Nulon Ezy-Squeeze Diesel Premium Mineral Top-Up Oil

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

Product Identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>Nulon Ezy-Squeeze Diesel Premium Mineral Top-Up Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>DPMTU; DPMTU-900</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Relevant identified uses of the substance or mixture and uses advised against

| Relevant identified uses | Engine Oil. |

Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Registered company name</th>
<th>Nulon Products Australia</th>
<th>Nulon Products NZ (Nulon NZ Ltd.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>17 Yulong Close Moorebank NSW 2170 Australia</td>
<td>80 Queen Street Auckland Central 1010 New Zealand</td>
</tr>
<tr>
<td>Telephone</td>
<td>+61 2 9608 7800</td>
<td>0800 454 108</td>
</tr>
<tr>
<td>Fax</td>
<td>+61 2 9601 4700</td>
<td>0800 547 080</td>
</tr>
<tr>
<td>Website</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:msds@nulon.com.au">msds@nulon.com.au</a></td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Emergency telephone number

<table>
<thead>
<tr>
<th>Association / Organisation</th>
<th>Chemwatch 24hr.</th>
<th>Chemwatch 24hr.</th>
<th>CHEMWATCH EMERGENCY RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency telephone numbers</td>
<td>1800 039 008</td>
<td>+800 2436 2255</td>
<td>+61 1800 951 288</td>
</tr>
<tr>
<td>Other emergency telephone numbers</td>
<td>Not Available</td>
<td>Not Available</td>
<td>+61 2 9186 1132</td>
</tr>
</tbody>
</table>

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Poisons Schedule</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification [1]</td>
<td>Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Skin Sensitizer Category 1, Reproductive Toxicity Category 2, Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3</td>
</tr>
</tbody>
</table>

Legend:


Label elements

| Hazard pictogram(s) | ![Hazard pictogram] |

SIGNAL WORD WARNING

Hazard statement(s)
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s) Prevention
- P201 Obtain special instructions before use.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P261 Avoid breathing mist/vapours/spray.
- P273 Avoid release to the environment.

Precautionary statement(s) Response
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P321 Specific treatment (see advice on this label).
- P362 Take off contaminated clothing and wash before reuse.
- P302+P352 IF ON SKIN: Wash with plenty of water and soap.

Precautionary statement(s) Storage
- P405 Store locked up.

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

<table>
<thead>
<tr>
<th>CAS No</th>
<th>% [weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>&gt;60</td>
<td>mineral oil</td>
</tr>
<tr>
<td>64742-55-8.</td>
<td>1-5</td>
<td>paraffinic distillate, light, hydrotreated (severe)</td>
</tr>
<tr>
<td>84605-29-8</td>
<td>&lt;5</td>
<td>zinc O,O-bis(1,3-dimethylbutyl &amp; isopropyl)dithiophosphate</td>
</tr>
<tr>
<td>70024-69-0</td>
<td>&lt;5</td>
<td>(C16-24)alkybenzenesulfonic acid, calcium salt</td>
</tr>
<tr>
<td>121158-58-5</td>
<td>&lt;5</td>
<td>dodecylphenol, branched</td>
</tr>
<tr>
<td>93925-37-2</td>
<td>&lt;5</td>
<td>butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite</td>
</tr>
<tr>
<td>36878-20-3</td>
<td>&lt;5</td>
<td>nonylated diphenylamines</td>
</tr>
<tr>
<td>Not Available</td>
<td>&lt;1</td>
<td>heterocyclic ether, proprietary</td>
</tr>
<tr>
<td>Not Available</td>
<td>balance</td>
<td>Ingredients determined not to be hazardous</td>
</tr>
</tbody>
</table>

SECTION 4 FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

- If this product comes in contact with the eyes:
  - Wash out immediately with fresh running water.
  - 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.
  - Seek medical attention without delay; if pain persists or recurs seek medical attention.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### Skin Contact

- If skin contact occurs:
  - Immediately remove all contaminated clothing, including footwear.
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.
  - If failure/misuse of high pressure/hydraulic equipment results in injection of grease/oil through the skin seek urgent medical attention. Treat as surgical emergency.

#### Inhalation

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

#### Ingestion

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
Observe the patient carefully.  
Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.  
Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.  
Seek medical advice.

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

Treat symptomatically.

- 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 FIREFIGHTING MEASURES**

**Extinguishing media**

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

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

| Fire Incompatibility | Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chloride bleaches, pool chlorine etc. as ignition may result |

**Advice for firefighters**

**Fire Fighting**

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

**Fire/Explosion Hazard**

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include:
- carbon dioxide (CO2)
- phosphorus oxides (POx)
- sulfur oxides (SOx)
- other pyrolysis products typical of burning organic material.

May emit poisonous fumes.  
May emit corrosive fumes.  
**CARE:** Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.

**HAZCHEM**

Not Applicable

**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 | Slippy when spilt.  
- Remove all ignition sources.  
- Clean up all spills immediately.  
- Avoid breathing vapours and contact with skin and eyes.  
- Control personal contact with the substance, by using protective equipment. |

| Major Spills | Slippy when spilt.  
- Moderate hazard.  
- Clear area of personnel and move upwind.  
- Alert Fire Brigade and tell them location and nature of hazard.  
- Wear breathing apparatus plus protective gloves. |

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

**SECTION 7 HANDLING AND STORAGE**
Precautions for safe handling

Safe handling

- **DO NOT** allow clothing wet with material to stay in contact with skin
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

Other information

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

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.
- Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Ingredient</th>
<th>Material name</th>
<th>TWA</th>
<th>STEL</th>
<th>Peak</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia Exposure Standards</td>
<td>mineral oil</td>
<td>Oil mist, refined mineral</td>
<td>5 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
<td>paraffinic distillate, light, hydrotreated (severe)</td>
<td>Oil mist, refined mineral</td>
<td>5 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

**EMERGENCY LIMITS**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Material name</th>
<th>TEEL-1</th>
<th>TEEL-2</th>
<th>TEEL-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>mineral oil</td>
<td>Mineral oil, heavy or light; (paraffin oil; Deobase, deodorized; heavy paraffinic; heavy naphthenic); distillates; includes 64741-53-3, 64741-88-4, 8042-47-5, 8012-95-1; 64742-54-7</td>
<td>140 mg/m³</td>
<td>1,500 mg/m³</td>
<td>8,900 mg/m³</td>
</tr>
<tr>
<td>paraffinic distillate, light, hydrotreated (severe)</td>
<td>Mineral oil, heavy or light; (paraffin oil; Deobase, deodorized; heavy paraffinic; heavy naphthenic); distillates; includes 64741-53-3, 64741-88-4, 8042-47-5, 8012-95-1; 64742-54-7</td>
<td>140 mg/m³</td>
<td>1,500 mg/m³</td>
<td>8,900 mg/m³</td>
</tr>
<tr>
<td>dodecylphenol, branched</td>
<td>Dodecylphenol, 4- (mixture of isomers)</td>
<td>4.1 mg/m³</td>
<td>45 mg/m³</td>
<td>420 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Original IDLH</th>
<th>Revised IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>mineral oil</td>
<td>2,500 mg/m³</td>
<td>Not Available</td>
</tr>
<tr>
<td>paraffinic distillate, light, hydrotreated (severe)</td>
<td>2,500 mg/m³</td>
<td>Not Available</td>
</tr>
<tr>
<td>zinc O,O-bis(1,3-dimethylbutyl &amp; isopropyl)dithiophosphate</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>(C16-24)alkybenzenesulfonic acid, calcium salt</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>dodecylphenol, branched</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphate</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>nonylated diphenylamines</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

**OCCUPATIONAL EXPOSURE BANDING**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Occupational Exposure Band Rating</th>
<th>Occupational Exposure Band Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>(C16-24)alkybenzenesulfonic acid, calcium salt</td>
<td>E</td>
<td>≤ 0.01 mg/m³</td>
</tr>
<tr>
<td>dodecylphenol, branched</td>
<td>E</td>
<td>≤ 0.1 ppm</td>
</tr>
</tbody>
</table>

**Notes:** 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

Appropriate engineering controls
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.

The basic types of engineering controls are:
- Process controls which involve changing the way a job activity or process is done to reduce the risk.
- 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.

Personal 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.

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.

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.
- 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.

Body protection
- See Other protection below

Other protection
- Overalls.
- P.V.C. apron.
- Barrier cream.

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.

<table>
<thead>
<tr>
<th>Required Minimum Protection Factor</th>
<th>Half-Face Respirator</th>
<th>Full-Face Respirator</th>
<th>Powered Air Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 10 x ES</td>
<td>AK-AUS P2</td>
<td>-</td>
<td>AK-PAPR-AUS / Class 1 P2</td>
</tr>
<tr>
<td>up to 50 x ES</td>
<td>-</td>
<td>AK-AUS / Class 1 P2</td>
<td>-</td>
</tr>
<tr>
<td>up to 100 x ES</td>
<td>-</td>
<td>AK-2 P2</td>
<td>-</td>
</tr>
</tbody>
</table>

^ - Full-face
A(All classes) = Organic vapours, B AU5 or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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

| Appearance | Clear bright orange brown coloured liquid; does not mix with water. |
| Physical state | Liquid | Relative density (Water = 1) | 0.8776 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
### SECTION 10 STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Reactivity</th>
<th>See section 7</th>
</tr>
</thead>
</table>
| Chemical stability | • Unstable in the presence of incompatible materials.  
• Product is considered stable.  
• Hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

### SECTION 11 TOXICOLOGICAL INFORMATION

#### Information on toxicological effects

**Inhaled**
The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Not normally a hazard due to non-volatile nature of product.

**Ingestion**
The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.

**Skin Contact**
This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition. Open cuts, abraded or irritated skin should not be exposed to this material.

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.

**Eye**
This material can cause eye irritation and damage in some persons.

**Chronic**
Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. 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. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

#### Nulon Ezy-Squeeze Diesel Premium Mineral Top-Up Oil

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nulon Ezy-Squeeze Diesel Premium Mineral Top-Up Oil</td>
<td>Not Available</td>
<td>Not Available</td>
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</table>

#### mineral oil

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>mineral oil</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

#### paraffinic distillate, light, hydrotreated (severe)

<table>
<thead>
<tr>
<th></th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>paraffinic distillate, light, hydrotreated (severe)</td>
<td>Dermal (rabbit) LD50: &gt;2000 mg/kg[2]</td>
<td>Eye: no adverse effect observed (not irritating)[1]</td>
</tr>
</tbody>
</table>
Inhalation (rat) LC50: 3.9 mg/L/4H^2
Oral (rat) LD50: >5000 mg/kg^2

**IRRITATION**

Skin: no adverse effect observed (not irritating)^[1]

**TOXICITY**

zinc O,O-bis(1,3-dimethylbutyl & isopropyl)dithiophosphate

dermal (rat) LD50: >2002 mg/kg^1
Oral (rat) LD50: 2000-4000 mg/kg^2

Eye: adverse effect observed (irritating)^[1]

**IRRITATION**

Skin: adverse effect observed (irritating)^[1]

(C16-24)alkylbenzenesulfonic acid, calcium salt

dermal (rat) LD50: >2000 mg/kg^1
Oral (rat) LD50: >5000 mg/kg^1

Eye: no adverse effect observed (not irritating)^[1]

**IRRITATION**

Skin: no adverse effect observed (not irritating)^[1]

dodecylphenol, branched

Oral (rat) LD50: <5000 mg/kg^1

Eye: adverse effect observed (irritating)^[1]

**IRRITATION**

Skin: adverse effect observed (irritating)^[1]

butyl-cyclohex-3-ene carboxylate/sulfur/triphenyl phosphate

Not Available

Eye: Not irritating *

**IRRITATION**

Skin: Not irritating *

nonylated diphenylamines

Oral (rat) LD50: >5000 mg/kg^2

Eye: no adverse effect observed (not irritating)^[1]

**IRRITATION**

Skin: no adverse effect observed (not irritating)^[1]

**Legend:**

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

**MINERAL OIL**

Toxicity and irritation data for petroleum-based mineral oils are related to chemical components and vary as does the composition and source of the original crude.

A small but definite risk of occupational skin cancer occurs in workers exposed to persistent skin contamination by oils over a period of years. This risk has been attributed to the presence of certain polycyclic aromatic hydrocarbons (PAH) (typified by benz(α)pyrene).

Petroleum oils which are solvent refined/extracted or severely hydrotreated, contain very low concentrations of both.

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

The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives:

- 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 potential toxicity of residual base oils is independent of the degree of processing the oil receives.
- 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.

For highly and severely refined distillate base oils:

- In animal studies, the acute, oral, semi-lethal dose is >5g/kg body weight and the semi-lethal dose by skin contact is >2g/kg body weight. The semi-lethal 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.

**ZINC O.O-BIS(1,3-DIMETHYLBUTYL & ISOPROPYL)DITHIOPHOSPHATE**

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Dithiophosphate alkyl esters is corrosive and toxic to the tissues on skin or oral exposure depending on its concentration. Symptoms included diarhoea, 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.
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.

For alkyl sulfonate petroleum additives:

Acute toxicity: Existing data indicates relatively low acute toxicity. Animal testing suggested diarrhea and reduced food intake, which is consistent with the detergents in an oil-based vehicle having an irritating effect on the gastrointestinal tract.

Subchronic toxicity: Existing data suggests minimal toxicity after chronic exposure by mouth. Repeated skin contact and inhalation in animals caused injury to the skin and the lungs, respectively.

Reproductive and Developmental Toxicity: Existing data did not show this group of substances to cause reproductive or developmental toxicity.

Linear alkyl benzene sulfonates are derived from strong corrosive acids. Animal testing has shown they can cause skin reactions, eye irritation, sluggishness, passage of frequent watery stools, weakness and may lead to death. They may also react with surfaces of the mouth and intestines, depending on the concentration exposed to. There is no evidence of harm to the unborn baby or tendency to cause cancer.

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-asthmatic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

The chemical possesses properties indicating a potential hazard for human health (effects on fertility and developmental toxicity at doses that also cause maternal toxicity), Adequate screening-level data are available to characterize the human health hazard for the purposes of the OECD Cooperative Chemicals Assessment Programme.

SID Initial Assessment Profile (SIAM 22, 18-21 April 2006)

For para-C12-alkylphenols (typically tetrapropenylphenol)

Based on the toxicological findings presented in this review, para-C12-alkylphenols do not appear to meet the EU criteria for classification for acute toxicity by the oral and dermal routes of exposure, skin sensitisation, repeated dose toxicity or mutagenicity. No information is available relating to acute toxicity via inhalation exposure, and carcinogenicity.

The following characteristics do suggest that the substance warrants consideration for classification:

Irritation: para-C12-alkylphenols apparently meet the EU criteria for classification as a skin irritant and a severe eye irritant. Classification for corrosivity could be considered.

Reproductive toxicity: Fertility: The treatment-related effects on fertility, with supporting pathological changes indicating site of action, appear to meet the EU criteria for classification.

he test item was evaluated for its sensitizing potential in Guinea Pigs. It was found to be non-sensitizing. The studies were found to be adequate to fulfill the purposes of this endpoint. Repeat dose toxicity: Oral administration of the test item to rats for a period of forty-two days for males and up to fifty-four days for females at dose levels of up to 1000 mg/kg/day resulted in treatment-related effects in males treated with 1000 and 350 mg/kg/day. No toxicologically significant effects were detected in females from any treatment groups. No clinically observable signs of toxicity were observed during the daily clinical observations and no toxicologically significant effects were observed during the weekly open field arena observations, the haematological parameters, or the blood chemical parameters. Genetic toxicity: None of the in-vitro tests revealed a mutagenic potential of the test substance. It can therefore be concluded that the substance is non mutagenic in-vitro, and possible in vivo. In-vitro: negative in Ames Test with Salmonella typhimurium strains TA1535, TA1537, TA98 and TA100 and Escherichia coli strain WP2uvrA (with and without metabolic activation) in-vitro: negative in Chromosome-Aberration in Chinese Hamster Lung (CHL) cell line (CHL/IU) in-vitro: negative in Mouse Lymphoma Assay Reproductive toxicity: The oral administration of test material to rats for a period of forty-two days for males and up to fifty-four days for females (including two weeks pre-mating, gestation and early lactation period) at dose levels of up to 1000 mg/kg/day, and no treatment-related effects in the reproductive/developmental parameters were observed. All treated and control females showed comparable number of litters at termination on Day 5 postpartum and no treatment-related effects were observed for offspring growth or development. Therefore, a NOEL for reproductive/developmental toxicity was considered to be 1000 mg/kg/day. REACH Dossier

For alkyl sulfide lube additives:

Animal testing has shown that inhalation of high levels of these compounds can be lethal, and can cause changes in the kidney and liver. This does not seem to be relevant in humans. This group of substances does not seem to cause reproductive or developmental toxicity, or genetic damage.

Heating of substituted diphenylamines may generate vapours which can irritate the eyes and airways. Drying of skin and mucous membranes leading to irritation may occur with prolonged or repeated contact. Overexposure may cause skin and airway irritation with dizziness and flu-like symptoms. All show a slight to very low order of toxicity following oral or topical administration.

No significant acute toxicological data identified in literature search.
### Acute Toxicity

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Test Duration (HR)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nulon Ezy-Squeeze Diesel</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Premium Mineral Top-Up Oil</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>mineral oil</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>paraffinic distillate, light,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hydrotreated (severe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>zinc O,O-bis(1,3-dimethylbutyl &amp; isopropyl)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dithiophosphate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(C16-24)alkybenzenesulfonic acid, calcium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>salt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dodecylphenol, branched</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>butyl-cyclohex-3-ene carboxylate/ sulfur/</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>triphenyl phosphate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>phenolate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nonylated diphenylamines</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Carcinogenicity

- Data available to make classification

- Data either not available or does not fill the criteria for classification

### Mutagenicity

- Data available to make classification

- Data either not available or does not fill the criteria for classification

---

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

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

---

**Legend:**

- Data either not available or does not fill the criteria for classification
- Data available to make classification

---

**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 discharge into sewer or waterways.

### Persistence and degradability

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>dodecylphenol, branched</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>dodecylphenol, branched</td>
<td>MEDIUM (BCF = 850)</td>
</tr>
</tbody>
</table>

### Mobility in soil

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>dodecylphenol, branched</td>
<td>LOW (KOC = 382000)</td>
</tr>
</tbody>
</table>

### SECTION 13 DISPOSAL CONSIDERATIONS

#### Waste treatment methods

- **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Consult State Land Waste Authority for disposal.
- Recycle containers if possible, or dispose of in an authorised landfill.

### SECTION 14 TRANSPORT INFORMATION

#### Labels Required

<table>
<thead>
<tr>
<th>Marine Pollutant</th>
<th>HAZCHEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**Land transport (ADG): 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

### SECTION 15 REGULATORY INFORMATION

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

- **MINERAL OIL IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - 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**
  - Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
  - Australia Inventory of Chemical Substances (AICS)
  - Chemical Footprint Project - Chemicals of High Concern List
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

- **ZINC O,O-BIS(1,3-DIMETHYLBUTYL & ISOPROPYL)DITHIOPHOSPHATE IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - Australia Inventory of Chemical Substances (AICS)
  - Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

- **(C16-24)ALKYLBENZENESULFONIC ACID, CALCIUM SALT IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
  - Australia Inventory of Chemical Substances (AICS)

- **DODECYLPHENOL, BRANCHED IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
  - Australia Inventory of Chemical Substances (AICS)
  - Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
  - Chemical Footprint Project - Chemicals of High Concern List
BUTYL-CYCLOHEX-3-ENE CARBOXYLATE/ SULFUR/ TRIPHENYL PHOSPHITE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

NONYLATED DIPHENYLAMINES IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AiCS)

National Inventory Status

<table>
<thead>
<tr>
<th>National Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - AICS</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>Canada - DSL</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>Canada - NDSL</td>
<td>No (paraffinic distillate, light, hydrotreated (severe); zinc O,O-bis(1,3-dimethylbutyl &amp; isopropyl)dithiophosphate; (C16-24)alkylbenzenesulfonic acid, calcium salt; butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite; nonylated diphenylamines)</td>
</tr>
<tr>
<td>China - IECSC</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe - EINEC / ELINCS / NLP</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan - ENCS</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>Korea - KECI</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>New Zealand - NZIoC</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>Philippines - PICCS</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>USA - TSCA</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>Taiwan - TCSI</td>
<td>Yes</td>
</tr>
<tr>
<td>Mexico - INSQ</td>
<td>No (paraffinic distillate, light, hydrotreated (severe); zinc O,O-bis(1,3-dimethylbutyl &amp; isopropyl)dithiophosphate; (C16-24)alkylbenzenesulfonic acid, calcium salt; dodecylphenol, branched; butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite; nonylated diphenylamines)</td>
</tr>
<tr>
<td>Vietnam - NCI</td>
<td>No (butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
<tr>
<td>Russia - ARIPS</td>
<td>No (zinc O,O-bis(1,3-dimethylbutyl &amp; isopropyl)dithiophosphate; (C16-24)alkylbenzenesulfonic acid, calcium salt; butyl-cyclohex-3-ene carboxylate/ sulfur/ triphenyl phosphite)</td>
</tr>
</tbody>
</table>

Legend:
Yes = All CAS declared ingredients are on the inventory
No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

| Revision Date | 14/11/2019 |
| Initial Date  | 08/11/2019 |

SDS Version Summary

<table>
<thead>
<tr>
<th>Version</th>
<th>Issue Date</th>
<th>Sections Updated</th>
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<tbody>
<tr>
<td>3.1.1.1</td>
<td>14/11/2019</td>
<td>Chronic Health, Ingredients, Synonyms, Name</td>
</tr>
</tbody>
</table>

Other information

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
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