

Lubrication Engineers 4025 H1 Quinplex Food Machinery Lubricant

Lubrication Engineers NZ Ltd

Chemwatch Hazard Alert Code: 2

Chemwatch: 1386075

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Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

S.GHS.NZL.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

| | |
|-------------------------------|---|
| Product name | Lubrication Engineers 4025 H1 Quinplex Food Machinery Lubricant |
| Chemical Name | Not Applicable |
| Synonyms | Not Available |
| Chemical formula | Not Applicable |
| Other means of identification | Not Available |

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

| | |
|--------------------------|-------------|
| Relevant identified uses | Smeermiddel |
|--------------------------|-------------|

Details of the manufacturer or supplier of the safety data sheet

| | |
|-------------------------|---|
| Registered company name | Lubrication Engineers NZ Ltd |
| Address | 11F Piermark Drive North Harbour Industrial Estate Albany, Auckland New Zealand |
| Telephone | +64 09 415 9411 |
| Fax | +64 09 4158411 |
| Website | Not Available |
| Email | Not Available |

Emergency telephone number

| Association / Organisation | Lubrication Engineers NZ Ltd | CHEMWATCH EMERGENCY RESPONSE (24/7) |
|-----------------------------------|------------------------------|-------------------------------------|
| Emergency telephone numbers | +64 21 3385487 | +64 800 700 112 |
| Other emergency telephone numbers | Not Available | +61 3 9573 3188 |

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

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.

Chemwatch Hazard Ratings


| | Min | Max | |
|--------------|-----|-----|---|
| Flammability | 1 | | 0 = Minimum 1 = Low 2 = Moderate 3 = High 4 = Extreme |
| Toxicity | 1 | | |
| Body Contact | 1 | | |
| Reactivity | 1 | | |
| Chronic | 2 | | |

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|--------------------|--|
| Classification [1] | Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Hazardous to the Aquatic Environment |
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| | Long-Term Hazard Category 3 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |
| Determined by Chemwatch using GHS/HSNO criteria | 6.9B (narcotic effects), 9.1C |

Label elements

| | |
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| Hazard pictogram(s) |  |
| Signal word | Warning |

Hazard statement(s)

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| H336 | May cause drowsiness or dizziness. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary statement(s) Prevention

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|-------------|---|
| P271 | Use only outdoors or in a well-ventilated area. |
| P261 | Avoid breathing mist/vapours/spray. |
| P273 | Avoid release to the environment. |

Precautionary statement(s) Response

| | |
|------------------|--|
| P312 | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

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| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
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SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|----------------|---|--|
| 64742-54-7. | 50-60 | <u>paraffinic distillate, heavy, hydrotreated (severe)</u> |
| 557-05-1 | 1-5 | <u>zinc stearate</u> |
| 1314-13-2 | 1-5 | <u>zinc oxide</u> |
| 128-37-0 | 0.1-1 | <u>2,6-di-tert-butyl-4-methylphenol</u> |
| 122-39-4 | <0.1 | <u>diphenylamine</u> |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available | |

SECTION 4 First aid measures

Description of first aid measures

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| Eye Contact | If this product comes in contact with the eyes: ▶ Wash out immediately with fresh running water. |
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| | <ul style="list-style-type: none"> ▶ 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 | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ 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. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ 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. ▶ Transport to hospital, or doctor. |
| Ingestion | <ul style="list-style-type: none"> ▶ 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. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol. ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. |

Indication of any immediate medical attention and special treatment needed

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.
 - ▶ 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.

Do not use water jets.

Special hazards arising from the substrate or mixture

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

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| Fire Fighting | ▶ Alert Fire Brigade and tell them location and nature of hazard. |
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| | <ul style="list-style-type: none"> ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use water delivered as a fine spray to control fire and cool adjacent area. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ 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). <p>Combustion products include: carbon monoxide (CO) carbon dioxide (CO₂) nitrogen oxides (NO_x) sulfur oxides (SO_x) metal oxides other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.</p> <p>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.</p> |

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

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| Minor Spills | <p>Slippery when spilled.</p> <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid contact with skin and eyes. ▶ Wear impervious gloves and safety goggles. ▶ Trowel up/scrape up. |
| Major Spills | <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course. <p>Slippery when spilled.</p> |

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

SECTION 7 Handling and storage

Precautions for safe handling

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| 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"> ▶ Containers, even those that have been emptied, may contain explosive vapours. ▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. <p>· Electrostatic discharge may be generated during pumping - this may result in fire.</p> <p>· Ensure electrical continuity by bonding and grounding (earthing) all equipment.</p> <p>· Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec).</p> <p>· Avoid splash filling.</p> <ul style="list-style-type: none"> ▶ 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 | <ul style="list-style-type: none"> ▶ 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

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|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <ul style="list-style-type: none"> · 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/m3 · Autoignition temperatures may be significantly lower under particular conditions (slow oxidation on finely divided materials.. <ul style="list-style-type: none"> ▶ Avoid reaction with oxidising agents ▶ Avoid strong acids, bases. |



X — Must not be stored together
 O — May be stored together with specific preventions
 + — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|--|---|---|-----------|---------------|---------------|---|
| New Zealand Workplace Exposure Standards (WES) | paraffinic distillate, heavy, hydrotreated (severe) | Oil mist, mineral | 5 mg/m3 | 10 mg/m3 | Not Available | (om) - Sampled by a method that does not collect vapour |
| New Zealand Workplace Exposure Standards (WES) | zinc stearate | Stearates | 10 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | zinc stearate | Inhalable dust (not otherwise classified) | 10 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | zinc stearate | Respirable dust (not otherwise classified) | 3 mg/m3 | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | zinc oxide | Zinc oxide respirable dust | 0.1 mg/m3 | 0.5 mg/m3 | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | zinc oxide | Zinc oxide | 2 mg/m3 | 5 mg/m3 | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | 2,6-di-tert-butyl-4-methylphenol | Butylated hydroxytoluene (2,6-Di-tert-butyl-p-cresol) | 10 mg/m3 | Not Available | Not Available | (dsen) - Dermal sensitiser |
| New Zealand Workplace Exposure Standards (WES) | diphenylamine | Diphenylamine | 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 |
| zinc stearate | 30 mg/m3 | 330 mg/m3 | 2,000 mg/m3 |
| zinc oxide | 10 mg/m3 | 15 mg/m3 | 2,500 mg/m3 |
| diphenylamine | 30 mg/m3 | 180 mg/m3 | 220 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---------------|---------------|
| paraffinic distillate, heavy, hydrotreated (severe) | 2,500 mg/m3 | Not Available |
| zinc stearate | Not Available | Not Available |
| zinc oxide | 500 mg/m3 | Not Available |

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| Ingredient | Original IDLH | Revised IDLH |
|----------------------------------|---------------|---------------|
| 2,6-di-tert-butyl-4-methylphenol | Not Available | Not Available |
| diphenylamine | Not Available | Not Available |

Exposure controls

| | |
|---|--|
| Appropriate engineering controls | <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> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p> |
| Individual protection measures, such as personal protective equipment |  |
| Eye and face protection | <ul style="list-style-type: none"> ▸ 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 | <ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> ▸ 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. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Overalls. ▸ P.V.C apron. ▸ Barrier cream. ▸ Skin cleansing cream. |

Respiratory protection

Type A-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 | A-AUS P2 | - | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES | - | A-AUS / Class 1 P2 | - |
| up to 100 x ES | - | A-2 P2 | A-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(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 | White paste with hydrocarbon like odour; partly mixes with water. | | |
| Physical state | Non Slump Paste | Relative density (Water = | 0.95 |

Continued...

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| | | | |
|---|-----------------|--|----------------|
| | | 1) | |
| Odour | Characteristic | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | 6-8 | Decomposition temperature (°C) | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | 215 | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Partly miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | <1 | VOC g/L | Not Available |

SECTION 10 Stability and reactivity

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|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ 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

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|---------------------|--|
| Inhaled | <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <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> |
| Ingestion | <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> |
| Skin Contact | <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>The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.</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.</p> |

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| | 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. 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. |
| Chronic | There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. 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. 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. 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. Repeated application of mildly hydrotreated oils (principally paraffinic), to mouse skin, induced skin tumours; no tumours were induced with severely hydrotreated oils. |

| Lubrication Engineers 4025 H1 Quinplex Food Machinery Lubricant | TOXICITY | IRRITATION |
|---|--|--|
| | Dermal (None) LD50: 5724.5 mg/kg ^[2] | Not Available |
| Oral (None) LD50: 3994.5 mg/kg ^[2] | | |
| paraffinic distillate, heavy, hydrotreated (severe) | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[2] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Inhalation(Rat) LC50: 2.18 mg/l4h ^[2] | Skin: no adverse effect observed (not irritating) ^[1] |
| Oral (Rat) LD50: >5000 mg/kg ^[2] | | |
| zinc stearate | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Not Available |
| | Inhalation(Rat) LC50: >50 mg/l4h ^[1] | |
| Oral (Rat) LD50: >2000 mg/kg ^[1] | | |
| zinc oxide | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye (rabbit) : 500 mg/24 h - mild |
| | Inhalation(Rat) LC50: >1.79 mg/l4h ^[1] | Eye: no adverse effect observed (not irritating) ^[1] |
| Oral (Rat) LD50: >5000 mg/kg ^[1] | Skin (rabbit) : 500 mg/24 h- mild | |
| | | Skin: no adverse effect observed (not irritating) ^[1] |
| 2,6-di-tert-butyl- 4-methylphenol | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[2] | Eye (rabbit): 100 mg/24h-moderate |
| | Oral (Rat) LD50: 890 mg/kg ^[2] | Eye: no adverse effect observed (not irritating) ^[1] |
| | | Skin (human): 500 mg/48h - mild |
| | | Skin (rabbit):500 mg/48h-moderate |
| | | Skin: no adverse effect observed (not irritating) ^[1] |
| diphenylamine | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[2] | Eye: adverse effect observed (irritating) ^[1] |
| Oral (Guinea) LD50: 300 mg/kg ^[2] | 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

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| PARAFFINIC DISTILLATE, HEAVY, HYDROTREATED | 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 |
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| (SEVERE) | <p>undergone, since:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>For highly and severely refined distillate base oils:</p> <p>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.</p> |
| ZINC STEARATE | <p>For aliphatic fatty acids (and salts)</p> <p>Acute oral (gavage) toxicity:</p> <p>The acute oral LD50 values in rats for both were greater than >2000 mg/kg bw Clinical signs were generally associated with poor condition following administration of high doses (salivation, diarrhoea, staining, piloerection and lethargy). There were no adverse effects on body weight in any study In some studies, excess test substance and/or irritation in the gastrointestinal tract was observed at necropsy.</p> <p>Skin and eye irritation potential, with a few stated exceptions, is chain length dependent and decreases with increasing chain length</p> <p>According to several OECD test regimes the animal skin irritation studies indicate that the C6-10 aliphatic acids are severely irritating or corrosive, while the C12 aliphatic acid is irritating, and the C14-22 aliphatic acids generally are not irritating or mildly irritating.</p> <p>Human skin irritation studies using more realistic exposures (30-minute, 1-hour or 24-hours) indicate that the aliphatic acids have sufficient, good or very good skin compatibility.</p> <p>Animal eye irritation studies indicate that among the aliphatic acids, the C8-12 aliphatic acids are irritating to the eye while the C14-22 aliphatic acids are not irritating.</p> <p>Eye irritation potential of the ammonium salts does not follow chain length dependence; the C18 ammonium salts are corrosive to the eyes.</p> <p>Dermal absorption:</p> <p>The in vitro penetration of C10, C12, C14, C16 and C18 fatty acids (as sodium salt solutions) through rat skin decreases with increasing chain length. At 86.73 ug C16/cm² and 91.84 ug C18/cm², about 0.23% and less than 0.1% of the C16 and C18 soap solutions is absorbed after 24 h exposure, respectively.</p> <p>Sensitisation:</p> <p>No sensitisation data were located.</p> <p>Repeat dose toxicity:</p> <p>Repeated dose oral (gavage or diet) exposure to aliphatic acids did not result in systemic toxicity with NOAELs greater than the limit dose of 1000 mg/kg bw.</p> <p>Fatty acid salts of low acute toxicity. Their potential to irritate the skin and eyes is dependent on chain length.</p> |
| 2,6-DI-TERT-BUTYL-4-METHYLPHENOL | <p>* Degussa SDS Effects such as behavioral changes, reduction in body weight gain, and decrement in body weight have been observed after long-term administration of BHT to mice and rats. Toxic effects may be attributed more to BHT metabolites than to their parent compound, only a few studies have focused on their carcinogenicity and toxicity, and not only on that of BHT. The metabolite BHT-QM (syn: 2,6-di-tert-butyl-1,4-methylene-2,5-cyclohexadien-1-one, CAS RN: 2607-52-5) is a very reactive compound which is considered to play a significant role in hepatotoxicity, pneumotoxicity, and skin tumor promotion in mice. In addition, it was reported that another quinone derivative, BHT-OH(t)QM (syn 2-tert-butyl-6-(2-hydroxy-tert-butyl-4-methylene-2,5-cyclohexadien-1-one, CAS RN: 124755-19-7), is chemically more reactive than BHT-QM, and it has been recognized as the principal metabolite responsible for lung tumor promotion activity of BHT in mice. BHT has been reported to exert prooxidant effects under certain conditions. Thus, when BHT was added in excess to a wheat seedling medium in aerobic conditions, an enhancement of the generation rate of superoxide anion was observed. This is a reactive particle that may damage cellular structures at high concentrations In addition, an increase in hepatic microsomal lipid peroxidation was observed in rats fed with diets containing 0.2% of BHT for 30 days. Due to this ability of BHT to exert prooxidant effects at high concentrations, it has been used to induce experimental models of oxidative stress in several animals and fungi in order to study the protective effects of other compounds. Some authors have reported that at high aeration rate, BHT can react with molecular oxygen rather than with the reactive oxygen species present, yielding BHT-phenoxyl radical and superoxide anion. In addition, the phenolic radical itself may undergo redox recycling which can be a critical factor depending on the reductant involved However, it has to be noted that BHT-phenoxyl radical has been reported to be relatively stable. Furthermore, the potential reactivity of BHT-derived metabolites should be taken into account; some studies reported that not only BHT but also its metabolites, such as BHT-Q and BHT-QM, can act as prooxidant. As BHT undergoes several reactions during biotransformation, a large number of intermediate metabolites have been identified. However, their nature and concentration depend on the environmental conditions and on the animal species. Although the changes undergone by BHT during in vivo digestion processes have not been studied, after submission of a fluid deep-frying fat containing BHT and BHT-QM to an in vitro gastrointestinal digestion model, both these were detected in the digested samples. These results indicate that BHT and its toxic metabolite could remain bioaccessible for intestinal absorption. Studies concerning BHT metabolism have shown that, unlike other synthetic antioxidants, BHT is a potent inducer of the microsomal monooxygenase system and its major route of degradation is oxidation catalyzed by cytochrome P450. Studies have reported potential toxicity derived from the ingestion or administration of BHT. As for acute oral toxicity, although this is considered low in animals, it must be noted that 2 clinical cases were reported in patients who suffered acute neurotoxicity and</p> |

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| | |
|--|--|
| | <p>gastritis after ingesting a high dose of BHT (4 and 80 g without medical prescription) to cure recurrent genital herpes. Regarding short-term subchronic toxicity studies, it has been reported that BHT causes dose-related increase in the incidence and severity of toxic nephrosis in mice, nephrotoxicity and pneumotoxicity in rats, and in chicken a marked congestion of the liver and kidney, as well as diffuse enlargement of the liver with rounded borders and rupture with hemorrhaging. It has to be noted that the EFSA Panel (2012) pointed out certain inconsistencies in the findings obtained from the short-term and subchronic toxicity studies. Several genotoxicity studies on BHT concluded that BHT does not represent a genotoxic risk, because most of the studies carried out to that date had shown BHT was not able to induce mutations or to damage deoxyribonucleic acid (DNA). Nevertheless, it must be mentioned that other studies reported contrary results. The effect of BHT and 7 of its metabolites on in vitro DNA cleavage was studied and the metabolites BHT-Q (syn: 2,6-di-tert-butyl-2,5-cyclohexadiene-1,4-dione, CAS RN: 719-22-2), BHT-CHO (syn: 3,5-di-tert-butyl-4-hydroxybenzaldehyde, CAS RN: 1620-98-0 and BHT-OOH (syn: 2,6-di-tert-butyl-4-methyl-4-hydroperoxy-2,5-cyclohexadien-1-one, CAS RN: 6485-57-0) were able to cleave DNA. The Panel on Food Additives and Nutrient Sources Added to Food of the European Food Safety Authority (EFSA) recognized that these positive genotoxicity results may be due to the prooxidative chemistry of BHT, which gives rise to reactive metabolites. Some studies addressed the carcinogenicity and chronic toxicity of BHT and its metabolites in rodents with contradictory results. Thus, mice-fed dietary BHT for a year developed marked hyperplasia of the hepatic bile ducts with an associated subacute cholangitis. Moreover, after 104 wk of administration of BHT, the formation of hepatocellular tumors in male mice was observed. After 10 months of feeding mice with a diet containing different amounts of BHT, an increased incidence of liver tumors in male, but not female, animals was also reported. However, in a similar study no evidence of the carcinogenicity of BHT administered to mice was observed. Several studies have demonstrated the potential of BHT to act either as a tumor promoter or as a tumor suppressor, modulating the carcinogenicity of some well-known carcinogens. Barbara Nieva-Echevarria et al: Comprehensive reviews in Food Science and Food Safety, Vol 14, Dec 2014 http://onlinelibrary.wiley.com/doi/10.1111/1541-4337.12121/pdf for bridged alkyl phenols:</p> <p>Acute toxicity: Acute oral and dermal toxicity data are available for all but two of the substances in the group. The data show that acute toxicity of these substances is low. The testing for acute toxicity spans five decades</p> <p>Repeat dose toxicity: Repeat dose studies on the members of this category include both subchronic and chronic exposures. The liver is identified as the target organ in rats for all of the substances tested. Data show that acute toxicity following oral and topical use of hindered phenols is low. They are not proven to cause mutations. However, long term use may affect the liver, thyroid, kidney and lymph nodes. Liver tumours have been reported.</p> <p>NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.</p> |
| DIPHENYLAMINE | <p>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. Diphenylamine and all its substituted derivatives show slight to moderate acute toxicity. Overall, it is not considered to cause mutations or genetic toxicity. In animal testing, higher concentrations appear to reduce the number of viable offspring. ADI: 0.02 mg/kg/day NOEL: 1.5 mg/kg/day</p> |
| PARAFFINIC DISTILLATE, HEAVY, HYDROTREATED (SEVERE) & 2,6-DI-TERT-BUTYL-4-METHYLPHENOL | <p>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.</p> |
| ZINC STEARATE & 2,6-DI-TERT-BUTYL-4-METHYLPHENOL & DIPHENYLAMINE | <p>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-atopic 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.</p> |
| ZINC OXIDE & 2,6-DI-TERT-BUTYL-4-METHYLPHENOL | <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> |

| | | | |
|-----------------------------------|---|--------------------------|---|
| 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

| Lubrication Engineers 4025 H1 Quinplex Food | Endpoint | Test Duration (hr) | Species | Value | Source |
|---|----------|--------------------|---------|-------|--------|
|---|----------|--------------------|---------|-------|--------|

Continued...

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| Machinery Lubricant | Not Available | Not Available | Not Available | Not Available | Not Available |
|---|--|--------------------|-------------------------------|-----------------|---------------|
| paraffinic distillate, heavy, hydrotreated (severe) | Endpoint | Test Duration (hr) | Species | Value | Source |
| | ErC50 | 72h | Algae or other aquatic plants | >1000mg/l | 1 |
| | NOEC(ECx) | 504h | Crustacea | >1mg/l | 1 |
| | EC50 | 96h | Algae or other aquatic plants | >1000mg/l | 1 |
| | EC50 | 48h | Crustacea | >1000mg/l | 1 |
| zinc stearate | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| zinc oxide | Endpoint | Test Duration (hr) | Species | Value | Source |
| | BCF | 1344h | Fish | 19-110 | 7 |
| | LC50 | 96h | Fish | 0.112mg/l | 2 |
| | EC50 | 72h | Algae or other aquatic plants | 0.036-0.049mg/l | 4 |
| | EC50 | 48h | Crustacea | 0.105mg/l | 2 |
| | EC10(ECx) | 168h | Algae or other aquatic plants | 0.0025mg/l | 2 |
| | EC50 | 96h | Algae or other aquatic plants | 0.3mg/l | 2 |
| 2,6-di-tert-butyl-4-methylphenol | Endpoint | Test Duration (hr) | Species | Value | Source |
| | ErC50 | 72h | Algae or other aquatic plants | >0.42mg/l | 1 |
| | BCF | 1344h | Fish | 220-2800 | 7 |
| | LC50 | 96h | Fish | >0.5mg/l | Not Available |
| | EC50 | 72h | Algae or other aquatic plants | >0.42mg/l | 1 |
| | EC50 | 48h | Crustacea | >0.17mg/l | 2 |
| | EC0(ECx) | 48h | Crustacea | >=0.31mg/l | 1 |
| diphenylamine | Endpoint | Test Duration (hr) | Species | Value | Source |
| | BCF | 1344h | Fish | 51-253 | 7 |
| | LC50 | 96h | Fish | 2.088-3.596mg/L | 4 |
| | EC50 | 72h | Algae or other aquatic plants | 0.048mg/l | 1 |
| | EC50 | 48h | Crustacea | 0.27-0.36mg/l | 4 |
| | EC50(ECx) | 72h | Algae or other aquatic plants | 0.048mg/l | 1 |
| Legend: | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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.

When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. The oil film on water surface may physically affect the aquatic organisms, due to the interruption of the oxygen transfer between the air and the water

Oils of any kind can cause:

- drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility
- lethal effects on fish by coating gill surfaces, preventing respiration
- asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom and
- adverse aesthetic effects of fouled shoreline and beaches

In case of accidental releases on the soil, a fine film is formed on the soil, which prevents the plant respiration process and the soil particle saturation. It may cause deep water infestation.

for lubricating oil base stocks:

Vapor Pressure Vapor pressures of lubricating base oils are reported to be negligible. In one study, the experimentally measured vapour pressure of a solvent-dewaxed heavy paraffinic distillate base oil was $1.7 \times 10 \exp -4 \text{ Pa}$. Since base oils are mixtures of C15 to C50 paraffinic, naphthenic, and aromatic hydrocarbon isomers, representative components of those structures were selected to calculate a range of vapor pressures. The estimated vapor pressure values for these selected components of base oils ranged from $4.5 \times 10 \exp -1 \text{ Pa}$ to $2 \times 10 \exp -13 \text{ Pa}$.

Continued...

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For petroleum distillates:

Environmental fate:

When petroleum substances are released into the environment, four major fate processes will take place: dissolution in water, volatilization, biodegradation and adsorption. These processes will cause changes in the composition of these UVCB substances. In the case of spills on land or water surfaces, photodegradation-another fate process-can also be significant.

As noted previously, the solubility and vapour pressure of components within a mixture will differ from those of the component alone.

Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|----------------------------------|---------------------------|------------------|
| zinc stearate | LOW | LOW |
| 2,6-di-tert-butyl-4-methylphenol | HIGH | HIGH |
| diphenylamine | LOW (Half-life = 56 days) | Not Available |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|----------------------------------|-----------------------|
| zinc stearate | LOW (LogKOW = 7.9444) |
| zinc oxide | LOW (BCF = 217) |
| 2,6-di-tert-butyl-4-methylphenol | HIGH (BCF = 2500) |
| diphenylamine | LOW (BCF = 253) |

Mobility in soil

| Ingredient | Mobility |
|----------------------------------|-------------------|
| zinc stearate | LOW (KOC = 11670) |
| 2,6-di-tert-butyl-4-methylphenol | LOW (KOC = 23030) |
| diphenylamine | LOW (KOC = 1887) |

SECTION 13 Disposal considerations

Waste treatment methods

| | |
|-------------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▸ 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. ▸ Where possible retain label warnings and SDS and observe all notices pertaining to the product. ▸ 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. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Authority for disposal. ▸ Bury or incinerate residue at an approved site. ▸ Recycle containers if possible, or dispose of in an authorised landfill. |
|-------------------------------------|--|

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

SECTION 14 Transport information

Lubrication Engineers 4025 H1 Quinplex Food Machinery Lubricant

Labels Required

| | |
|-------------------------|----------------|
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

Land transport (UN): 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 |
| zinc stearate | Not Available |
| zinc oxide | Not Available |
| 2,6-di-tert-butyl-4-methylphenol | Not Available |
| diphenylamine | Not Available |

Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---|---------------|
| paraffinic distillate, heavy, hydrotreated (severe) | Not Available |
| zinc stearate | Not Available |
| zinc oxide | Not Available |
| 2,6-di-tert-butyl-4-methylphenol | Not Available |
| diphenylamine | Not Available |

SECTION 15 Regulatory information

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

This substance is to be managed using the conditions specified in an applicable Group Standard

| HSR Number | Group Standard |
|------------|--|
| HSR002521 | Animal Nutritional and Animal Care Products Group Standard 2020 |
| HSR002530 | Cleaning Products Subsidiary Hazard Group Standard 2020 |
| HSR002535 | Gases under Pressure Mixtures Subsidiary Hazard Group Standard 2020 |
| HSR002503 | Additives Process Chemicals and Raw Materials Subsidiary Hazard Group Standard 2020 |
| HSR002606 | Lubricants Lubricant Additives Coolants and Anti freeze Agents Subsidiary Hazard Group Standard 2020 |
| HSR002612 | Metal Industry Products Subsidiary Hazard Group Standard 2020 |
| HSR002624 | N.O.S. Subsidiary Hazard Group Standard 2020 |
| HSR002638 | Photographic Chemicals Subsidiary Hazard Group Standard 2020 |
| HSR002644 | Polymers Subsidiary Hazard Group Standard 2020 |
| HSR002647 | Reagent Kits Group Standard 2020 |
| HSR002648 | Refining Catalysts Group Standard 2020 |
| HSR002653 | Solvents Subsidiary Hazard Group Standard 2020 |
| HSR002670 | Surface Coatings and Colourants Subsidiary Hazard Group Standard 2020 |
| HSR002684 | Water Treatment Chemicals Subsidiary Hazard Group Standard 2020 |
| HSR100425 | Pharmaceutical Active Ingredients Group Standard 2020 |
| HSR002600 | Leather and Textile Products Subsidiary Hazard Group Standard 2020 |
| HSR002544 | Construction Products Subsidiary Hazard Group Standard 2020 |

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| HSR Number | Group Standard |
|------------|---|
| HSR002549 | Corrosion Inhibitors Subsidiary Hazard Group Standard 2020 |
| HSR002552 | Cosmetic Products Group Standard 2020 |
| HSR002558 | Dental Products Subsidiary Hazard Group Standard 2020 |
| HSR002565 | Embalming Products Subsidiary Hazard Group Standard 2020 |
| HSR002571 | Fertilisers Subsidiary Hazard Group Standard 2020 |
| HSR002573 | Fire Fighting Chemicals Group Standard 2021 |
| HSR002578 | Food Additives and Fragrance Materials Subsidiary Hazard Group Standard 2020 |
| HSR002585 | Fuel Additives Subsidiary Hazard Group Standard 2020 |
| HSR002596 | Laboratory Chemicals and Reagent Kits Group Standard 2020 |
| HSR100757 | Veterinary Medicines Limited Pack Size Finished Dose Group Standard 2020 |
| HSR100758 | Veterinary Medicines Non dispersive Closed System Application Group Standard 2020 |
| HSR100759 | Veterinary Medicines Non dispersive Open System Application Group Standard 2020 |
| HSR100592 | Agricultural Compounds Special Circumstances Group Standard 2020 |
| HSR100756 | Active Ingredients for Use in the Manufacture of Agricultural Compounds Group Standard 2020 |

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

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

| | |
|--|---|
| Chemical Footprint Project - Chemicals of High Concern List | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals |
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Approved Hazardous Substances with controls | New Zealand Workplace Exposure Standards (WES) |

zinc stearate is found on the following regulatory lists

| | |
|---|---|
| International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS) | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| New Zealand Approved Hazardous Substances with controls | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals | New Zealand Workplace Exposure Standards (WES) |

zinc oxide is found on the following regulatory lists

| | |
|---|---|
| International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS) | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| New Zealand Approved Hazardous Substances with controls | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals | New Zealand Workplace Exposure Standards (WES) |

2,6-di-tert-butyl-4-methylphenol is found on the following regulatory lists

| | |
|--|---|
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS) | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Approved Hazardous Substances with controls | New Zealand Workplace Exposure Standards (WES) |
| New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals | |

diphenylamine is found on the following regulatory lists

| | |
|---|---|
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals |
| International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans | New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data |
| International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS) | New Zealand Inventory of Chemicals (NZIoC) |
| New Zealand Approved Hazardous Substances with controls | New Zealand Workplace Exposure Standards (WES) |

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Hazard Class | Quantities |
|----------------|----------------|
| Not Applicable | Not Applicable |

Continued...

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Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Class of substance | Quantities |
|--------------------|----------------|
| Not Applicable | Not Applicable |

Refer Group Standards for further information

Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Hazard Class | Gas (aggregate water capacity in mL) | Liquid (L) | Solid (kg) | Maximum quantity per package for each classification |
|----------------|--------------------------------------|----------------|----------------|--|
| Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

Tracking Requirements

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); zinc stearate; diphenylamine) |
| 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 | Yes |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| Legend: | Yes = All CAS declared ingredients are on the inventory 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 | 10/12/2021 |
| Initial Date | 24/04/2017 |

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|--|
| 13.1 | 18/08/2021 | Physical and chemical properties - Appearance, Handling and storage - Storage (storage incompatibility), Identification of the substance / mixture and of the company / undertaking - Supplier Information, Identification of the substance / mixture and of the company / undertaking - Use |
| 14.1 | 10/12/2021 | Classification change due to full database hazard calculation/update. |

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
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
AIIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: 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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TEL (+61 3) 9572 4700.