



## 2042, 2043, 20376 MoS2 Antifriction Motoroil 10W-40 1L, 5L, 60L

### Liqui Moly GmbH

Chemwatch: 5430-45

Version No: 2.1

Safety Data Sheet according to WHMIS 2015 requirements

Chemwatch Hazard Alert Code: 1

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S.GHS.CAN.EN

## SECTION 1 Identification

### Product Identifier

|                               |                                                                 |
|-------------------------------|-----------------------------------------------------------------|
| Product name                  | 2042, 2043, 20376 MoS2 Antifriction Motoroil 10W-40 1L, 5L, 60L |
| Chemical Name                 | Not Applicable                                                  |
| Synonyms                      | Not Available                                                   |
| Chemical formula              | Not Applicable                                                  |
| Other means of identification | Not Available                                                   |

### Recommended use of the chemical and restrictions on use

|                          |                                             |
|--------------------------|---------------------------------------------|
| Relevant identified uses | Use according to manufacturer's directions. |
|--------------------------|---------------------------------------------|

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

|                         |                                                                     |
|-------------------------|---------------------------------------------------------------------|
| Registered company name | Liqui Moly GmbH                                                     |
| Address                 | Jerg-Wieland-Strasse 4 Ulm D-89081 Germany                          |
| Telephone               | +49 731 1420 0                                                      |
| Fax                     | +49 731 1420 82                                                     |
| Website                 | <a href="http://www.liqui-moly.com/">http://www.liqui-moly.com/</a> |
| Email                   | Not Available                                                       |

### Emergency phone number

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Association / Organisation        | INFOTRAC                             |
| Emergency telephone numbers       | +1800 535 5053 (US, Canada & Mexico) |
| Other emergency telephone numbers | +1 352 323 3500 (International)      |

## SECTION 2 Hazard(s) identification

### Classification of the substance or mixture

NFPA 704 diamond




Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

### Canadian WHMIS Symbols



|                |                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classification | Sensitisation (Skin) Category 1, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Hazardous to the Aquatic Environment Acute Hazard Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3, Serious Eye Damage/Eye Irritation Category 2A |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Label elements

|                     |                                                                                   |
|---------------------|-----------------------------------------------------------------------------------|
| Hazard pictogram(s) |  |
|---------------------|-----------------------------------------------------------------------------------|

|             |         |
|-------------|---------|
| Signal word | Warning |
|-------------|---------|

**Hazard statement(s)**

|      |                                                    |
|------|----------------------------------------------------|
| H317 | May cause an allergic skin reaction.               |
| H336 | May cause drowsiness or dizziness.                 |
| H412 | Harmful to aquatic life with long lasting effects. |
| H319 | Causes serious eye irritation.                     |

**Physical and Health hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

|      |                                                                                  |
|------|----------------------------------------------------------------------------------|
| P271 | Use only outdoors or in a well-ventilated area.                                  |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P261 | Avoid breathing mist/vapours/spray.                                              |
| P273 | Avoid release to the environment.                                                |
| P264 | Wash all exposed external body areas thoroughly after handling.                  |
| P272 | Contaminated work clothing should not be allowed out of the workplace.           |

**Precautionary statement(s) Response**

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P302+P352      | IF ON SKIN: Wash with plenty of water and soap.                                                                                  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312           | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.                                                            |
| P333+P313      | If skin irritation or rash occurs: Get medical advice/attention.                                                                 |
| P337+P313      | If eye irritation persists: Get medical advice/attention.                                                                        |
| P362+P364      | Take off contaminated clothing and wash it before reuse.                                                                         |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.                                                       |

**Precautionary statement(s) Storage**

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| P405      | Store locked up.                                                 |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

**Precautionary statement(s) Disposal**

|      |                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|----------------------------------------------------------------------------------------------------------------------------------|

**SECTION 3 Composition / information on ingredients****Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No        | %[weight] | Name                                                               |
|---------------|-----------|--------------------------------------------------------------------|
| 64742-54-7.   | >60       | <u>paraffinic distillate, heavy, hydrotreated (severe)</u>         |
| 64742-55-8.   | 1-5       | <u>paraffinic distillate, light, hydrotreated (severe)</u>         |
| 93819-94-4    | <1        | <u>zinc bis[O-(6-methylheptyl &amp; sec-butyl)]dithiophosphate</u> |
| Not Available | <1        | <u>molybdenum alkylthiocarbamide complex</u>                       |
| Not Available |           | Ingredients determined not to be hazardous                         |

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 First-aid measures****Description of first aid measures**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>Wash out immediately with fresh running water.</li> <li>Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Continued...

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|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Skin Contact</b> | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>                                                                                                                                                                                                                                                          |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> </ul> |

**Indication of any immediate medical attention and special treatment needed**

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

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▶ Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.

▶ In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.

▶ High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

**NOTE:** Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

**SECTION 5 Fire-fighting measures****Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

**Special hazards arising from the substrate or mixture**

|                             |                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|

**Special protective equipment and precautions for fire-fighters**

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ Avoid spraying water onto liquid pools.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul>                                                                                                                                                                                                                                                |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>▶ May emit acrid smoke.</li> <li>▶ Mists containing combustible materials may be explosive.</li> </ul> <p>Combustion products include:<br/>carbon dioxide (CO<sub>2</sub>)<br/>nitrogen oxides (NO<sub>x</sub>)<br/>phosphorus oxides (PO<sub>x</sub>)<br/>sulfur oxides (SO<sub>x</sub>)<br/>metal oxides<br/>other pyrolysis products typical of burning organic material.<br/>May emit poisonous fumes.<br/>May emit corrosive fumes.<br/><b>CARE:</b> Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns.</p> |

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Foaming may cause overflow of containers and may result in possible fire.

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor Spills | <p>Slippery when spilt.</p> <ul style="list-style-type: none"> <li>Remove all ignition sources.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>Wipe up.</li> <li>Place in a suitable, labelled container for waste disposal.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Major Spills | <p>Slippery when spilt.<br/>Moderate hazard.</p> <ul style="list-style-type: none"> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Increase ventilation.</li> <li>Stop leak if safe to do so.</li> <li>Contain spill with sand, earth or vermiculite.</li> <li>Collect recoverable product into labelled containers for recycling.</li> <li>Absorb remaining product with sand, earth or vermiculite.</li> <li>Collect solid residues and seal in labelled drums for disposal.</li> <li>Wash area and prevent runoff into drains.</li> <li>If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safe handling     | <p>The conductivity of this material may make it a static accumulator. A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m. Whether a liquid is nonconductive or semi-conductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.</p> <ul style="list-style-type: none"> <li>Containers, even those that have been emptied, may contain explosive vapours.</li> <li>Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li><b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>Electrostatic discharge may be generated during pumping - this may result in fire.</li> <li>Ensure electrical continuity by bonding and grounding (earthing) all equipment.</li> <li>Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<math>\leq 1</math> m/sec until fill pipe submerged to twice its diameter, then <math>\leq 7</math> m/sec).</li> <li>Avoid splash filling.</li> <li>Do NOT use compressed air for filling discharging or handling operations.</li> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>Prevent concentration in hollows and sumps.</li> <li><b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>Avoid smoking, naked lights or ignition sources.</li> <li>Avoid contact with incompatible materials.</li> <li>When handling, <b>DO NOT eat, drink or smoke.</b></li> <li>Keep containers securely sealed when not in use.</li> <li>Avoid physical damage to containers.</li> <li>Always wash hands with soap and water after handling.</li> <li>Work clothes should be laundered separately.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li> </ul> |
| Other information | <ul style="list-style-type: none"> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### Conditions for safe storage, including any incompatibilities

|                    |                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container | <ul style="list-style-type: none"> <li>Metal can or drum</li> <li>Packaging as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul> |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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## Storage incompatibility

- **CARE:** Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire.
- Oil leaks in a pressurized circuit may result in a fine flammable spray (the lower flammability limit for oil mist is reached for a concentration of about 45 g/m<sup>3</sup>)
- Autoignition temperatures may be significantly lower under particular conditions (slow oxidation on finely divided materials..)
- Avoid reaction with oxidising agents

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

| Source                                                                                  | Ingredient                                              | Material name                                                                   | TWA                  | STEL                 | Peak          | Notes                                                              |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------|----------------------|----------------------|---------------|--------------------------------------------------------------------|
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances           | paraffinic distillate, heavy, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Nova Scotia Occupational Exposure Limits                                       | paraffinic distillate, heavy, hydrotreated (severe)     | Oil mist - mineral                                                              | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | TLV Basis: lung. As sampled by method that does not collect vapor. |
| Canada - Alberta Occupational Exposure Limits                                           | paraffinic distillate, heavy, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | paraffinic distillate, heavy, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Manitoba Occupational Exposure Limits                                          | paraffinic distillate, heavy, hydrotreated (severe)     | Not Available                                                                   | 5 mg/m <sup>3</sup>  | Not Available        | Not Available | TLV® Basis: URT irr                                                |
| Canada - British Columbia Occupational Exposure Limits                                  | paraffinic distillate, heavy, hydrotreated (severe)     | Oil mist - mineral, severely refined                                            | 1 mg/m <sup>3</sup>  | Not Available        | Not Available | Not Available                                                      |
| Canada - Prince Edward Island Occupational Exposure Limits                              | paraffinic distillate, heavy, hydrotreated (severe)     | Mineral oil, excluding metal working fluids - Pure, highly and severely refined | 5 mg/m <sup>3</sup>  | Not Available        | Not Available | TLV® Basis: URT irr                                                |
| Canada - Northwest Territories Occupational Exposure Limits                             | paraffinic distillate, heavy, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants                   | paraffinic distillate, heavy, hydrotreated (severe)     | Mineral oil (mist)                                                              | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances           | paraffinic distillate, light, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Nova Scotia Occupational Exposure Limits                                       | paraffinic distillate, light, hydrotreated (severe)     | Oil mist - mineral                                                              | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | TLV Basis: lung. As sampled by method that does not collect vapor. |
| Canada - Alberta Occupational Exposure Limits                                           | paraffinic distillate, light, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | paraffinic distillate, light, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Manitoba Occupational Exposure Limits                                          | paraffinic distillate, light, hydrotreated (severe)     | Not Available                                                                   | 5 mg/m <sup>3</sup>  | Not Available        | Not Available | TLV® Basis: URT irr                                                |
| Canada - British Columbia Occupational Exposure Limits                                  | paraffinic distillate, light, hydrotreated (severe)     | Oil mist - mineral, severely refined                                            | 1 mg/m <sup>3</sup>  | Not Available        | Not Available | Not Available                                                      |
| Canada - Prince Edward Island Occupational Exposure Limits                              | paraffinic distillate, light, hydrotreated (severe)     | Mineral oil, excluding metal working fluids - Pure, highly and severely refined | 5 mg/m <sup>3</sup>  | Not Available        | Not Available | TLV® Basis: URT irr                                                |
| Canada - Northwest Territories Occupational Exposure Limits                             | paraffinic distillate, light, hydrotreated (severe)     | Oil mist, mineral                                                               | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants                   | paraffinic distillate, light, hydrotreated (severe)     | Mineral oil (mist)                                                              | 5 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> | Not Available | Not Available                                                      |
| Canada - Nova Scotia Occupational Exposure Limits                                       | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) [NOS] Respirable particles              | 3 mg/m <sup>3</sup>  | Not Available        | Not Available | See Appendix B current TLV/BEI Book                                |
| Canada - Nova Scotia Occupational Exposure Limits                                       | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles               | 10 mg/m <sup>3</sup> | Not Available        | Not Available | See Appendix B current TLV/BEI Book                                |
| Canada - Alberta Occupational Exposure Limits                                           | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particulate Not Otherwise Regulated - Respirable                                | 3 mg/m <sup>3</sup>  | Not Available        | Not Available | Not Available                                                      |

Continued...

| Source                                                                                  | Ingredient                                              | Material name                                                                                | TWA      | STEL          | Peak          | Notes                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------|----------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Canada - Alberta Occupational Exposure Limits                                           | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particulate Not Otherwise Regulated - Total                                                  | 10 mg/m3 | Not Available | Not Available | Not Available                                                                                                                                                                                                                                                                                                                                                                                    |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction++        | 10 mg/m3 | 20 mg/m3      | Not Available | Not Available                                                                                                                                                                                                                                                                                                                                                                                    |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction++       | 3 mg/m3  | 6 mg/m3       | Not Available | Not Available                                                                                                                                                                                                                                                                                                                                                                                    |
| Canada - Ontario Occupational Exposure Limits                                           | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)  | 10 mg/m3 | Not Available | Not Available | (I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 100 µm at 50 per cent collection efficiency.                  |
| Canada - Ontario Occupational Exposure Limits                                           | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction) | 3 mg/m3  | Not Available | Not Available | (R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency. |
| Canada - Northwest Territories Occupational Exposure Limits                             | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Inhalable fraction          | 10 mg/m3 | 20 mg/m3      | Not Available | Not Available                                                                                                                                                                                                                                                                                                                                                                                    |
| Canada - Northwest Territories Occupational Exposure Limits                             | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particles (Insoluble or Poorly Soluble) Not Otherwise Specified: Respirable fraction         | 3 mg/m3  | 6 mg/m3       | Not Available | Not Available                                                                                                                                                                                                                                                                                                                                                                                    |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants                   | zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Particulates Not Otherwise Classified (PNOC)                                                 | 10 mg/m3 | Not Available | Not Available | Not Available                                                                                                                                                                                                                                                                                                                                                                                    |

**Emergency Limits**

| Ingredient                                          | TEEL-1    | TEEL-2      | TEEL-3      |
|-----------------------------------------------------|-----------|-------------|-------------|
| paraffinic distillate, heavy, hydrotreated (severe) | 140 mg/m3 | 1,500 mg/m3 | 8,900 mg/m3 |
| paraffinic distillate, light, hydrotreated (severe) | 140 mg/m3 | 1,500 mg/m3 | 8,900 mg/m3 |

| Ingredient                                              | Original IDLH | Revised IDLH  |
|---------------------------------------------------------|---------------|---------------|
| paraffinic distillate, heavy, hydrotreated (severe)     | 2,500 mg/m3   | Not Available |
| paraffinic distillate, light, hydrotreated (severe)     | 2,500 mg/m3   | Not Available |
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Not Available | Not Available |
| molybdenum alkylthiocarbamide complex                   | Not Available | Not Available |

**Occupational Exposure Banding**

| Ingredient                                                                                                                                                                                                                                                                                                                                                                       | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|
| molybdenum alkylthiocarbamide complex                                                                                                                                                                                                                                                                                                                                            | E                                 | ≤ 0.01 mg/m³                     |
| <b>Notes:</b> Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health. |                                   |                                  |

**Exposure controls**

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <ul style="list-style-type: none"> <li>Process controls which involve changing the way a job activity or process is done to reduce the risk.</li> <li>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a</li> </ul> |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

| Type of Contaminant:                                                                                                                                                                                                | Air Speed:                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| solvent, vapours, degreasing etc., evaporating from tank (in still air).                                                                                                                                            | 0.25-0.5 m/s<br>(50-100 f/min.) |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.)      |
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)                                                      | 1-2.5 m/s (200-500 f/min.)      |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).                                                                | 2.5-10 m/s<br>(500-2000 f/min.) |

Within each range the appropriate value depends on:

| Lower end of the range                                     | Upper end of the range           |
|------------------------------------------------------------|----------------------------------|
| 1: Room air currents minimal or favourable to capture      | 1: Disturbing room air currents  |
| 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity |
| 3: Intermittent, low production.                           | 3: High production, heavy use    |
| 4: Large hood or large air mass in motion                  | 4: Small hood-local control only |

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

## Personal protection



## Eye and face protection

- ▶ Safety glasses with side shields.
- ▶ Chemical goggles.
- ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

## Skin protection

See Hand protection below

## Hands/feet protection

- ▶ Wear chemical protective gloves, e.g. PVC.
- ▶ Wear safety footwear or safety gumboots, e.g. Rubber

**NOTE:**

- ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.

- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- Fair when breakthrough time < 20 min
- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.



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|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.<br>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:<br><ul style="list-style-type: none"> <li>Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li> <li>Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li> </ul> Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. |
| <b>Body protection</b>  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Other protection</b> | <ul style="list-style-type: none"> <li>Overalls.</li> <li>P.V.C apron.</li> <li>Barrier cream.</li> <li>Skin cleansing cream.</li> <li>Eye wash unit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

**Respiratory protection**

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator   |
|------------------------------------|----------------------|----------------------|--------------------------|
| up to 10 x ES                      | AK-AUS P2            | -                    | AK-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | AK-AUS / Class 1 P2  | -                        |
| up to 100 x ES                     | -                    | AK-2 P2              | AK-PAPR-2 P2 ^           |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

**SECTION 9 Physical and chemical properties****Information on basic physical and chemical properties**

|                                                     |                                                                  |                                                |                       |
|-----------------------------------------------------|------------------------------------------------------------------|------------------------------------------------|-----------------------|
| <b>Appearance</b>                                   | Brown liquid with characteristic odour; not miscible with water. |                                                |                       |
| <b>Physical state</b>                               | Liquid                                                           | <b>Relative density (Water = 1)</b>            | 0.86                  |
| <b>Odour</b>                                        | Not Available                                                    | <b>Partition coefficient n-octanol / water</b> | Not Available         |
| <b>Odour threshold</b>                              | Not Available                                                    | <b>Auto-ignition temperature (°C)</b>          | Not Available         |
| <b>pH (as supplied)</b>                             | Not Applicable                                                   | <b>Decomposition temperature</b>               | Not Available         |
| <b>Melting point / freezing point (°C)</b>          | -36                                                              | <b>Viscosity (cSt)</b>                         | 90 @ 40C, 14.2 @ 100C |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available                                                    | <b>Molecular weight (g/mol)</b>                | Not Applicable        |
| <b>Flash point (°C)</b>                             | 230                                                              | <b>Taste</b>                                   | Not Available         |
| <b>Evaporation rate</b>                             | Not Available                                                    | <b>Explosive properties</b>                    | Not Available         |
| <b>Flammability</b>                                 | Not Applicable                                                   | <b>Oxidising properties</b>                    | Not Available         |
| <b>Upper Explosive Limit (%)</b>                    | Not Available                                                    | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available         |
| <b>Lower Explosive Limit (%)</b>                    | Not Available                                                    | <b>Volatile Component (%vol)</b>               | Not Available         |
| <b>Vapour pressure (kPa)</b>                        | Not Available                                                    | <b>Gas group</b>                               | Not Available         |
| <b>Solubility in water</b>                          | Immiscible                                                       | <b>pH as a solution (%)</b>                    | Not Available         |
| <b>Vapour density (Air = 1)</b>                     | Not Available                                                    | <b>VOC g/L</b>                                 | Not Available         |

**SECTION 10 Stability and reactivity**

|                                           |                                                                                                                                                                                                |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | See section 7                                                                                                                                                                                  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7                                                                                                                                                                                  |
| <b>Conditions to avoid</b>                | See section 7                                                                                                                                                                                  |
| <b>Incompatible materials</b>             | See section 7                                                                                                                                                                                  |



**Hazardous decomposition products**

See section 5

**SECTION 11 Toxicological information****Information on toxicological effects**

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhaled</b>      | <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Inhalation of oil droplets or aerosols may cause discomfort and may produce chemical inflammation of the lungs.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> |
| <b>Ingestion</b>    | <p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Skin Contact</b> | <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Eye</b>          | <p>This material can cause eye irritation and damage in some persons.</p> <p>Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Chronic</b>      | <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Oil may contact the skin or be inhaled. Extended exposure can lead to eczema, inflammation of hair follicles, pigmentation of the face and warts on the soles of the feet.</p> <p>Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                         |                                                                                                                                                                                                                               |                                                                  |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <b>2042, 2043, 20376 MoS2 Antifricition Motoroil 10W-40 1L, 5L, 60L</b> | <b>TOXICITY</b>                                                                                                                                                                                                               | <b>IRRITATION</b>                                                |
|                                                                         | Not Available                                                                                                                                                                                                                 | Not Available                                                    |
| <b>paraffinic distillate, heavy, hydrotreated (severe)</b>              | <b>TOXICITY</b>                                                                                                                                                                                                               | <b>IRRITATION</b>                                                |
|                                                                         | Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>                                                                                                                                                                              | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                                                                         | Inhalation(Rat) LC50; 2.18 mg/l4h <sup>[2]</sup>                                                                                                                                                                              | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| <b>paraffinic distillate, light, hydrotreated (severe)</b>              | <b>TOXICITY</b>                                                                                                                                                                                                               | <b>IRRITATION</b>                                                |
|                                                                         | Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>                                                                                                                                                                              | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                                                                         | Inhalation(Rat) LC50; 2.18 mg/l4h <sup>[2]</sup>                                                                                                                                                                              | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| <b>zinc bis[O-(6-methylheptyl &amp; sec-butyl)]dithiophosphate</b>      | <b>TOXICITY</b>                                                                                                                                                                                                               | <b>IRRITATION</b>                                                |
|                                                                         | dermal (rat) LD50: >5000 mg/kg <sup>[2]</sup>                                                                                                                                                                                 | Eye : Severe *                                                   |
|                                                                         | Inhalation(Rat) LC50; >0.5 mg/l4h <sup>[1]</sup>                                                                                                                                                                              | Eye: adverse effect observed (irritating) <sup>[1]</sup>         |
|                                                                         | Oral (Rat) LD50; >2000 mg/kg <sup>[2]</sup>                                                                                                                                                                                   | Skin : Moderate *                                                |
| <b>molybdenum alkylthiocarbamide complex</b>                            | <b>TOXICITY</b>                                                                                                                                                                                                               | <b>IRRITATION</b>                                                |
|                                                                         | Not Available                                                                                                                                                                                                                 | Not Available                                                    |
| <b>Legend:</b>                                                          | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |                                                                  |

|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PARAFFINIC DISTILLATE, LIGHT, HYDROTREATED (SEVERE)</b>         | * Q8 MSDS No significant acute toxicological data identified in literature search.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>ZINC BIS[O-(6-METHYLHEPTYL &amp; SEC-BUTYL)]DITHIOPHOSPHATE</b> | <p>BB4 SDS (Infineum)</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>Dithiophosphate alkyl esters is corrosive and toxic to the tissues on skin or oral exposure depending on its concentration. Symptoms included diarrhoea, skin and gastrointestinal irritation, lethargy, reduced food intake, staining about the nose and eye; occasionally, there was drooping of the eyelid, hair standing up, inco-ordination and salivation. Toxicity is reduced following inhalation (due to vapour pressure and high viscosity). It may produce reproductive, developmental and genetic toxicity on experimental animals, but no substantive data is available to establish effect on humans.</p> |

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**MOLYBDENUM  
ALKYLTHIOCARBAMIDE  
COMPLEX**

Toxicity data for the base-oil containing material. The repeat-dose oral toxicity data only found effects in the top dose group administered 1,000 mg/kg bw/day, which indicates the substance is absorbed through the gastrointestinal tract, but possibly only to a very limited extent. The absence of effects in the repeat-dose dermal toxicity study indicates that if any dermal absorption occurs at all, it occurs at a lower rate than oral absorption. The high partition coefficient indicates that any molecules that are absorbed will partition preferentially to lipid-rich tissues, and this is supported by the reproduction/developmental toxicity screening study which reported clinical observations suggestive of Central Nervous System toxicity at the top dose (1,000 mg/kg bw/day). The available environmental degradation data indicate that the substance is not readily biodegraded. If mammalian metabolism is similarly limited, this would suggest the potential for bioaccumulation. However, the true bioaccumulation potential is likely to be low, due to the limited absorption potential. Sensitisation: The substance was tested in a Guinea-Pig Maximisation Test, which employs intradermal injection and use of adjuvant. Upon challenge application, six of the 20 animals treated with the test substance showed slight and patchy erythema; the control animals showed no response to challenge. Therefore the substance was concluded to be a weak sensitiser in this test. In accordance with CLP, when an adjuvant type guinea pig test is used, a response of at least 30% of the animals (equivalent to six out of 20 animals) is considered as positive. Therefore, the substance is classified as a skin sensitiser (Category 1) under CLP. There are no human or suitable animal data regarding the respiratory sensitisation potential of the substance. As the substance is only a borderline skin sensitiser according to CLP criteria, and as the potential for inhalation exposure to the substance will be negligible, no classification is proposed for respiratory sensitisation. Repeat dose toxicity: No treatment-related systemic toxicity was seen in the 28-day dermal toxicity study of a substance structurally and chemically similar to EC 457-320-2, and the NOAEL was concluded to be 670 mg/kg bw/day. No hazard classifications are required based on this study. The two repeat-dose oral studies available (28-day toxicity study and a reproduction/developmental toxicity screening study) identified no consistent identifiable treatment-related toxic effects at dose levels that might necessitate classification for Specific Target Organ Toxicity (STOT-RE). Consequently, in accordance with CLP, no hazard classifications are proposed. Genetic toxicity: The substance showed no evidence of mutagenic potential in an Ames test, A second structurally and chemically similar substance showed no evidence of genotoxic potential in an in vitro chromosome aberration study and an in vivo mouse micronucleus study. Toxicity to Reproduction: The NOAEL for general parental toxicity was therefore concluded to be 300 mg/kg bw/day. However, there were no effects on any reproductive or neonatal parameters assessed, and the NOAEL both for reproduction toxicity and developmental toxicity were concluded to be 1,000 mg/kg bw/day. Therefore, no classification is required. \* REACH Dossier

The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

**PARAFFINIC DISTILLATE,  
HEAVY, HYDROTREATED  
(SEVERE) & PARAFFINIC  
DISTILLATE, LIGHT,  
HYDROTREATED (SEVERE)**

The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:

- The adverse effects of these materials are associated with undesirable components, and
- The levels of the undesirable components are inversely related to the degree of processing;
- Distillate base oils receiving the same degree or extent of processing will have similar toxicities;
- The potential toxicity of residual base oils is independent of the degree of processing the oil receives.
- The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.

Unrefined & mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential cancer-causing and mutation-causing activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity. Testing of residual oils for mutation-causing and cancer-causing potential has shown negative results, supporting the belief that these materials lack biologically active components or the components are largely non-bioavailable due to their molecular size.

Toxicity testing has consistently shown that lubricating base oils have low acute toxicities. Numerous tests have shown that a lubricating base oil's mutagenic and carcinogenic potential correlates with its 3-7 ring polycyclic aromatic compound (PAC) content, and the level of DMSO extractables (e.g. IP346 assay), both characteristics that are directly related to the degree/conditions of processing.

For highly and severely refined distillate base oils:

In animal studies, the acute, oral, semilethal dose is >5g/kg body weight and the semilethal dose by skin contact is >2g/kg body weight. The semilethal concentration for inhalation is 2.18 to >4 mg/L. The materials have varied from "non-irritating" to "moderately irritating" when tested for skin and eye irritation. Testing for sensitisation has been negative. The effects of repeated exposure vary by species; in animals, effects to the testes and lung have been observed, as well as the formation of granulomas. In animals, these substances have not been found to cause reproductive toxicity or significant increases in birth defects. They are also not considered to cause cancer, mutations or chromosome aberrations.

The substance is classified by IARC as Group 3:  
**NOT** classifiable as to its carcinogenicity to humans.  
Evidence of carcinogenicity may be inadequate or limited in animal testing.

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity                    | ✗ | Carcinogenicity          | ✗ |
| Skin Irritation/Corrosion         | ✗ | Reproductivity           | ✗ |
| Serious Eye Damage/Irritation     | ✓ | STOT - Single Exposure   | ✓ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ✗ |
| Mutagenicity                      | ✗ | Aspiration Hazard        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
✓ – Data available to make classification

**SECTION 12 Ecological information****Toxicity**

| 2042, 2043, 20376 MoS2<br>Antifriction Motoroil 10W-40<br>1L, 5L, 60L | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|-----------------------------------------------------------------------|---------------|--------------------|-------------------------------|---------------|---------------|
|                                                                       | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| paraffinic distillate, heavy,<br>hydrotreated (severe)                | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|                                                                       | NOEC(ECx)     | 504h               | Crustacea                     | >1mg/l        | 1             |
|                                                                       | ErC50         | 72h                | Algae or other aquatic plants | >1000mg/l     | 1             |
|                                                                       | EC50          | 48h                | Crustacea                     | >1000mg/l     | 1             |

Continued...

## 2042, 2043, 20376 MoS2 Antifricition Motoroil 10W-40 1L, 5L, 60L

|                                                         |                 |                           |                               |               |               |
|---------------------------------------------------------|-----------------|---------------------------|-------------------------------|---------------|---------------|
|                                                         | EC50            | 96h                       | Algae or other aquatic plants | >1000mg/l     | 1             |
| paraffinic distillate, light, hydrotreated (severe)     | <b>Endpoint</b> | <b>Test Duration (hr)</b> | <b>Species</b>                | <b>Value</b>  | <b>Source</b> |
|                                                         | NOEC(ECx)       | 504h                      | Crustacea                     | >1mg/l        | 1             |
|                                                         | EC50            | 48h                       | Crustacea                     | >1000mg/l     | 1             |
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | <b>Endpoint</b> | <b>Test Duration (hr)</b> | <b>Species</b>                | <b>Value</b>  | <b>Source</b> |
|                                                         | NOEC(ECx)       | 504h                      | Crustacea                     | 0.4mg/l       | 2             |
|                                                         | LC50            | 96h                       | Fish                          | 46mg/l        | 2             |
|                                                         | EC50            | 72h                       | Algae or other aquatic plants | 2mg/l         | 2             |
|                                                         | EC50            | 48h                       | Crustacea                     | 5.4mg/l       | 2             |
|                                                         | EC50            | 96h                       | Algae or other aquatic plants | 2mg/l         | 2             |
| molybdenum alkylthiocarbamide complex                   | <b>Endpoint</b> | <b>Test Duration (hr)</b> | <b>Species</b>                | <b>Value</b>  | <b>Source</b> |
|                                                         | Not Available   | Not Available             | Not Available                 | Not Available | Not Available |

**Legend:** Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

**DO NOT discharge into sewer or waterways.**

## Persistence and degradability

| Ingredient                                              | Persistence: Water/Soil | Persistence: Air |
|---------------------------------------------------------|-------------------------|------------------|
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | HIGH                    | HIGH             |

## Bioaccumulative potential

| Ingredient                                              | Bioaccumulation        |
|---------------------------------------------------------|------------------------|
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | HIGH (LogKOW = 6.0235) |

## Mobility in soil

| Ingredient                                              | Mobility         |
|---------------------------------------------------------|------------------|
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | LOW (KOC = 3509) |

## SECTION 13 Disposal considerations

## Waste treatment methods

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product / Packaging disposal | <ul style="list-style-type: none"> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>Reduction</li> <li>Reuse</li> <li>Recycling</li> <li>Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"> <li><b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>Where in doubt contact the responsible authority.</li> <li>Recycle wherever possible or consult manufacturer for recycling options.</li> <li>Consult State Land Waste Authority for disposal.</li> <li>Bury or incinerate residue at an approved site.</li> <li>Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul> |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 14 Transport information

## Labels Required

|                  |    |
|------------------|----|
| Marine Pollutant | NO |
|------------------|----|

Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name                                            | Group         |
|---------------------------------------------------------|---------------|
| paraffinic distillate, heavy, hydrotreated (severe)     | Not Available |
| paraffinic distillate, light, hydrotreated (severe)     | Not Available |
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Not Available |
| molybdenum alkylthiocarbamide complex                   | Not Available |

Transport in bulk in accordance with the ICG Code

| Product name                                            | Ship Type     |
|---------------------------------------------------------|---------------|
| paraffinic distillate, heavy, hydrotreated (severe)     | Not Available |
| paraffinic distillate, light, hydrotreated (severe)     | Not Available |
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | Not Available |
| molybdenum alkylthiocarbamide complex                   | Not Available |

## SECTION 15 Regulatory information

## Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

## paraffinic distillate, heavy, hydrotreated (severe) is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

## paraffinic distillate, light, hydrotreated (severe) is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

## zinc bis[O-(6-methylheptyl &amp; sec-butyl)]dithiophosphate is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

## molybdenum alkylthiocarbamide complex is found on the following regulatory lists

Not Applicable

## National Inventory Status

| National Inventory                              | Status                                                                                                                                                                 |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AIIC / Australia Non-Industrial Use | Yes                                                                                                                                                                    |
| Canada - DSL                                    | Yes                                                                                                                                                                    |
| Canada - NDSL                                   | No (paraffinic distillate, heavy, hydrotreated (severe); paraffinic distillate, light, hydrotreated (severe); zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate) |
| China - IECSC                                   | Yes                                                                                                                                                                    |
| Europe - EINEC / ELINCS / NLP                   | Yes                                                                                                                                                                    |
| Japan - ENCS                                    | Yes                                                                                                                                                                    |
| Korea - KECI                                    | Yes                                                                                                                                                                    |
| New Zealand - NZIoC                             | Yes                                                                                                                                                                    |
| Philippines - PICCS                             | Yes                                                                                                                                                                    |
| USA - TSCA                                      | Yes                                                                                                                                                                    |
| Taiwan - TCSI                                   | Yes                                                                                                                                                                    |
| Mexico - INSQ                                   | No (paraffinic distillate, light, hydrotreated (severe); zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate)                                                      |

Continued...

| National Inventory | Status                                                                                                                                                                                            |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vietnam - NCI      | Yes                                                                                                                                                                                               |
| Russia - FBEPH     | No (zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate)                                                                                                                                      |
| <b>Legend:</b>     | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

## SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 27/10/2020 |
| Initial Date  | 27/10/2020 |

### Other information

#### Ingredients with multiple cas numbers

| Name                                                    | CAS No                               |
|---------------------------------------------------------|--------------------------------------|
| zinc bis[O-(6-methylheptyl & sec-butyl)]dithiophosphate | 93819-94-4, 113706-15-3, 134759-18-5 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit.  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 ES: Exposure Standard  
 OSF: Odour Safety Factor  
 NOAEL :No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index  
 AIIC: Australian Inventory of Industrial Chemicals  
 DSL: Domestic Substances List  
 NDSDL: Non-Domestic Substances List  
 IECSC: Inventory of Existing Chemical Substance in China  
 EINECS: European INventory of Existing Commercial chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 NLP: No-Longer Polymers  
 ENCS: Existing and New Chemical Substances Inventory  
 KECI: Korea Existing Chemicals Inventory  
 NZIoC: New Zealand Inventory of Chemicals  
 PICCS: Philippine Inventory of Chemicals and Chemical Substances  
 TSCA: Toxic Substances Control Act  
 TCSI: Taiwan Chemical Substance Inventory  
 INSQ: Inventario Nacional de Sustancias Químicas  
 NCI: National Chemical Inventory  
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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