

# LE2001 MONOLEC Penetrating Lubricant (Aerosol)

## Lubrication Engineers NZ Ltd

Chemwatch Hazard Alert Code: 3

Chemwatch: 22-6128

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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                  | LE2001 MONOLEC Penetrating Lubricant (Aerosol) |
| Chemical Name                 | Not Applicable                                 |
| Synonyms                      | Not Available                                  |
| Proper shipping name          | AEROSOLS                                       |
| 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 | Lubricant<br>Application is by spray atomisation from a hand held aerosol pack<br>Use according to manufacturer's directions. |
|--------------------------|---|

#### 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.  
 Classified as Dangerous Goods for transport purposes.

Chemwatch Hazard Ratings

LE2001 MONOLEC Penetrating Lubricant (Aerosol)

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 3   |     |
| Toxicity     | 1   |     |
| Body Contact | 2   |     |
| Reactivity   | 1   |     |
| Chronic      | 2   |     |

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

|  |  |
|--|--|
| <b>Classification</b> [1]                              | Aerosols Category 3, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2 |
| <b>Legend:</b>   | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI   |
| <b>Determined by Chemwatch using GHS/HSNO criteria</b> | 1.1A, 6.1E (aspiration), 6.3A, 6.8B, 6.9B  |

Label elements

|                            |               |
|----------------------------|---------------|
| <b>Hazard pictogram(s)</b> |               |
| <b>Signal word</b>         | <b>Danger</b> |

Hazard statement(s)

|             |  |
|-------------|--|
| <b>H229</b> | Pressurised container: May burst if heated.                        |
| <b>H304</b> | May be fatal if swallowed and enters airways.                      |
| <b>H315</b> | Causes skin irritation.  |
| <b>H336</b> | May cause drowsiness or dizziness.                                 |
| <b>H361</b> | Suspected of damaging fertility or the unborn child.               |
| <b>H373</b> | May cause damage to organs through prolonged or repeated exposure. |

Precautionary statement(s) Prevention

|             |  |
|-------------|--|
| <b>P201</b> | Obtain special instructions before use.  |
| <b>P210</b> | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| <b>P251</b> | Do not pierce or burn, even after use.   |
| <b>P260</b> | Do not breathe mist/vapours/spray.   |

Precautionary statement(s) Response

|                  |  |
|------------------|--|
| <b>P301+P310</b> | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider. |
| <b>P331</b>      | Do NOT induce vomiting.  |
| <b>P308+P313</b> | IF exposed or concerned: Get medical advice/ attention.                      |
| <b>P312</b>      | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.        |

Precautionary statement(s) Storage

|                  |  |
|------------------|--|
| <b>P405</b>      | Store locked up.   |
| <b>P410+P412</b> | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |
| <b>P403+P233</b> | Store in a well-ventilated place. Keep container tightly closed.             |

Precautionary statement(s) Disposal

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

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

## Mixtures

| CAS No     | %[weight] | Name   |
|------------|-----------|--|
| 64742-88-7 | 10-20     | <u>solvent naphtha petroleum, medium aliphatic</u> |
| 67-64-1    | 10-20     | <u>acetone</u>                                     |
| 67-63-0    | NotSpec   | <u>isopropanol</u>                                 |
| 91-20-3    | NotSpec   | <u>naphthalene</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

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▸ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.</li> <li>▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▸ Transport to hospital or doctor without delay.</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 solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>▸ Flush skin and hair with running water (and soap if available).</li> <li>▸ Remove any adhering solids with industrial skin cleansing cream.</li> <li>▸ <b>DO NOT use solvents.</b></li> <li>▸ Seek medical attention in the event of irritation.</li> </ul>   |
| <b>Inhalation</b>   | <p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>▸ Remove to fresh air.</li> <li>▸ Lay patient down. Keep warm and rested.</li> <li>▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▸ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▸ Transport to hospital, or doctor.</li> </ul> |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▸ Avoid giving milk or oils.</li> <li>▸ Avoid giving alcohol.</li> </ul> <p>Not considered a normal route of entry.</p>  |

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

Treat symptomatically.

for simple ketones:

#### BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5mL/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- Give activated charcoal.

#### ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Consider intubation at first sign of upper airway obstruction resulting from oedema.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

## EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

for naphthalene intoxication: Naphthalene requires hepatic and microsomal activation prior to the production of toxic effects. Liver microsomes catalyse the initial synthesis of the reactive 1,2-epoxide intermediate which is subsequently oxidised to naphthalene dihydrodiol and alpha-naphthol. The 2-naphthoquinones are thought to produce haemolysis, the 1,2-naphthoquinones are thought to be responsible for producing cataracts in rabbits, and the glutathione-adducts of naphthalene-1,2-oxide are probably responsible for pulmonary toxicity. Suggested treatment regime:

- Induce emesis and/or perform gastric lavage with large amounts of warm water where oral poisoning is suspected.
- Instill a saline cathartic such as magnesium or sodium sulfate in water (15 to 30g).
- Demulcents such as milk, egg white, gelatin, or other protein solutions may be useful after the stomach is emptied but oils should be avoided because they promote absorption.
- If eyes/skin contaminated, flush with warm water followed by the application of a bland ointment.
- Severe anaemia, due to haemolysis, may require small repeated blood transfusions, preferably with red cells from a non-sensitive individual.
- Where intravascular haemolysis, with haemoglobinuria occurs, protect the kidneys by promoting a brisk flow of dilute urine with, for example, an osmotic diuretic such as mannitol. It may be useful to alkalinise the urine with small amounts of sodium bicarbonate but many researchers doubt whether this prevents blockage of the renal tubules.
- Use supportive measures in the case of acute renal failure. GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, 5th Ed.

Following acute or short term repeated exposures to toluene:

- Toluene is absorbed across the alveolar barrier, the blood/air mixture being 11.2/15.6 (at 37 degrees C.) The concentration of toluene, in expired breath, is of the order of 18 ppm following sustained exposure to 100 ppm. The tissue/blood proportion is 1/3 except in adipose where the proportion is 8/10.
- Metabolism by microsomal mono-oxygenation, results in the production of hippuric acid. This may be detected in the urine in amounts between 0.5 and 2.5 g/24 hr which represents, on average 0.8 gm/gm of creatinine. The biological half-life of hippuric acid is in the order of 1-2 hours.
- Primary threat to life from ingestion and/or inhalation is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (eg cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> <50 mm Hg or pCO<sub>2</sub> > 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial damage has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenaline) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use.

## BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

| Determinant            | Index              | Sampling Time                   | Comments |
|------------------------|--------------------|---------------------------------|----------|
| o-Cresol in urine      | 0.5 mg/L           | End of shift                    | B        |
| Hippuric acid in urine | 1.6 g/g creatinine | End of shift                    | B, NS    |
| Toluene in blood       | 0.05 mg/L          | Prior to last shift of workweek |          |

NS: Non-specific determinant; also observed after exposure to other material

B: Background levels occur in specimens collected from subjects NOT exposed

## SECTION 5 Firefighting measures

## Extinguishing media

**SMALL FIRE:** Use extinguishing agent suitable for type of surrounding fire.

**LARGE FIRE:** Cool cylinder.

**DO NOT** direct water at source of leak or venting safety devices as icing may occur.

**SMALL FIRE:**

- Water spray, dry chemical or CO<sub>2</sub>

**LARGE FIRE:**

- Water spray or fog.

## Special hazards arising from the substrate or mixture

## Fire Incompatibility

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

## 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>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul>  |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ Aerosol cans may explode on exposure to naked flames.</li> </ul> <p>Decomposition may produce toxic fumes of:<br/>carbon monoxide (CO)<br/>Combustion products include:<br/>carbon dioxide (CO<sub>2</sub>)<br/>sulfur oxides (SO<sub>x</sub>)<br/>other pyrolysis products typical of burning organic material.</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

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> <li>▶ Shut off all possible sources of ignition and increase ventilation.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> </ul>   |
| <b>Major Spills</b> | <ul style="list-style-type: none"> <li>▶ <b>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</b></li> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Clear area of all unprotected personnel and move upwind.</li> <li>▶ Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>▶ Wear breathing apparatus and protective gloves.</li> <li>▶ Prevent by any means available, spillage from entering drains and water-courses.</li> <li>▶ Remove leaking cylinders to a safe place if possible.</li> <li>▶ Release pressure under safe, controlled conditions by opening the valve.</li> </ul> |

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

## SECTION 7 Handling and storage

## Precautions for safe handling

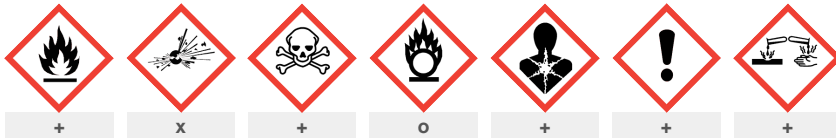
|                          |   |
|--------------------------|---|
| <b>Safe handling</b>     | <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> </ul>  |

## Conditions for safe storage, including any incompatibilities

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Aerosol dispenser.</li> <li>▶ Check that containers are clearly labelled.</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> |

Continued...

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)



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) | solvent naphtha petroleum, medium aliphatic | Oil mist, mineral | 5 mg/m <sup>3</sup>              | 10 mg/m <sup>3</sup>              | Not Available | (om) - Sampled by a method that does not collect vapour                     |
| New Zealand Workplace Exposure Standards (WES) | acetone                                     | Acetone           | 500 ppm / 1185 mg/m <sup>3</sup> | 2375 mg/m <sup>3</sup> / 1000 ppm | Not Available | (bio) - Exposure can also be estimated by biological monitoring             |
| New Zealand Workplace Exposure Standards (WES) | isopropanol                                 | Isopropyl alcohol | 400 ppm / 983 mg/m <sup>3</sup>  | 1230 mg/m <sup>3</sup> / 500 ppm  | Not Available | Not Available   |
| New Zealand Workplace Exposure Standards (WES) | naphthalene                                 | Naphthalene       | 0.5 ppm / 2.6 mg/m <sup>3</sup>  | 10 mg/m <sup>3</sup> / 2 ppm      | Not Available | carcinogen category 2 - Suspected human carcinogen (skin) - Skin absorption |

#### Emergency Limits

| Ingredient                                  | TEEL-1                  | TEEL-2                  | TEEL-3                   |
|---|-------------------------|-------------------------|--------------------------|
| solvent naphtha petroleum, medium aliphatic | 1,200 mg/m <sup>3</sup> | 6,700 mg/m <sup>3</sup> | 40,000 mg/m <sup>3</sup> |
| acetone                                     | Not Available           | Not Available           | Not Available            |
| isopropanol                                 | 400 ppm                 | 2000* ppm               | 12000** ppm              |
| naphthalene                                 | 15 ppm                  | 83 ppm                  | 500 ppm                  |

| Ingredient                                  | Original IDLH           | Revised IDLH  |
|---|-------------------------|---------------|
| solvent naphtha petroleum, medium aliphatic | 2,500 mg/m <sup>3</sup> | Not Available |
| acetone                                     | 2,500 ppm               | Not Available |
| isopropanol                                 | 2,000 ppm               | Not Available |
| naphthalene                                 | 250 ppm                 | 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>Individual protection measures, such as personal protective equipment</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>  |

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

|                              |  |
|------------------------------|--|
|                              | <p>No special equipment for minor exposure i.e. when handling small quantities.<br/> <b>OTHERWISE:</b> For potentially moderate or heavy exposures:</p> <ul style="list-style-type: none"> <li>▸ Safety glasses with side shields.</li> <li>▸ <b>NOTE:</b> Contact lenses pose a special hazard; soft lenses may absorb irritants and <b>ALL</b> lenses concentrate them.</li> <li>▸ Close fitting gas tight goggles</li> </ul> <p><b>DO NOT wear contact lenses.</b></p> <ul style="list-style-type: none"> <li>▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available.</li> </ul> |
| <b>Skin protection</b>       | See Hand protection below  |
| <b>Hands/feet protection</b> | <ul style="list-style-type: none"> <li>▸ No special equipment needed when handling small quantities.</li> <li>▸ <b>OTHERWISE:</b></li> <li>▸ For potentially moderate exposures:</li> <li>▸ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▸ For potentially heavy exposures:</li> <li>▸ Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>   |
| <b>Body protection</b>       | See Other protection below   |
| <b>Other protection</b>      | <p>No special equipment needed when handling small quantities.<br/> <b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>▸ Overalls.</li> <li>▸ Skin cleansing cream.</li> <li>▸ Eyewash unit.</li> </ul>  |

## Recommended material(s)

## GLOVE SELECTION INDEX

## Respiratory protection

Type AX-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                      | AX-AUS P2            | -                    | AX-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | AX-AUS / Class 1 P2  | -                        |
| up to 100 x ES                     | -                    | AX-2 P2              | AX-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
- Generally not applicable.

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

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:

LE2001 MONOLEC Penetrating Lubricant (Aerosol)

| Material          | CPI |
|-------------------|-----|
| BUTYL             | C   |
| BUTYL/NEOPRENE    | C   |
| CPE               | C   |
| HYPALON           | C   |
| NAT+NEOPR+NITRILE | C   |
| NATURAL RUBBER    | C   |
| NATURAL+NEOPRENE  | C   |
| NEOPRENE          | C   |
| NITRILE           | C   |
| NITRILE+PVC       | C   |
| PE/EVAL/PE        | C   |
| PVA               | C   |
| PVC               | C   |
| PVDC/PE/PVDC      | C   |
| SARANEX-23        | C   |
| SARANEX-23 2-PLY  | C   |
| TEFLON            | C   |
| VITON/NEOPRENE    | 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.

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

|   |   |  |                |
|---|---|--|----------------|
| <b>Appearance</b>                                   | Purple liquid with a hydrocarbon odour; not miscible with water.<br>Supplied as an aerosol pack. Contents under <b>PRESSURE</b> . Contains highly flammable hydrocarbon propellant. |  |                |
| <b>Physical state</b>                               | Liquid  | <b>Relative density (Water = 1)</b>            | 0.89           |
| <b>Odour</b>  | Not Available   | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available   | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | 6-8   | <b>Decomposition temperature (°C)</b>          | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available   | <b>Viscosity (cSt)</b>                         | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | -20   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | HIGHLY FLAMMABLE.   | <b>Oxidising properties</b>                    | Not Available  |



## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

|                           |               |                                  |               |
|---------------------------|---------------|----------------------------------|---------------|
| 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       | 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                 | <ul style="list-style-type: none"> <li>▸ Elevated temperatures.</li> <li>▸ Presence of open flame.</li> <li>▸ Product is considered stable.</li> <li>▸ Hazardous polymerisation will not occur.</li> </ul> |
| 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      | <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 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>The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. These compounds may also act as general anaesthetics. Whole body symptoms of poisoning include light-headedness, nervousness, apprehension, a feeling of well-being, confusion, dizziness, drowsiness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, depression of breathing, and arrest. Heart stoppage may result from cardiovascular collapse.</p> <p>Inhalation of toxic gases may cause:</p> <ul style="list-style-type: none"> <li>▸ Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures;</li> <li>▸ respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest;</li> <li>▸ heart: collapse, irregular heartbeats and cardiac arrest;</li> <li>▸ gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain.</li> </ul> <p>Inhalation of naphthalene vapour is linked with headache, loss of appetite, nausea, damage to the eyes and kidneys. According to animal testing, long term exposure may cause excessive weakness and increased salivation, weight loss, difficulty breathing, collapse, and evidence of damage to the skin, liver and lungs.</p> <p><b>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</b></p> <p>The odour of isopropanol may give some warning of exposure, but odour fatigue may occur. Inhalation of isopropanol may produce irritation of the nose and throat with sneezing, sore throat and runny nose.</p> |
| Ingestion    | <p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> <p>Swallowing 10 millilitres of isopropanol may cause serious injury; 100 millilitres may be fatal if not properly treated. The adult single lethal dose is approximately 250 millilitres. Isopropanol is twice as poisonous as ethanol, and the effects caused are similar, except that isopropanol does not cause an initial feeling of well-being. Swallowing may cause nausea, vomiting and diarrhea; vomiting and stomach inflammation is more prominent with isopropanol than with ethanol.</p> <p>Ingestion of naphthalene and related compounds may produce abdominal cramps with nausea, vomiting, diarrhoea, headache, profuse sweating, listlessness, confusion, and in severe poisonings, coma with or without convulsions. Irritation of the bladder may also occur, producing urgency, painful urination, and the passage of brown or black urine with or without albumin or casts.</p>   |
| Skin Contact | <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.</p> <p>Spray mist may produce discomfort</p> <p>Workers sensitised to naphthalene and related compounds show an inflammation of the skin with scaling and reddening. Some individuals show an allergic reaction.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p>  |

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

|                |   |
|----------------|---|
|                | 511ipa  |
| <b>Eye</b>     | <p>There is some evidence to suggest that this material can cause eye irritation and damage in some persons. Not considered to be a risk because of the extreme volatility of the gas.</p> <p>Long term exposure to naphthalene has produced clouding of the lens (cataracts) in workers. Isopropanol vapour may cause mild eye irritation at 400 parts per million. Splashes may cause severe eye irritation, possible burns to the cornea and eye damage. Eye contact may cause tearing and blurring of vision.</p>   |
| <b>Chronic</b> | <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation.</p> <p>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.</p> <p>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.</p> <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.</p> <p>There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Main route of exposure to the gas in the workplace is by inhalation.</p> <p>Animal testing indicates that inhalation of naphthalene may increase the incidence of respiratory tumours and may aggravate chronic inflammation.</p> <p>Long term, or repeated exposure of isopropanol may cause inco-ordination and tiredness.</p> <p>Repeated inhalation exposure to isopropanol may produce sleepiness, inco-ordination and liver degeneration. Animal data show developmental effects only at exposure levels that produce toxic effects in adult animals. Isopropanol does not cause genetic damage.</p> <p>Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.</p> |

| LE2001 MONOLEC Penetrating Lubricant (Aerosol) | TOXICITY  | IRRITATION   |
|--|---|--|
|  | Not Available   | Not Available  |
| solvent naphtha petroleum, medium aliphatic    | TOXICITY  | IRRITATION   |
|  | Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>  | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|  | Inhalation(Rat) LC50: >4.3 mg/4h <sup>[1]</sup>   | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
|  | Oral (Rat) LD50: >5000 mg/kg <sup>[2]</sup>   |  |
| acetone  | TOXICITY  | IRRITATION   |
|  | Dermal (rabbit) LD50: 20000 mg/kg <sup>[2]</sup>  | Eye (human): 500 ppm - irritant                                  |
|  | Inhalation(Mouse) LC50; 44 mg/L4h <sup>[2]</sup>  | Eye (rabbit): 20mg/24hr -moderate                                |
|  | Oral (Rat) LD50: 5800 mg/kg <sup>[2]</sup>  | Eye (rabbit): 3.95 mg - SEVERE                                   |
|  |   | Eye: adverse effect observed (irritating) <sup>[1]</sup>         |
|  |   | Skin (rabbit): 500 mg/24hr - mild                                |
|  |   | Skin (rabbit):395mg (open) - mild                                |
|  |   | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| isopropanol                                    | TOXICITY  | IRRITATION   |
|  | Dermal (rabbit) LD50: 12800 mg/kg <sup>[2]</sup>  | Eye (rabbit): 10 mg - moderate                                   |
|  | Inhalation(Mouse) LC50; 53 mg/L4h <sup>[2]</sup>  | Eye (rabbit): 100 mg - SEVERE                                    |
|  | Oral (Mouse) LD50; 3600 mg/kg <sup>[2]</sup>  | Eye (rabbit): 100mg/24hr-moderate                                |
|  |   | Skin (rabbit): 500 mg - mild                                     |
| naphthalene                                    | TOXICITY  | IRRITATION   |
|  | dermal (rat) LD50: >2500 mg/kg <sup>[2]</sup>   | Eye (rabbit): 100 mg - mild                                      |
|  | Inhalation(Rat) LC50: >0.4 mg/4h <sup>[1]</sup>   | Skin (rabbit):495 mg (open) - mild                               |
|  | Oral (Rat) LD50: 490 mg/kg <sup>[2]</sup>   |  |
| <b>Legend:</b>                                 | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |  |

|  |  |
|--|--|
| <b>SOLVENT NAPHTHA PETROLEUM, MEDIUM</b> | Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the |
|--|--|

LE2001 MONOLEC Penetrating Lubricant (Aerosol)

|  |   |
|--|---|
| <b>ALIPHATIC</b>   | <p>carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.</p> <p>The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell.</p> <p>For petroleum: This product contains benzene, which can cause acute myeloid leukaemia, and n-hexane, which can be metabolized to compounds which are toxic to the nervous system. This product contains toluene, and animal studies suggest high concentrations of toluene lead to hearing loss. This product contains ethyl benzene and naphthalene, from which animal testing shows evidence of tumour formation.</p> <p>Cancer-causing potential: Animal testing shows inhaling petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans.</p> <p>Mutation-causing potential: Most studies involving gasoline have returned negative results regarding the potential to cause mutations, including all recent studies in living human subjects (such as in petrol service station attendants).</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>For toluene:<br/>Acute toxicity: Humans exposed to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis (sleepiness) and death. When inhaled or swallowed, toluene can cause severe central nervous system depression, and in large doses has a narcotic effect. 60mL has caused death. Death of heart muscle fibres, liver swelling, congestion and bleeding of the lungs and kidney injury were all found on autopsy. Exposure to inhalation at a concentration of 600 parts per million for 8 hours resulted in the same and more serious symptoms including euphoria (a feeling of well-being), dilated pupils, convulsions and nausea.</p> |
| <b>ACETONE</b>   | <p>For acetone:<br/>The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause macrocytic anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/cubic metre has not caused neurobehavioural deficits.</p>   |
| <b>ISOPROPANOL</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> <p>Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled.</p> <p>The substance is classified by IARC as Group 3:<br/><b>NOT</b> classifiable as to its carcinogenicity to humans.<br/>Evidence of carcinogenicity may be inadequate or limited in animal testing.</p>   |
| <b>NAPHTHALENE</b>   | <p>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p><b>WARNING:</b> This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.</p>  |
| <b>SOLVENT NAPHTHA<br/>PETROLEUM, MEDIUM<br/>ALIPHATIC &amp; ACETONE &amp;<br/>ISOPROPANOL &amp;<br/>NAPHTHALENE</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>Acute Toxicity</b>                        | ✘ | <b>Carcinogenicity</b>          | ✘ |
| <b>Skin Irritation/Corrosion</b>             | ✔ | <b>Reproductivity</b>           | ✔ |
| <b>Serious Eye<br/>Damage/Irritation</b>     | ✘ | <b>STOT - Single Exposure</b>   | ✔ |
| <b>Respiratory or Skin<br/>sensitisation</b> | ✘ | <b>STOT - Repeated Exposure</b> | ✔ |
| <b>Mutagenicity</b>                          | ✘ | <b>Aspiration Hazard</b>        | ✔ |

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

**SECTION 12 Ecological information**

**Toxicity**

| LE2001 MONOLEC<br>Penetrating Lubricant<br>(Aerosol) | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|--|---------------|--------------------|---------------|---------------|---------------|
|  | Not Available | Not Available      | Not Available | Not Available | Not Available |

Continued...

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

| solvent naphtha petroleum, medium aliphatic | Endpoint  | Test Duration (hr) | Species                       | Value             | Source |
|---|---|--------------------|-------------------------------|-------------------|--------|
|   | EC50(ECx)   | 48h                | Crustacea                     | >100mg/l          | 1      |
|   | EC50  | 96h                | Algae or other aquatic plants | 450mg/l           | 1      |
|   | EC50  | 48h                | Crustacea                     | >100mg/l          | 1      |
| acetone                                     | Endpoint  | Test Duration (hr) | Species                       | Value             | Source |
|   | NOEC(ECx)   | 12h                | Fish                          | 0.001mg/L         | 4      |
|   | LC50  | 96h                | Fish                          | 3744.6-5000.7mg/L | 4      |
|   | EC50  | 72h                | Algae or other aquatic plants | 5600-10000mg/l    | 4      |
|   | EC50  | 96h                | Algae or other aquatic plants | 9.873-27.684mg/l  | 4      |
| EC50  | 48h   | Crustacea          | 6098.4mg/L                    | 5                 |        |
| isopropanol                                 | Endpoint  | Test Duration (hr) | Species                       | Value             | Source |
|   | EC50(ECx)   | 24h                | Algae or other aquatic plants | 0.011mg/L         | 4      |
|   | LC50  | 96h                | Fish                          | >1400mg/l         | 4      |
|   | EC50  | 72h                | Algae or other aquatic plants | >1000mg/l         | 1      |
|   | EC50  | 96h                | Algae or other aquatic plants | >1000mg/l         | 1      |
| EC50  | 48h   | Crustacea          | 7550mg/l                      | 4                 |        |
| naphthalene                                 | Endpoint  | Test Duration (hr) | Species                       | Value             | Source |
|   | BCF   | 1344h              | Fish                          | 23-146            | 7      |
|   | EC50(ECx)   | 0.05h              | Crustacea                     | <0.000001mg/l     | 4      |
|   | EC50  | 72h                | Algae or other aquatic plants | ca.0.4mg/l        | 1      |
|   | EC50  | 48h                | Crustacea                     | 1.09-3.4mg/l      | 4      |
| LC50  | 96h   | Fish               | 0.213mg/l                     | 4                 |        |
| <b>Legend:</b>                              | <i>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</i> |                    |                               |                   |        |

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 Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

Atmospheric Fate: PAHs are "semi-volatile substances" which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive.

Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.

For Ketones: Ketones, unless they are alpha, beta-unsaturated ketones, can be considered as narcosis or baseline toxicity compounds.

Aquatic Fate: Hydrolysis of ketones in water is thermodynamically favourable only for low molecular weight ketones. Reactions with water are reversible with no permanent change in the structure of the ketone substrate. Ketones are stable to water under ambient environmental conditions.

For naphthalene:

Environmental Fate: Naphthalene may be reach surface water and soil through transportation in water or being carried by air. Most airborne naphthalene is in a vapour form and hence deposition is expected to be slow. A minimal amount of naphthalene emitted to the air is transported to other environmental components mostly by dry deposition. Naphthalene in surface water may volatilize into the atmosphere, depending on environmental conditions.

For Hydrocarbons: log Kow 1. BCF~10.

For Aromatics: log Kow 2-3.

BCF 20-200.

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

For Acetone:

log Kow : -0.24;

Half-life (hr) air : 312-1896;

Half-life (hr) H<sub>2</sub>O surface water : 20;

Henry's atm m<sup>3</sup>/mol : 3.67E-05

BOD 5: 0.31-1.76,46-55%

COD: 1.12-2.07

ThOD: 2.2BCF: 0.69.

Environmental Fate: The relatively long half-life allows acetone to be transported long distances from its emission source.

Atmospheric Fate: Acetone preferentially locates in the air compartment when released to the environment. In air, acetone is lost by photolysis and reaction with photochemically produced hydroxyl radicals; the estimated half-life of these combined processes is about 22 days.

### Persistence and degradability

| Ingredient  | Persistence: Water/Soil     | Persistence: Air                 |
|-------------|-----------------------------|----------------------------------|
| acetone     | LOW (Half-life = 14 days)   | MEDIUM (Half-life = 116.25 days) |
| isopropanol | LOW (Half-life = 14 days)   | LOW (Half-life = 3 days)         |
| naphthalene | HIGH (Half-life = 258 days) | LOW (Half-life = 1.23 days)      |

### Bioaccumulative potential

| Ingredient  | Bioaccumulation     |
|-------------|---------------------|
| acetone     | LOW (BCF = 0.69)    |
| isopropanol | LOW (LogKOW = 0.05) |
| naphthalene | HIGH (BCF = 18000)  |

### Mobility in soil

| Ingredient  | Mobility           |
|-------------|--------------------|
| acetone     | HIGH (KOC = 1.981) |
| isopropanol | HIGH (KOC = 1.06)  |
| naphthalene | LOW (KOC = 1837)   |

## SECTION 13 Disposal considerations

### Waste treatment methods

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Discharge contents of damaged aerosol cans at an approved site.</li> <li>▶ Allow small quantities to evaporate.</li> <li>▶ <b>DO NOT incinerate or puncture aerosol cans.</b></li> </ul> |
|-------------------------------------|---|

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

### Labels Required

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

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

**Land transport (UN)**

|                                     |                    |                             |
|-------------------------------------|--------------------|-----------------------------|
| <b>UN number or ID number</b>       | 1950               |                             |
| <b>UN proper shipping name</b>      | AEROSOLS           |                             |
| <b>Transport hazard class(es)</b>   | Class              | 2.2                         |
|                                     | Subsidiary risk    | Not Applicable              |
| <b>Packing group</b>                | Not Applicable     |                             |
| <b>Environmental hazard</b>         | Not Applicable     |                             |
| <b>Special precautions for user</b> | Special provisions | 63; 190; 277; 327; 344; 381 |
|                                     | Limited quantity   | 1000ml                      |

**Air transport (ICAO-IATA / DGR)**

|                                     |   |                    |
|-------------------------------------|---|--------------------|
| <b>UN number</b>                    | 1950  |                    |
| <b>UN proper shipping name</b>      | Aerosols, non-flammable (containing biological products or a medicinal preparation which will be deteriorated by a heat test);<br>Aerosols, non-flammable |                    |
| <b>Transport hazard class(es)</b>   | ICAO/IATA Class   | 2.2                |
|                                     | ICAO / IATA Subrisk   | Not Applicable     |
|                                     | ERG Code  | 2L                 |
| <b>Packing group</b>                | Not Applicable  |                    |
| <b>Environmental hazard</b>         | Not Applicable  |                    |
| <b>Special precautions for user</b> | Special provisions  | A98 A145 A167 A802 |
|                                     | Cargo Only Packing Instructions   | 203                |
|                                     | Cargo Only Maximum Qty / Pack   | 150 kg             |
|                                     | Passenger and Cargo Packing Instructions  | 203                |
|                                     | Passenger and Cargo Maximum Qty / Pack  | 75 kg              |
|                                     | Passenger and Cargo Limited Quantity Packing Instructions   | Y203               |
|                                     | Passenger and Cargo Limited Maximum Qty / Pack  | 30 kg G            |

**Sea transport (IMDG-Code / GGVSee)**

|                                     |                    |                            |
|-------------------------------------|--------------------|----------------------------|
| <b>UN number</b>                    | 1950               |                            |
| <b>UN proper shipping name</b>      | AEROSOLS           |                            |
| <b>Transport hazard class(es)</b>   | IMDG Class         | 2.2                        |
|                                     | IMDG Subrisk       | Not Applicable             |
| <b>Packing group</b>                | Not Applicable     |                            |
| <b>Environmental hazard</b>         | Not Applicable     |                            |
| <b>Special precautions for user</b> | EMS Number         | F-D, S-U                   |
|                                     | Special provisions | 63 190 277 327 344 381 959 |
|                                     | Limited Quantities | 1000 ml                    |

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

Not Applicable

Continued...

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

| Product name                                | Group         |
|---|---------------|
| solvent naphtha petroleum, medium aliphatic | Not Available |
| acetone                                     | Not Available |
| isopropanol                                 | Not Available |
| naphthalene                                 | Not Available |

**Transport in bulk in accordance with the IGC Code**

| Product name                                | Ship Type     |
|---|---------------|
| solvent naphtha petroleum, medium aliphatic | Not Available |
| acetone                                     | Not Available |
| isopropanol                                 | Not Available |
| naphthalene                                 | 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 |
|----------------|----------------|
| Not Applicable | Not Applicable |

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

**solvent naphtha petroleum, medium aliphatic is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List

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

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**acetone is found on the following regulatory lists**

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**isopropanol 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 Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**naphthalene is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List

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

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**Hazardous Substance Location**

## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

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

| Hazard Class  | Quantity (Class 1 Hazardous Substance Location) |
|---|---|
| 1.2 or 1.5 or 1.1 (excluding 1.1B or 1.1C or gunpowder of 1.1D) | 5 kg  |

### Certified Handler

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

| Class of substance  | Quantities   |
|---|--------------|
| All Class 1 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6) except as provided in 'Health and Safety at Work (Hazardous Substances) Regulations 2017, Part 9, Regulation 9.3 (2)-(6) and Schedule 7, Table 2 | Any quantity |

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 |
|--------------|--------------------------------------|------------|------------|--|
| Class 1      | prohibited                           | prohibited | prohibited |  |

### Tracking Requirements

Not Applicable

### National Inventory Status

| National Inventory                              | Status  |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                    | Yes   |
| Canada - NDSL                                   | No (solvent naphtha petroleum, medium aliphatic; acetone; isopropanol; naphthalene)   |
| 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   |
| <b>Legend:</b>                                  | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

### SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 20/08/2021 |
| Initial Date  | 01/11/2009 |

### SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|------------------|
|---------|----------------|------------------|

Continued...



## LE2001 MONOLEC Penetrating Lubricant (Aerosol)

| Version | Date of Update | Sections Updated   |
|---------|----------------|--|
| 6.1     | 01/11/2019     | One-off system update. NOTE: This may or may not change the GHS classification |
| 7.1     | 20/08/2021     | 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  
 AIIC: 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  
 KECl: 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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