose of contents/container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Chemical nature</th>
<th>Hazardous components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td>Defatter</td>
<td></td>
</tr>
<tr>
<td>HEAVY PARAFFINIC DISTILLATE</td>
<td></td>
<td>Chemical Name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acetamide, 2-hydroxy-, N,N-dicoco alkyl derivs.</td>
</tr>
<tr>
<td>HYDROTREATED LIGHT PARAFFINIC DISTILLATE</td>
<td>64742-55-8</td>
<td>Asp. Tox. 1; H304</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DODECYL HYDROXYPROPYL SULFIDE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BENZENE, POLYPROPENE DERIVATIVES, SULFONATED, CALCIUM SALTS</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice: Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled:
- If breathed in, move person into fresh air.
- If unconscious place in recovery position and seek medical advice.
- If symptoms persist, call a physician.

In case of skin contact:
- Remove contaminated clothing. If irritation develops, get medical attention.
- If on skin, rinse well with water.
- First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
- Wash contaminated clothing before re-use.

In case of eye contact:
- Flush eyes with water as a precaution.
- Remove contact lenses.
- Protect unharmed eye.
- If eye irritation persists, consult a specialist.

If swallowed:
- Do not give milk or alcoholic beverages.
- Never give anything by mouth to an unconscious person.
- If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed:
- Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.
- Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
  - Acne
  - Stomach or intestinal upset (nausea, vomiting, diarrhea)
  - Irritation (nose, throat, airways)
- May cause an allergic skin reaction.

Notes to physician:
- No hazards which require special first aid measures.
Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, Foam, Carbon dioxide (CO2), Dry chemical

Unsuitable extinguishing media: High volume water jet

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products: Carbon dioxide and carbon monoxide, Hydrocarbons

Specific extinguishing methods: Product is compatible with standard fire-fighting agents.

Further information: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

Other information: Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling: Do not breathe vapours/dust. Do not smoke.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. 
Container hazardous when empty. 
Avoid exposure - obtain special instructions before use. 
Avoid contact with skin and eyes. 
Smoking, eating and drinking should be prohibited in the application area. 
For personal protection see section 8. 
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. 
Containers which are opened must be carefully resealed and kept upright to prevent leakage. 
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROTREATED LIGHT PARAFFINIC DISTILLATE</td>
<td>64742-55-8</td>
<td>REL</td>
<td>5 mg/m3 Mist.</td>
<td>NIOSH/GUIDE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>10 mg/m3 Mist.</td>
<td>NIOSH/GUIDE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>5 mg/m3 Mist.</td>
<td>OSHA_TRA</td>
</tr>
</tbody>
</table>

Engineering measures: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Hand protection

Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

Remarks: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection: Wear as appropriate:
- impervious clothing
- Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Discard gloves that show tears, pinholes, or signs of wear.
- Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures: Wash hands before breaks and at the end of workday.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Physical state**: liquid
- **Colour**: red
- **Odour**: mild
- **Odour Threshold**: No data available
- **pH**: No data available
- **Boiling point/boiling range**: > 424 °F / 218 °C (1013 hPa)
- **Flash point**: > 390 °F / > 199 °C
  - Method: Closed Cup
- **Evaporation rate**: < 1 Ethyl Ether
- **Flammability (solid, gas)**: No data available
- **Upper explosion limit**: No data available
- **Lower explosion limit**: No data available
- **Vapour pressure**: 1 hPa
  - Calculated Vapor Pressure
- **Relative vapour density**: > 1 AIR=1
- **Relative density**: No data available
- **Density**: 0.8518 g/cm³ (15.56 °C)
- **Water solubility**: No data available
SECTION 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Product will not undergo hazardous polymerization.

Conditions to avoid: Excessive heat

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products: Carbon dioxide and carbon monoxide, Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
- Inhalation
- Skin contact
- Eye Contact
- Ingestion

Acute toxicity: Not classified based on available information.

Components:

HEAVY PARAFFINIC DISTILLATE:

Acute oral toxicity: LD 50 (Rat): > 15 g/kg

Acute dermal toxicity: LD 50 (Rabbit): > 5 g/kg
DODECYL HYDROXYPROPYL SULFIDE:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
GLP: yes
Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Product:
Remarks: May cause skin irritation in susceptible persons.

Result: Repeated exposure may cause skin dryness or cracking.

Components:
HEAVY PARAFFINIC DISTILLATE:
Result: Mildly irritating to skin

HYDROTREATED LIGHT PARAFFINIC DISTILLATE:
Result: Mildly irritating to skin

DODECYL HYDROXYPROPYL SULFIDE:
Species: Rabbit
Result: Not irritating to skin

BENZENE, POLYPROPENE DERIVATIVES, SULFONATED, CALCIUM SALTS:
Result: Possibly irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.

Product:
Result: Slightly irritating to eyes
Remarks: Expected based on components.

Remarks: Unlikely to cause eye irritation or injury.

Components:
HEAVY PARAFFINIC DISTILLATE:
Result: Not irritating to eyes

HYDROTREATED LIGHT PARAFFINIC DISTILLATE:
Result: Mildly irritating to eyes

DODECYL HYDROXYPROPYL SULFIDE:
Species: Rabbit
Result: Not irritating to eyes

BENZENE, POLYPROPENE DERIVATIVES, SULFONATED, CALCIUM SALTS:
Result: Irritating to eyes
Respiratory or skin sensitisation
Skin sensitisation: May cause an allergic skin reaction.
Respiratory sensitisation: Not classified based on available information.

Components:
- Acetamide, 2-hydroxy-, N,N-dicoco alkyl derivs.:
  Assessment: May cause sensitisation by skin contact.
  Result: May cause sensitisation by skin contact.

DODECYL HYDROXYPROPYL SULFIDE:
Assessment: May cause sensitization by skin contact.
Result: May cause sensitization by skin contact.

BENZENE, POLYPROPENE DERIVATIVES, SULFONATED, CALCIUM SALTS:
Assessment: May cause sensitization by skin contact.

Germ cell mutagenicity
Not classified based on available information.
Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.
STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
Not classified based on available information.
Product:
No aspiration toxicity classification

Components:
- HEAVY PARAFFINIC DISTILLATE:
  May be fatal if swallowed and enters airways.

HYDROTREATED LIGHT PARAFFINIC DISTILLATE:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: No data available

Carcinogenicity:
IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen
SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

**Components:**

**HEAVY PARAFFINIC DISTILLATE:**
- Toxicity to fish: LL50 (Fish): > 100 mg/l
- Toxicity to daphnia and other aquatic invertebrates: EL50 (Aquatic invertebrates): > 10,000 mg/l
- Toxicity to algae: EL50 (Algae, algal mat): > 100 mg/l
- Toxicity to fish (Chronic toxicity): NOEC (Fish): 10 mg/l
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Aquatic invertebrates): 10 mg/l

**DODECYL HYDROXYPROPYL SULFIDE:**
- Toxicity to fish: LC 50 (Oncorhynchus mykiss (rainbow trout)): 0.75 mg/l
  - Exposure time: 96 h
  - Test Type: semi-static test
  - Method: OECD Test Guideline 203
  - GLP: yes

- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): EC 50 (Daphnia magna (Water flea)): 0.5 mg/l
  - Exposure time: 21 d
  - End point: see user defined free text
  - Test Type: see user defined free text
  - Method: OECD Test Guideline 211
  - GLP: yes

Persistence and degradability

**Components:**
No data available

Bioaccumulative potential

**Components:**
No data available

Mobility in soil

**Components:**
No data available
Other adverse effects
No data available

Product:
Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Contaminated packaging: Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

<table>
<thead>
<tr>
<th>REGULATION</th>
<th>PROPER SHIPPING NAME</th>
<th>HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. DOT - ROAD</td>
<td>Not dangerous goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. DOT - RAIL</td>
<td>Not dangerous goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. DOT - INLAND WATERWAYS</td>
<td>Not dangerous goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSPORT CANADA - ROAD</td>
<td>Not dangerous goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSPORT CANADA - RAIL</td>
<td>Not dangerous goods</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TRANSPORT CANADA - INLAND WATERWAYS</td>
<td>Not dangerous goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS
Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO
Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER
Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES
Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

<table>
<thead>
<tr>
<th>Marine pollutant</th>
<th>no</th>
</tr>
</thead>
</table>

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Acute Health Hazard

US State Regulations
Pennsylvania Right To Know

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>PETROLEUM DISTILLATES</td>
<td>254504001-6042</td>
<td>10.00 - 20.00</td>
</tr>
<tr>
<td>The identity of one or more component(s) is being withheld under business confidentiality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEAVY PARAFFINIC DISTILLATE</td>
<td>64742-54-7</td>
<td>70.00 - 90.00 %</td>
</tr>
<tr>
<td>LUBRICANT ADDITIVE</td>
<td>Not Assigned</td>
<td>5.00 - 10.00 %</td>
</tr>
<tr>
<td>HYDROTREATED LIGHT PARAFFINIC DISTILLATE</td>
<td>64742-55-8</td>
<td>1.00 - 5.00 %</td>
</tr>
</tbody>
</table>
New Jersey Right To Know

PETROLEUM DISTILLATES 254504001-6042 10.00 - 20.00
The identity of one or more component(s) is being withheld under business confidentiality.

HEAVY PARAFFINIC DISTILLATE 64742-54-7 70.00 - 90.00 %

LUBRICANT ADDITIVE Not Assigned 5.00 - 10.00 %

HYDROTREATED LIGHT PARAFFINIC DISTILLATE 64742-55-8 1.00 - 5.00 %

PROPRIETARY POLYMER Not Assigned 1.00 - 5.00 %

California Prop 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUSTR : On the inventory, or in compliance with the inventory

KECL : On the inventory, or in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Contact your sales representative for additional information.

ENCS : Contact your sales representative for additional information.

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECl (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)
SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/23/2015

NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>HMIS III:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>HEALTH</td>
</tr>
<tr>
<td></td>
<td>FLAMMABILITY</td>
</tr>
<tr>
<td></td>
<td>PHYSICAL HAZARD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements referred to under sections 2 and 3.

H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet:
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent, Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System