1. CHEMICAL PRODUCT and COMPANY INFORMATION

Amerada Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

The Valvoline Company
P.O. Box 14000
Lexington, KY 40512

EMERGENCY TELEPHONE NUMBER: VALVOLINE: 800-247-5263
COMPANY CONTACT (business hours):
Valvoline Info: 606-357-7847
AHC Corporate Safety 732-750-6000

SYNONYMS: Valvoline Product Code 52670413

This product is manufactured by The Valvoline Company and packaged under the Amerada Hess ("Hess") label. The information in this MSDS has been developed by The Valvoline Company, MSDS No. 505.0170829-014.002I, date 5/11/99.

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>EXPOSURE LIMITS</th>
<th>CONCENTRATION PERCENT BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aliphatic Petroleum Distillates</td>
<td>OSHA PEL-TWA: 5 mg/m³ as mineral oil mist</td>
<td>83.0 – 93.0</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV-TWA: 5 mg/m³ as mineral oil mist</td>
<td></td>
</tr>
<tr>
<td>Detergent/ Dispersant Engine Oil</td>
<td>No exposure limits established</td>
<td>N/A</td>
</tr>
<tr>
<td>Package</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc Compounds</td>
<td>No exposure limits established</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Petroleum-based lubricating oil with detergent/dispersant engine oil package with zinc compounds.

3. HAZARDS IDENTIFICATION

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

SKIN
May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms include redness, burning, drying and cracking of the skin, and skin burns. Additional symptoms of skin contact include: acne. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

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 usually occur at air concentrations higher than the recommended exposure limits.

SYMPTOMS OF EXPOSURE
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset, (nausea, vomiting, diarrhea), irritation (nose, throat, airways), blood abnormalities (breakage of blood cells), liver damage.

TARGET ORGAN EFFECTS
No data
DEVELOPMENTAL INFORMATION
There are no data available for assessing risk to the fetus from maternal exposure to this material.

CANCER INFORMATION
This material is not listed as a carcinogen by IARC, NTP, or OSHA. Used motor oil has been shown to cause skin cancer in laboratory animal continually exposed by repeated applications. Avoid prolonged or repeated skin contact.

OTHER HEALTH EFFECTS
No data

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 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.

Note to Physicians
Acute aspiration of large amounts of oil-laden material may produce a serious aspiration hazard. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration 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. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
FLASH POINT:  430.0 °F (221.1 °C) COC
AUTOIGNITION POINT: No data
EXPLOSIVE LIMITS (%): No data

HAZARDOUS PRODUCTS OF COMBUSTION
May form: carbon dioxide and carbon monoxide, oxides of sulfur, nitrogen and phosphorous, various hydrocarbons.

FIRE AND EXPLOSION HAZARDS
Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. No special fire hazards are known to be associated with this product. Dense smoke may be generated while burning.

EXTINGUISHING MEDIA
Regular fire fighting foam, carbon dioxide, dry chemical.
FIRE FIGHTING INSTRUCTIONS
Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with full facepiece operated in the pressure-demand mode with appropriate turnout gear and chemical resistant personal protective equipment. Refer to Section 8.

See Section 16 for the NFPA 704 Hazard Rating.

6. ACCIDENTAL RELEASE MEASURES
SMALL SPILL: Absorb liquid on vermiculite, floor absorbent or other absorbent material. Persons not wearing proper personal protective equipment should be excluded from area of spill.

LARGE SPILL: Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify authorities as required, that a spill has occurred. Persons not wearing proper personal protective equipment should be excluded from area of spill until clean-up has been completed.

7. HANDLING and STORAGE
HANDLING PRECAUTIONS
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. All five gallon pails and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred. Precautions during use: avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective gloves. As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

STORAGE PRECAUTIONS
Do not store near extreme heat, open flame, or sources of ignition.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION
ENGINEERING CONTROLS
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

EYE PROTECTION
Not required under normal conditions of use. However, if misting or splashing conditions exist, then safety glasses or chemical splash goggles are advised.

SKIN PROTECTION
Not normally required. However, wear resistant gloves such as nitrile rubber to prevent irritation which may result from prolonged or repeated skin contact with product. To prevent repeated or prolonged skin contact, wear impervious clothing and boots. Wear normal work clothing covering arms and legs.

RESPIRATORY PROTECTION
If workplace exposure limit(s) of product or any component is exceeded (See Exposure Guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (consult your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure. Not required under normal conditions of use. However, if oil mists are
9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE
Dry, clear, and bright liquid

ODOR
No data

BASIC PHYSICAL PROPERTIES
BOILING RANGE: (for component) > 425.0 F (218.3 C) @ 760.00 mmHg
VAPOR PRESSURE: Not applicable
VAPOR DENSITY (air = 1): No data
LIQUID DENSITY: 7.340 lbs/gal @ 60.00 F (.881 kg/l @ 15.60 C )
SPECIFIC GRAVITY (H2O = 1): 0.881 @ 60F
PERCENT VOLATILES: No data
EVAPORATION RATE: Slower than ethyl ether
pH: Not applicable
VISCOSITY: <= 3300.0 cps @ -20 C; 10.0 - 11.0 cst @ 100 C

10. STABILITY and REACTIVITY

STABILITY: Stable. Product will not undergo hazardous polymerization.

INCOMPATIBLE MATERIALS
Avoid contact with: acids, halogens, strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
May form: aldehydes, carbon dioxide and carbon monoxide, hydrogen sulfide, oxides of sulfur, nitrogen and phosphorus, toxic fumes, various hydrocarbons.

11. TOXICOLOGICAL PROPERTIES

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORTATION INFORMATION

DOT Information - 49 CFR 172.101
DOT Description: Not Regulated
Container/Mode: CASES/SURFACE - NO EXCEPTIONS
NOS Component: None
RQ (Reportable Quantity) - 49 CFR 172.101: Not applicable

15. REGULATORY INFORMATION

TSCA (Toxic Substances Control Act) Status (UNITED STATES)
The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4: None

SARA 302 Components - 40 CFR 355 Appendix A: None

SARA Section 311/312 Hazard Class - 40 CFR 370.2
Immediate (X) Delayed (X) Fire(--) Reactive (--) Sudden Release of Pressure (--)
SARA 313 Components - 40 CFR 372.65 Section 313 Component(s) and CAS Number:
ZINC C1-C14 ALKYLDITHIOPHOSPHATE (CAS No. 68649-42-3)

International Regulations Inventory Status: Not determined

State and Local Regulations: California Proposition 65 None

16. OTHER INFORMATION

NFPA® HAZARD RATING
HEALTH: 1 Slight
FIRE: 1 Slight
REACTIVITY: 0 Negligible

HMIS® HAZARD RATING
HEALTH: 1* Slight
FIRE: 1 Slight
REACTIVITY: 0 Negligible

* Chronic

OTHER: The information presented in this MSDS was taken directly from the MSDS for this product prepared by The Valvoline Company, the manufacturer of the product — see Section 2.

ABBREVIATIONS:
AP = Approximately < = Less than > = Greater than
N/A = Not Applicable N/D = Not Determined ppm = parts per million

ACRONYMS:
ACGIH American Conference of Governmental Industrial Hygienists
AIHA American Industrial Hygiene Association
ANSI American National Standards Institute (212) 642-4900
API American Petroleum Institute (202) 682-8000
CERCLA Comprehensive Emergency Response, Compensation, and Liability Act
DOT U.S. Department of Transportation [General info: (800) 467-4922]
EPA U.S. Environmental Protection Agency
HMIS Hazardous Materials Information System
IARC International Agency For Research On Cancer
MSHA Mine Safety and Health Administration
NFPA National Fire Protection Association (617) 770-3000
NIOSH National Institute of Occupational Safety and Health
NOIC Notice of Intended Change (proposed change to ACGIH TLV)
NTP National Toxicology Program
OPA Oil Pollution Act of 1990
OSHA U.S. Occupational Safety & Health Administration
PEL Permissible Exposure Limit (OSHA)
RCRA Resource Conservation and Recovery Act
SARA Superfund Amendments and Reauthorization Act of 1986 Title III
SPCC Spill Prevention, Control, and Countermeasures
STEL Short-Term Exposure Limit (generally 15 minutes)
TWA Time Weighted Average (8 hr.)
TLC Threshold Limit Value (ACGIH)
TSCA Toxic Substances Control Act
WHMIS Canadian Workplace Hazardous Materials Information System

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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.