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

Ashland Regulatory Information Number 1-800-325-3751
P.O. Box 2219 Telephone 614-790-3333
Columbus, OH 43216 Emergency telephone number 1-800-ASHLAND (1-800-274-5263)

Product name Valvoline™ ATF+4® FULL SYNTHETIC AUTOMATIC TRANSMISSION FLUID
Product code VV346
Product Use Description Engine, gear & lubricating oil.

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, liquid, red

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

Potential Health Effects

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

Eye contact
  May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

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. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

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). Used motor oil has been shown to cause skin cancer in laboratory animals continually exposed by repeated applications. Avoid prolonged or repeated skin contact.

Reproductive hazard
Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed. 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>HYDROTREATED LIGHT PARAFFINIC DISTILLATE</td>
<td>64742-55-8</td>
<td>&gt;=50-%60%</td>
</tr>
<tr>
<td>HEAVY PARAFFINIC DISTILLATE</td>
<td>64742-54-7</td>
<td>&gt;=20-%30%</td>
</tr>
<tr>
<td>POLYMER</td>
<td></td>
<td>&gt;=5-%10%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eyes
If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek 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. 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.

### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media**

Dry chemical, Carbon dioxide (CO2), Water spray

**Hazardous combustion products**

Aldehydes, 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

### 6. ACCIDENTAL RELEASE MEASURES

Page 3 / 11
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.

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/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>HYDROTREATED LIGHT PARAFFINIC DISTILLATE (64742-55-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH Recommended exposure limit (REL)</td>
<td>5 mg/m³ Mist.</td>
</tr>
<tr>
<td>NIOSH Short term exposure limit</td>
<td>10 mg/m³ Mist.</td>
</tr>
<tr>
<td>OSHA Z1 Permissible exposure limit</td>
<td>5 mg/m³ Mist.</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
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 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
A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>red</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 390 °F / &gt; 199 °C Cleveland open cup</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1 % (V) / 6 % (V)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.013 hPa @ 70.00 °F / 21.11 °C Calculated Vapor Pressure</td>
</tr>
<tr>
<td>Density</td>
<td>0.8508 g/cm³ @ 60.01 °F / 15.56 °C</td>
</tr>
<tr>
<td></td>
<td>7.10 lb/gal @ 60.1 °F / 15.6 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>negligible</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>(&lt;)10,000 mPa.s</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>(ca.)34 mm²/s @ 40 °C</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
excessive heat

Incompatible products
Valvoline™ ATF+4® FULL SYNTHETIC AUTOMATIC
TRANSMISSION FLUID

VV346

Strong oxidizing agents

**Hazardous decomposition products**
Aldehydes, carbon dioxide and carbon monoxide, Hydrocarbons

**Hazardous reactions**
Product will not undergo hazardous polymerization.

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Information on likely routes of exposure</th>
<th>Inhalation</th>
<th>Skin absorption</th>
<th>Skin contact</th>
<th>Eye Contact</th>
<th>Ingestion</th>
</tr>
</thead>
</table>

**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    | Result: Slightly irritating to eyes Expected based on components. |
| 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: 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

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>U.S. DOT - ROAD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>U.S. DOT - RAIL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>U.S. DOT - INLAND WATERWAYS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>TRANSPORT CANADA - ROAD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>TRANSPORT CANADA - RAIL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>TRANSPORT CANADA - INLAND WATERWAYS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>INTERNATIONAL MARITIME DANGEROUS GOODS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposition 65 warnings are not required for this product based on the results of a risk assessment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SARA Hazard Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA 311/312 Classification</td>
</tr>
<tr>
<td>No SARA Hazards</td>
</tr>
<tr>
<td>Acute Health Hazard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SARA 313 Component(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Jersey RTK Label Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROTREATED LIGHT PARAFFINIC DISTILLATE</td>
</tr>
<tr>
<td>HEAVY PARAFFINIC DISTILLATE</td>
</tr>
<tr>
<td>POLYMER</td>
</tr>
<tr>
<td>LUBRICANT ADDITIVE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pennsylvania RTK Label Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROTREATED LIGHT PARAFFINIC DISTILLATE</td>
</tr>
<tr>
<td>HEAVY PARAFFINIC DISTILLATE</td>
</tr>
<tr>
<td>POLYMER</td>
</tr>
<tr>
<td>LUBRICANT ADDITIVE</td>
</tr>
</tbody>
</table>
### Notification status

<table>
<thead>
<tr>
<th>Notification status</th>
<th>Country/Act</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>US. Toxic Substances Control Act</td>
<td></td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)</td>
<td></td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Australia. Industrial Chemical (Notification and Assessment) Act</td>
<td></td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand</td>
<td></td>
<td>n (Negative listing)</td>
</tr>
<tr>
<td>Japan. Kashin-Hou Law List</td>
<td></td>
<td>n (Negative listing)</td>
</tr>
<tr>
<td>Korea. Toxic Chemical Control Law (TCCL) List</td>
<td></td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act</td>
<td></td>
<td>y (positive listing)</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances</td>
<td></td>
<td>y (positive listing)</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
Valvoline™ ATF+4® FULL SYNTHETIC AUTOMATIC TRANSMISSION FLUID

VV346

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