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

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

Product name Valvoline™ SAE 80W-90 HP GEAR OIL
Product code 3024

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, amber

CAUTION! MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS.

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
Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. 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). 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

There are no data available for assessing risk to the fetus from maternal exposure to this material. 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;=70-&lt;80%</td>
</tr>
<tr>
<td>RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED</td>
<td>64742-62-7</td>
<td>&gt;=20-&lt;30%</td>
</tr>
<tr>
<td>MINERAL OIL</td>
<td></td>
<td>&gt;=1-&lt;1.5%</td>
</tr>
<tr>
<td>ALKYL PHOSPHATE</td>
<td></td>
<td>&gt;=1-&lt;1.5%</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. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and 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 information available.
5. FIREFIGHTING MEASURES

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

Hazardous combustion products
carbon dioxide and carbon monoxide, Hydrocarbons, Oxides of phosphorus

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 IIIB

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.

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>MINERAL OIL</th>
<th>Recommended exposure limit (REL):</th>
<th>NIOSH</th>
<th>5 mg/m³</th>
<th>Mist.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH</td>
<td>Short term exposure limit</td>
<td>10 mg/m³</td>
<td>Mist.</td>
<td></td>
</tr>
<tr>
<td>OSHA Z1</td>
<td>Permissible exposure limit</td>
<td>5 mg/m³</td>
<td>Mist.</td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>time weighted average</td>
<td>5 mg/m³</td>
<td>Inhalable fraction.</td>
<td></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).
Discard gloves that show tears, pinholes, or signs of wear.

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

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>amber</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>(&gt;424.9 °F / 218.3 °C @ 760.00 mmHg)</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 432 °F / &gt; 222 °C Cleveland open cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>(&gt;1 Ethyl Ether)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>(&lt;0.100 mmHg)</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>(&gt;1 AIR=1)</td>
</tr>
<tr>
<td>Density</td>
<td>0.8916 g/cm³ @ 60.01 °F / 15.56 °C</td>
</tr>
<tr>
<td></td>
<td>7.28 lb/gal @ 60.1 °F / 15.6 °C</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>25.0 - 26.5 mm²/s @ 100 °C</td>
</tr>
</tbody>
</table>

### 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

DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC:
Acute oral toxicity: LD 50 Rat: > 5,000 mg/kg
Acute dermal toxicity: LD 50 Rabbit: > 5,000 mg/kg
Aspiration toxicity : May be fatal if swallowed and enters airways.

DISTILLATES, PETROLEUM, SOLVENT-REFINED LIGHT PARAFFINIC:

Acute oral toxicity : LD 50 Rat: > 5,000 mg/kg

Acute inhalation toxicity : LD 50 Rat: > 3.9 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD 50 Rabbit: > 2,000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

**Product:**
no data available

**Components:**
no data available

Persistence and degradability

**Product:**
no data available

**Components:**
no data available

Bioaccumulative potential

**Product:**
no data available

**Components:**
no data available
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

#### REGULATION

<table>
<thead>
<tr>
<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>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>U.S. DOT - RAIL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>U.S. DOT - INLAND WATERWAYS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRANSPORT CANADA - ROAD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRANSPORT CANADA - RAIL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRANSPORT CANADA - INLAND WATERWAYS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 9 / 13
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
Acute Health Hazard

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
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED 64742-62-7
LUBRICANT ADDITIVE
MINERAL OIL
ALKYL PHOSPHATE
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED
HEAVY PARAFFINIC 64742-65-0
DISTILLATES, PETROLEUM, SOLVENT-REFINED LIGHT PARAFFINIC 64741-88-4

Pennsylvania RTK Label Information
HEAVY PARAFFINIC DISTILLATE 64742-54-7
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED 64742-62-7
LUBRICANT ADDITIVE

Notification status
US. Toxic Substances Control Act y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act y (positive listing)
Japan. ENCS - Existing and New Chemical Substances Inventory y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act y (positive listing)
China. Inventory of Existing Chemical Substances y (positive listing)

<table>
<thead>
<tr>
<th></th>
<th>HMIS</th>
<th>NFPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Instability</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Specific Hazard</td>
<td>--</td>
<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
Valvoline™ SAE 80W-90 HP GEAR OIL
3024

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