1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Ashland</th>
<th>Regulatory Information Number</th>
<th>1-800-325-3751</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.O. Box 2219</td>
<td>Telephone</td>
<td>614-790-3333</td>
</tr>
<tr>
<td>Columbus, OH 43216</td>
<td>Emergency telephone number</td>
<td>1-800-ASHLAND (1-800-274-5263)</td>
</tr>
</tbody>
</table>

Product name: Valvoline™ TYPE F AUTOMATIC TRANSMISSION FLUID
Product code: 822387

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, red

CAUTION! PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. MAY CAUSE EYE IRRITATION.

Potential Health Effects

Exposure routes
- Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact
- Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin contact
- May cause slight skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, skin burns, and other skin damage.

Ingestion
- Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation
- It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition
- Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions)

Symptoms
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)

**Target Organs**
No data

**Carcinogenicity**
This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

**Reproductive hazard**
There are no data available for assessing risk to the fetus from maternal exposure to this material.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS-No. / Trade Secret No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAVY PARAFFINIC DISTILLATE</td>
<td>64742-54-7</td>
<td>&gt;=90-&lt;=100%</td>
</tr>
<tr>
<td>MINERAL OIL</td>
<td></td>
<td>&gt;=5-&lt;10%</td>
</tr>
<tr>
<td>METHACRYLATE COPOLYMER</td>
<td></td>
<td>&gt;=1.5-&lt;5%</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Eyes**
If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

**Skin**
Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Ingestion**
Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**
If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

**Notes to physician**
**Hazards:** 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.

**Treatment:** No hazards which require special first aid measures.

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**5. FIREFIGHTING MEASURES**

**Suitable extinguishing media**
Dry chemical, Carbon dioxide (CO2), Water spray

**Hazardous combustion products**
carbon dioxide and carbon monoxide, Hydrocarbons

**Precautions for fire-fighting**
Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

**NFPA Flammable and Combustible Liquids Classification**
Combustible Liquid Class III B

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**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**
For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

**Environmental precautions**
Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

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

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

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**7. HANDLING AND STORAGE**
Handling
Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage
Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Exposure Guidelines

**MINERAL OIL**

<table>
<thead>
<tr>
<th>Source</th>
<th>Limit Type</th>
<th>Limit (REL)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH</td>
<td>Recommended exposure</td>
<td>5 mg/m³</td>
<td>Mist.</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Short term exposure</td>
<td>10 mg/m³</td>
<td>Mist.</td>
</tr>
<tr>
<td>OSHA Z1</td>
<td>Permissible exposure</td>
<td>5 mg/m³</td>
<td>Mist.</td>
</tr>
<tr>
<td>ACGIH</td>
<td>time weighted average</td>
<td>5 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
</tbody>
</table>

General advice
These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls
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.

Eye protection
Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection
Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use. Wear resistant gloves (consult your safety equipment supplier).

Respiratory protection
Respiratory protection is not required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES
Physical state | liquid
---|---
Colour | red
Odour | hydrocarbon-like
Flash point | > 390 °F / > 199 °C Cleveland open cup
Evaporation rate | (>1 Ethyl Ether
Lower explosion limit/Upper explosion limit | 1 %/(V) / 6 %/(V)
Vapour pressure | 0.013 hPa @ 70.00 °F / 21.11 °C Calculated Vapor Pressure
Density | 0.8750 g/cm³ @ 60.01 °F / 15.56 °C
7.25 lb/gal @ 60.1 °F / 15.6 °C

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatible products
Strong oxidizing agents

Hazardous decomposition products
carbon dioxide and carbon monoxide, Hydrocarbons

Hazardous reactions
Product will not undergo hazardous polymerization.

11. TOXICOLOGICAL INFORMATION

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

Product
Acute oral toxicity: no data available
Acute inhalation toxicity: no data available
Acute dermal toxicity : no data available
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitisation : no data available

Components:

HEAVY PARAFFINIC DISTILLATE:
Acute oral toxicity : LD 50 Rat: > 15 g/kg
Acute dermal toxicity : LD 50 Rabbit: > 5 g/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
Product: no data available

Components:

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

Persistence and degradability
Product: no data available
Valvoline™ TYPE F AUTOMATIC TRANSMISSION
FLUID
822387

no data available

**Components:**
no data available

**Bioaccumulative potential**

**Product:**
no data available

**Components:**

**HEAVY PARAFFINIC DISTILLATE:**
Partition coefficient: $n$-octanol/water: log Pow: Expected $> 7$

**Mobility in soil**

**Product:**
no data available

**Components:**
no data available

---

13. DISPOSAL CONSIDERATIONS

**Waste disposal methods**
Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>REGULATION</th>
<th>ID NUMBER</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><strong>U.S. DOT - ROAD</strong></td>
<td></td>
<td></td>
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<td>Not dangerous goods</td>
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<tr>
<td><strong>U.S. DOT - RAIL</strong></td>
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<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td><strong>U.S. DOT - INLAND WATERWAYS</strong></td>
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<td></td>
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<td>Not dangerous goods</td>
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</tbody>
</table>

Page 7 / 10
TRANSPORT CANADA - ROAD
Not dangerous goods

TRANSPORT CANADA - RAIL
Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS
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

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.

15. REGULATORY INFORMATION

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

SARA Hazard Classification
SARA 311/312 Classification
No SARA Hazards

SARA 313 Component(s)
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

New Jersey RTK Label Information
HEAVY PARAFFINIC DISTILLATE 64742-54-7
MINERAL OIL
METHACRYLATE COPOLYMER

Pennsylvania RTK Label Information
HEAVY PARAFFINIC DISTILLATE
MINERAL OIL

Notification status

<table>
<thead>
<tr>
<th>Notification</th>
<th>Status</th>
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<tbody>
<tr>
<td>US. Toxic Substances Control Act</td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Australia. Industrial Chemical (Notification and Assessment) Act</td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Japan. ENCS - Existing and New Chemical Substances Inventory</td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Korea. Toxic Chemical Control Law (TCCL) List</td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act</td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances</td>
<td>y (positive listing)</td>
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</table>

<table>
<thead>
<tr>
<th>Health</th>
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<tr>
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<tr>
<td>Physical hazards</td>
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<td>Instability</td>
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<td>0</td>
</tr>
<tr>
<td>Specific Hazard</td>
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<td>--</td>
</tr>
</tbody>
</table>

**16. OTHER INFORMATION**

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 MSDS 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