 SECTION 1. IDENTIFICATION

Product name: MOLYKOTE™ M Gear Oil Additive

Product code: 01156373

Manufacturer or supplier's details

Company Identification: DOW SILICONES CORPORATION
2200 WEST SALZBURG ROAD
MIDLAND MI  48686-0994
UNITED STATES

Telephone: 800-258-2436

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Number: 800-424-9300

E-mail address: SDSQuestion@dow.com

Recommended use of the chemical and restrictions on use

Recommended use: Lubricants and lubricant additives

 SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200
Not a hazardous substance or mixture.

GHS label elements
Not a hazardous substance or mixture.

Other hazards
None known.

 SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Chemical nature: Inorganic compounds in mineral oil

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), solvent-dewaxed heavy paraffinic</td>
<td>64742-65-0</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Distillates (petroleum), solvent refined heavy paraffinic</td>
<td>64741-88-4</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Molybdenum sulfide</td>
<td>1317-33-5</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>64742-55-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

If inhaled: If inhaled, remove to fresh air. Get medical attention if symptoms occur.

In case of skin contact: Wash with water and soap as a precaution. Get medical attention if symptoms occur.

In case of eye contact: Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

If swallowed: If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed: None known.

Protection of first-aiders: No special precautions are necessary for first aid responders.

Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: None known.

Specific hazards during firefighting: Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides
Metal oxides
Sulfur oxides

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES
SAFETY DATA SHEET

MOLYKOTE™ M Gear Oil Additive

Version: 4.0
Revision Date: 10/16/2017
SDS Number: 1587878-00008
Date of last issue: 05/02/2017
Date of first issue: 03/18/2015

Personal precautions, protective equipment and emergency procedures:
Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions:
Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up:
Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures:
See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation:
Use only with adequate ventilation.

Advice on safe handling:
Handle in accordance with good industrial hygiene and safety practice. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage:
Keep in properly labeled containers. Store in accordance with the particular national regulations.

Materials to avoid:
Do not store with the following product types: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</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>Distillates (petroleum), solvent-dewaxed heavy paraffinic</td>
<td>64742-65-0</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
MOLYKOTE™ M Gear Oil Additive

Version 4.0  Revision Date: 10/16/2017  SDS Number: 1587878-00008  Date of last issue: 05/02/2017
Date of first issue: 03/18/2015

TWA (Inhalable fraction) | 5 mg/m³ | ACGIH
---|---|---
TWA (Mist) | 5 mg/m³ | NIOSH REL
ST (Mist) | 10 mg/m³ | NIOSH REL
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7 | TWA (Mist) | 5 mg/m³ | OSHA Z-1
ST (Mist) | 10 mg/m³ | NIOSH REL
Distillates (petroleum), solvent refined heavy paraffinic 64741-88-4 | TWA (Mist) | 5 mg/m³ | OSHA Z-1
TWA (Inhalable fraction) | 5 mg/m³ | ACGIH
TWA (Mist) | 5 mg/m³ | NIOSH REL
ST (Mist) | 10 mg/m³ | NIOSH REL
Molybdenum sulfide 1317-33-5 | TWA (total dust) | 15 mg/m³ (Molybdenum) | OSHA Z-1
TWA (Inhalable fraction) | 10 mg/m³ (Molybdenum) | ACGIH
TWA (Respirable fraction) | 3 mg/m³ (Molybdenum) | ACGIH
Distillates (petroleum), hydrotreated light paraffinic 64742-55-8 | TWA (Mist) | 5 mg/m³ | OSHA Z-1
TWA (Inhalable fraction) | 5 mg/m³ | ACGIH
TWA (Mist) | 5 mg/m³ | NIOSH REL
ST (Mist) | 10 mg/m³ | NIOSH REL

Engineering measures: Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.

Personal protective equipment
Respiratory protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

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

Eye protection: Wear the following personal protective equipment: Safety glasses

Engineering measures:
Respiratory protection:
Hand protection:
Remarks:
Eye protection:
Skin and body protection: Skin should be washed after contact.

Hygiene measures: Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding the use of silicones/organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Chemical customer service group.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>dark gray</td>
</tr>
<tr>
<td>Odor</td>
<td>slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 35 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>200 °C</td>
</tr>
<tr>
<td>Method: closed cup</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Self-ignition</td>
<td>The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating.</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.91</td>
</tr>
</tbody>
</table>
Solubility(ies)
  Water solubility : No data available
Partition coefficient: n-octanol/water : No data available
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity
  Viscosity, kinematic : 90 cSt

Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Can react with strong oxidizing agents.
Conditions to avoid : None known.
Incompatible materials : Oxidizing agents
Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Ingredients:
Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
  Method: OECD Test Guideline 401
### Molybdenum sulfide:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute oral toxicity</strong></td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td><strong>Acute inhalation toxicity</strong></td>
<td>LC50 (Rat): &gt; 2.82 mg/l</td>
</tr>
</tbody>
</table>

### Distillates (petroleum), hydrotreated heavy paraffinic:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute oral toxicity</strong></td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td><strong>Acute inhalation toxicity</strong></td>
<td>LC50 (Rat): &gt; 5.53 mg/l</td>
</tr>
<tr>
<td><strong>Acute dermal toxicity</strong></td>
<td>LD50 (Rabbit): &gt; 5,000 mg/kg</td>
</tr>
</tbody>
</table>

### Distillates (petroleum), solvent refined heavy paraffinic:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute oral toxicity</strong></td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td><strong>Acute inhalation toxicity</strong></td>
<td>LC50 (Rat): &gt; 5.53 mg/l</td>
</tr>
<tr>
<td><strong>Acute dermal toxicity</strong></td>
<td>LD50 (Rabbit): &gt; 5,000 mg/kg</td>
</tr>
</tbody>
</table>

### Remarks:

- Based on data from similar materials
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity:
LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Distillates (petroleum), hydrotreated light paraffinic:

Acute oral toxicity:
LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity:
LC50 (Rat): > 4 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity:
LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Skin corrosion/irritation:
Not classified based on available information.

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Distillates (petroleum), hydrotreated heavy paraffinic:

Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Distillates (petroleum), solvent refined heavy paraffinic:

Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Molybdenum sulfide:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Distillates (petroleum), hydrotreated light paraffinic:

Species: Rabbit
Result: No skin irritation
SAFETY DATA SHEET
MOLYKOTE™ M Gear Oil Additive

Version 4.0
Revision Date: 10/16/2017
SDS Number: 1587878-00008
Date of last issue: 05/02/2017
Date of first issue: 03/18/2015

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

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Distillates (petroleum), hydrotreated heavy paraffinic:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Distillates (petroleum), solvent refined heavy paraffinic:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Molybdenum sulfide:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Distillates (petroleum), hydrotreated light paraffinic:
Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitization
Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), hydrotreated heavy paraffinic:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), solvent refined heavy paraffinic:

Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

Molybdenum sulfide:

Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative

Distillates (petroleum), hydrotreated light paraffinic:

Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity
Not classified based on available information.

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), hydrotreated heavy paraffinic:

Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials
Genotoxicity in vivo:  Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), solvent refined heavy paraffinic:

Genotoxicity in vitro:  Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo:  Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Molybdenum sulfide:

Genotoxicity in vitro:  Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Distillates (petroleum), hydrotreated light paraffinic:

Genotoxicity in vitro:  Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity
Not classified based on available information.

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Mouse
Application Route: Skin contact
Exposure time: 78 weeks
Method: OECD Test Guideline 451
Result: negative

Distillates (petroleum), solvent refined heavy paraffinic:
Species: Mouse
Application Route: Skin contact
Exposure time: 78 weeks
Method: OECD Test Guideline 451
Result: negative
Remarks: Based on data from similar materials
Molybdenum sulfide:
Species: Rat
Application Route: Ingestion
Exposure time: 232 days
Result: negative

IARC
No ingredient 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 on OSHA’s list of regulated carcinogens.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Effects on fertility: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development: Test Type: Embryo-fetal development
Species: Rat
Application Route: Skin contact
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), hydrotreated heavy paraffinic:
Effects on fertility: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), solvent refined heavy paraffinic:
Effects on fertility: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials
Effects on fetal development:  Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Skin contact  
Method: OECD Test Guideline 414  
Result: negative  
Remarks: Based on data from similar materials

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Not classified based on available information.

Repeated dose toxicity

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Rabbit  
NOAEL: 1,000 mg/kg  
Application Route: Skin contact  
Exposure time: 4 Weeks  
Method: OECD Test Guideline 410  
Remarks: Based on data from similar materials

Species: Rat  
NOAEL: > 980 mg/m³  
Application Route: Inhalation (dust/mist/fume)  
Exposure time: 4 Weeks  
Remarks: Based on data from similar materials

Distillates (petroleum), solvent refined heavy paraffinic:
Species: Rabbit  
NOAEL: 1,000 mg/kg  
Application Route: Skin contact  
Exposure time: 4 Weeks  
Method: OECD Test Guideline 410  
Remarks: Based on data from similar materials

Species: Rat  
NOAEL: > 980 mg/m³  
Application Route: Inhalation (dust/mist/fume)  
Exposure time: 4 Weeks  
Remarks: Based on data from similar materials

Distillates (petroleum), hydrotreated light paraffinic:
Species: Rabbit  
NOAEL: 1,000 mg/kg  
Application Route: Skin contact  
Exposure time: 4 Weeks  
Method: OECD Test Guideline 410  
Remarks: Based on data from similar materials
Species: Rat
NOAEL: > 980 mg/m³
Application Route: inhalation (dust/mist/fume)
Exposure time: 4 Weeks
Remarks: Based on data from similar materials

**Aspiration toxicity**
Not classified based on available information.

**Ingredients:**

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Distillates (petroleum), hydrotreated heavy paraffinic:**
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Distillates (petroleum), solvent refined heavy paraffinic:**
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Distillates (petroleum), hydrotreated light paraffinic:**
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

---

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ingredients:**

**Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Pimephales promelas (fathead minnow)): &gt; 100 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 203</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): &gt; 10,000 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 100 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other</th>
<th>NOEC (Daphnia magna (Water flea)): 10 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Aquatic invertebrates (Chronic toxicity) | Exposure time: 21 d  
|                                       | Method: OECD Test Guideline 211  
<table>
<thead>
<tr>
<th></th>
<th>Remarks: Based on data from similar materials</th>
</tr>
</thead>
</table>
| Toxicity to microorganisms            | NOEC: > 1.93 mg/l  
|                                       | Exposure time: 10 min  
|                                       | Method: DIN 38 412 Part 8  
|                                       | Remarks: Based on data from similar materials |

**Distillates (petroleum), hydrotreated heavy paraffinic:**

**Toxicity to fish**  
\( \text{LL50} \) (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates**  
\( \text{EL50} \) (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

**Toxicity to algae**  
\( \text{ErC50} \) (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

**Toxicity to microorganisms**  
NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**  
NOELR (Daphnia magna (Water flea)): > 1 mg/l  
Exposure time: 21 d  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

**Toxicity to microorganisms**  
NOEC: > 1.93 mg/l  
Exposure time: 10 min  
Method: DIN 38 412 Part 8  
Remarks: Based on data from similar materials

**Distillates (petroleum), solvent refined heavy paraffinic:**

**Toxicity to fish**  
\( \text{LC50} \) (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates**  
\( \text{EC50} \) (Daphnia magna (Water flea)): > 10,000 mg/l
### Aquatic Invertebrates

- **Exposure time:** 48 h
- **Method:** OECD Test Guideline 202
- **Remarks:** Based on data from similar materials

### Toxicity to Algae

- **EC50** (*Pseudokirchneriella subcapitata* (green algae)): > 100 mg/l
- **Exposure time:** 72 h
- **Method:** OECD Test Guideline 201
- **Remarks:** Based on data from similar materials

### Toxicity to Daphnia and Other Aquatic Invertebrates (Chronic Toxicity)

- **NOEC** (*Daphnia magna* (Water flea)): 10 mg/l
- **Exposure time:** 21 d
- **Method:** OECD Test Guideline 211
- **Remarks:** Based on data from similar materials

### Toxicity to Microorganisms

- **NOEC:** > 1.93 mg/l
- **Exposure time:** 10 min
- **Method:** DIN 38 412 Part 8
- **Remarks:** Based on data from similar materials

### Molybdenum Sulfide

#### Toxicity to Fish

- **LC50** (*Pimephales promelas* (fathead minnow)): 644.2 mg/l
- **Exposure time:** 96 h
- **Remarks:** Based on data from similar materials

#### Toxicity to Daphnia and Other Aquatic Invertebrates

- **EC50** (*Daphnia magna* (Water flea)): 130.9 mg/l
- **Exposure time:** 48 h
- **Method:** OECD Test Guideline 202
- **Remarks:** Based on data from similar materials

#### Toxicity to Algae

- **EC50** (*Pseudokirchneriella subcapitata* (green algae)): 289.2 mg/l
- **Exposure time:** 72 h
- **Method:** OECD Test Guideline 201
- **Remarks:** Based on data from similar materials

#### Toxicity to Fish (Chronic Toxicity)

- **NOEC** (*Oncorhynchus mykiss* (rainbow trout)): > 17 mg/l
- **Exposure time:** 12 Months
- **Remarks:** Based on data from similar materials

#### Toxicity to Daphnia and Other Aquatic Invertebrates (Chronic Toxicity)

- **NOEC** (*Ceriodaphnia dubia* (water flea)): 156.5 mg/l
- **Exposure time:** 21 d
- **Remarks:** Based on data from similar materials

#### Toxicity to Microorganisms

- **NOEC:** > 950 mg/l
- **Exposure time:** 17 d
- **Remarks:** Based on data from similar materials

### Distillates (Petroleum), Hydrotreated Light Paraffinic

#### Toxicity to Daphnia and Other Aquatic Invertebrates

- **LL50** (*Daphnia magna* (Water flea)): > 10,000 mg/l
- **Exposure time:** 48 h
- **Test substance:** Water Accommodated Fraction
- **Method:** OECD Test Guideline 202
Toxicity to algae:
- NOEC (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
  - Exposure time: 72 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates:
- NOEC (Daphnia magna (Water flea)): 10 mg/l
  - Exposure time: 21 d
  - Test substance: Water Accommodated Fraction

Persistence and degradability

Ingredients:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
- Biodegradability
  - Result: Not readily biodegradable.
  - Biodegradation: 2 - 8 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301B

Distillates (petroleum), hydrotreated heavy paraffinic:
- Biodegradability
  - Result: Not readily biodegradable.
  - Biodegradation: 31 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301F

Distillates (petroleum), solvent refined heavy paraffinic:
- Biodegradability
  - Result: Not readily biodegradable.
  - Biodegradation: 2 - 4 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301B

Distillates (petroleum), hydrotreated light paraffinic:
- Biodegradability
  - Result: Not readily biodegradable.
  - Biodegradation: 31 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301F

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
- Resource Conservation and:
  - This product has been evaluated for RCRA characteristics
Recovery Act (RCRA) and does not meet the criteria of hazardous waste if discarded in its purchased form.

Waste from residues: Dispose of in accordance with local regulations.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

**UNRTDG**
Not regulated as a dangerous good

**IATA-DGR**
Not regulated as a dangerous good

**IMDG-Code**
Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

Domestic regulation

**49 CFR**
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know**

**CERCLA Reportable Quantity**
This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards**
No SARA Hazards

**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.

**US State Regulations**

**Pennsylvania Right To Know**

Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7
Distillates (petroleum), solvent refined heavy paraffinic 64741-88-4
California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

California List of Hazardous Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), solvent-dewaxed heavy paraffinic</td>
<td>64742-65-0</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
</tr>
<tr>
<td>Distillates (petroleum), solvent refined heavy paraffinic</td>
<td>64741-88-4</td>
</tr>
<tr>
<td>Molybdenum sulfide</td>
<td>1317-33-5</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>64742-55-8</td>
</tr>
</tbody>
</table>

California Permissible Exposure Limits for Chemical Contaminants

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), solvent-dewaxed heavy paraffinic</td>
<td>64742-65-0</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
</tr>
<tr>
<td>Distillates (petroleum), solvent refined heavy paraffinic</td>
<td>64741-88-4</td>
</tr>
<tr>
<td>Molybdenum sulfide</td>
<td>1317-33-5</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>64742-55-8</td>
</tr>
</tbody>
</table>

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

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

AICS : All ingredients listed or exempt.

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from inventory listing.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
SECTON 16. OTHER INFORMATION

Further information

**NFPA:**

Flammability

Health

Toxicity

Special hazard.

**HMIS® IV:**

HEALTH

/  0

FLAMMABILITY

1

PHYSICAL HAZARD

0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/'" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL: USA. NIOSH Recommended Exposure Limits
OSHA Z-1: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA: 8-hour, time-weighted average
NIOSH REL / TWA: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA: 8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; Elx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand
Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative


Revision Date: 10/16/2017

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

US / Z8