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## LE4024 H1 QUINPLEX Food Machinery Lubricant

### Lubrication Engineers

Chemwatch Hazard Alert Code: 2

Chemwatch: 16-1960

Version No: 8.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 06/02/2018

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S.GHS.AUS.EN

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

### Product Identifier

Product name	LE4024 H1 QUINPLEX Food Machinery Lubricant
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	Lubricant.
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### Details of the supplier of the safety data sheet

Registered company name	Lubrication Engineers	Lubrication Engineers
Address	300 Bailey Avenue Fort Worth TX 76107 United States	Unit F, 11 Piermark Drive North Harbour Auckland 751 New Zealand
Telephone	+1 817 834 6321	+64 9 4159 411
Fax	Not Available	+64 9 4158 411
Website	http://www.le-inc.com/msds.jsp	www.lubricants.com
Email	info@lubeng.com.au	info@lubengnz.co.nz

### Emergency telephone number

Association / Organisation	Lubrication Engineers
Emergency telephone numbers	021 385 487
Other emergency telephone numbers	Not Available

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	1
Toxicity	0	0
Body Contact	2	2
Reactivity	1	1
Chronic	0	0

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

### Label elements

Hazard pictogram(s)	Not Applicable
SIGNAL WORD	<b>NOT APPLICABLE</b>

### Hazard statement(s)

H412	Harmful to aquatic life with long lasting effects.
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### Precautionary statement(s) Prevention

P273	Avoid release to the environment.
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### Precautionary statement(s) Response

Continued...

Not Applicable

**Precautionary statement(s) Storage**

Not Applicable

**Precautionary statement(s) Disposal**

P501	Dispose of contents/container in accordance with local regulations.
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**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
1314-13-2	<2	<u>zinc oxide</u>
8042-47-5	NotSpec.	<u>white mineral oil (petroleum)</u>
128-37-0	NotSpec.	<u>2,6-di-tert-butyl-4-methylphenol</u>
79-09-4	NotSpec.	<u>propionic acid, non-flammable</u>

**SECTION 4 FIRST AID MEASURES****Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with water.</li> <li>▶ If irritation continues, seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>

**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**

- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

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

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

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Combustion products include:  carbon dioxide (CO<sub>2</sub>)  nitrogen oxides (NO<sub>x</sub>)  phosphorus oxides (PO<sub>x</sub>)  sulfur oxides (SO<sub>x</sub>)  metal oxides  other pyrolysis products typical of burning organic material.</p>

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	May emit poisonous fumes. May emit corrosive fumes.
<b>HAZCHEM</b>	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**

<b>Minor Spills</b>	Slippery when spilt. <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid contact with skin and eyes.</li> <li>▶ Wear impervious gloves and safety goggles.</li> <li>▶ Trowel up/scrape up.</li> </ul>
<b>Major Spills</b>	Slippery when spilt. Minor hazard. <ul style="list-style-type: none"> <li>▶ Clear area of personnel.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Control personal contact with the substance, by using protective equipment as required.</li> </ul>

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

**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Metal can or drum</li> <li>▶ Packaging as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid reaction with oxidising agents</li> <li>▶ Avoid strong acids, bases.</li> </ul>



+                    +                    +                    O                    X                    +                    +

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

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	zinc oxide	Zinc oxide (dust)	10 mg/m3	Not Available	Not Available	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	zinc oxide	Zinc oxide (fume)	5 mg/m3	10 mg/m3	Not Available	Not Available
Australia Exposure Standards	white mineral oil (petroleum)	Oil mist, refined mineral	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	2,6-di-tert-butyl-4-methylphenol	2,6-Di-tert-butyl-p-cresol	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	propionic acid, non-flammable	Propionic acid	10 ppm / 30 mg/m3	Not Available	Not Available	Not Available


**EMERGENCY LIMITS**

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Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
zinc oxide	Zinc oxide	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>	2,500 mg/m <sup>3</sup>
2,6-di-tert-butyl-4-methylphenol	Bis(1,1-dimethylethyl)-4-methylphenol, 2,6-; (BHT (food grade); 2,6-Di-tert-butyl-p-cresol)	6 mg/m <sup>3</sup>	29 mg/m <sup>3</sup>	180 mg/m <sup>3</sup>
propionic acid, non-flammable	Propionic acid	15 ppm	28 ppm	170 ppm

Ingredient	Original IDLH	Revised IDLH
zinc oxide	500 mg/m <sup>3</sup>	Not Available
white mineral oil (petroleum)	2,500 mg/m <sup>3</sup>	Not Available
2,6-di-tert-butyl-4-methylphenol	Not Available	Not Available
propionic acid, non-flammable	Not Available	Not Available

## Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <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>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ 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.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C. apron.</li> <li>▶ Barrier cream.</li> </ul>

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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Material	CPI
PE	C

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## 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(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

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

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

<b>Appearance</b>	White paste with a hydrocarbon like odour; does not mix with water.
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Physical state	Non Slump Paste	Relative density (Water = 1)	0.95
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	316
pH (as supplied)	6-8	Decomposition temperature	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 Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	<1	VOC g/L	Not Available

## SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Product is considered stable and 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	Inhalation hazard is increased at higher temperatures. Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.
Ingestion	Ingestion may result in nausea, abdominal irritation, pain and vomiting
Skin Contact	There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition 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	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Chronic	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.

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	Oral (None) LD50: 4716 mg/kg <sup>[2]</sup>	Not Available
zinc oxide	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit) : 500 mg/24 h - mild
	Inhalation (rat) LC50: >1.79 mg/l4 h <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (rat) LD50: >5000 mg/kg <sup>[2]</sup>	Skin (rabbit) : 500 mg/24 h- mild Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
white mineral oil (petroleum)	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation (rat) LC50: 7.64 mg/l4 h <sup>[1]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup> Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
2,6-di-tert-butyl-4-methylphenol	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit): 100 mg/24h-moderate Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (rat) LD50: 890 mg/kg <sup>[2]</sup>	

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		Skin (human): 500 mg/48h - mild
		Skin (rabbit):500 mg/48h-moderate
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
propionic acid, non-flammable	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 495 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Inhalation (rat) LC50: >4.9 mg/l/4H <sup>[2]</sup>	Skin: adverse effect observed (corrosive) <sup>[1]</sup>
	Oral (rat) LD50: >400 mg/kg <sup>[2]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>

**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

<b>WHITE MINERAL OIL (PETROLEUM)</b>	<p>The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:</p> <ul style="list-style-type: none"> <li>The adverse effects of these materials are associated with undesirable components, and</li> <li>The levels of the undesirable components are inversely related to the degree of processing;</li> <li>Distillate base oils receiving the same degree or extent of processing will have similar toxicities;</li> <li>The potential toxicity of residual base oils is independent of the degree of processing the oil receives.</li> <li>The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.</li> </ul> <p>Unrefined &amp; 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.</p> <p>For highly and severely refined distillate base oils:</p> <p>In animal studies, the acute, oral, semilethal dose is &gt;5g/kg body weight and the semilethal dose by skin contact is &gt;2g/kg body weight. The semilethal concentration for inhalation is 2.18 to &gt;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> <p>Oral (rat) TCLo: 92000 mg/kg/92D-Cont. Generally the toxicity and irritation is of low order. White oils and highly/solvent refined oils have not shown the long term risk of skin cancer that follows persistent skin contamination with some other mineral oils, due in all probability to refining that produces low content of both polycyclic aromatic hydrocarbons (PAH) and benz-a-pyrenes (BaP)</p>
<b>2,6-DI-TERT-BUTYL-4-METHYLPHENOL</b>	<p>for bridged alkyl phenols:</p> <p><b>Acute toxicity:</b> 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><b>Repeat dose toxicity:</b> 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.</p> <p>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><b>NOTE:</b> 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> <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-phenoxy 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-phenoxy 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 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</p>
<b>PROPIONIC ACID, NON-FLAMMABLE</b>	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause severe 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. Repeated exposures may produce severe ulceration.</p>
<b>ZINC OXIDE &amp; 2,6-DI-TERT-BUTYL-4-METHYLPHENOL</b>	<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>
<b>WHITE MINERAL OIL (PETROLEUM) &amp; 2,6-DI-TERT-BUTYL-4-METHYLPHENOL</b>	<p>The substance is classified by IARC as Group 3:</p> <p><b>NOT</b> classifiable as to its carcinogenicity to humans.</p> <p>Evidence of carcinogenicity may be inadequate or limited in animal testing.</p>
<b>2,6-DI-TERT-BUTYL-4-METHYLPHENOL &amp; PROPIONIC ACID, NON-FLAMMABLE</b>	<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>

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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

LE4024 H1 QUINPLEX Food Machinery Lubricant	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
	LC50	96	Fish	0.001-0.58mg/L	2
	EC50	48	Crustacea	0.001-0.014mg/L	2
	EC50	72	Algae or other aquatic plants	0.037mg/L	2
	BCF	336	Fish	4376.673mg/L	4
	NOEC	72	Algae or other aquatic plants	0.00008138mg/L	2
white mineral oil (petroleum)	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.13mg/L	2
	EC50	48	Crustacea	2mg/L	2
	EC50	72	Algae or other aquatic plants	1.714mg/L	2
2,6-di-tert-butyl-4-methylphenol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.199mg/L	2
	EC50	48	Crustacea	>0.17mg/L	2
	EC50	96	Algae or other aquatic plants	0.228mg/L	3
	NOEC	504	Crustacea	0.023mg/L	2
propionic acid, non-flammable	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>10-mg/L	2
	EC50	48	Crustacea	22.7mg/L	2
	EC50	96	Algae or other aquatic plants	=43mg/L	1
	EC20	96	Algae or other aquatic plants	=12mg/L	1
	NOEC	96	Fish	>=5-mg/L	2

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

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

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

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
2,6-di-tert-butyl-4-methylphenol	HIGH	HIGH
propionic acid, non-flammable	LOW	LOW

## Bioaccumulative potential

Ingredient	Bioaccumulation
zinc oxide	LOW (BCF = 217)
2,6-di-tert-butyl-4-methylphenol	HIGH (BCF = 2500)
propionic acid, non-flammable	LOW (LogKOW = 0.33)

## Mobility in soil

Ingredient	Mobility
2,6-di-tert-butyl-4-methylphenol	LOW (KOC = 23030)
propionic acid, non-flammable	HIGH (KOC = 1.201)

Continued...

## SECTION 13 DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> <li>▶ Bury or incinerate residue at an approved site.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>
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## SECTION 14 TRANSPORT INFORMATION

### Labels Required

<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	Not Applicable

**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

#### ZINC OXIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Exposure Standards	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
Australia Inventory of Chemical Substances (AICS)	

#### WHITE MINERAL OIL (PETROLEUM) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO
Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5	International FOSFA List of Banned Immediate Previous Cargoes

#### 2,6-DI-TERT-BUTYL-4-METHYLPHENOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Exposure Standards	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
Australia Inventory of Chemical Substances (AICS)	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2	International Maritime Dangerous Goods Requirements (IMDG Code)
GESAMP/EHS Composite List - GESAMP Hazard Profiles	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

#### PROPIONIC ACID, NON-FLAMMABLE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	GESAMP/EHS Composite List - GESAMP Hazard Profiles
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Exposure Standards	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Inventory of Chemical Substances (AICS)	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6	

### National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (white mineral oil (petroleum); propionic acid, non-flammable)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (white mineral oil (petroleum))



## LE4024 H1 QUINPLEX Food Machinery Lubricant

Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
<b>Legend:</b>	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

<b>Revision Date</b>	06/02/2018
<b>Initial Date</b>	Not Available

## SDS Version Summary

Version	Issue Date	Sections Updated
7.1.1.1	02/03/2017	Name
8.1.1.1	06/02/2018	Acute Health (eye), Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Appearance, Classification, Disposal, Exposure Standard, Fire Fighter (extinguishing media), Fire Fighter (fire/explosion hazard), Fire Fighter (fire fighting), First Aid (skin), First Aid (swallowed), Ingredients, Instability Condition, Personal Protection (eye), Personal Protection (hands/feet), Physical Properties, Spills (major), Spills (minor), Storage (storage incompatibility), Storage (storage requirement), Toxicity and Irritation (Toxicity Figure), Use, Name

## 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

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