



# LEX

## Hyqual Australia

Chemwatch: 40-0132  
 Version No: 3.1.1.1  
 Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 16/11/2018  
 Print Date: 20/11/2018  
 S.GHS.AUS.EN

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

#### Product Identifier

|                               |  |
|-------------------------------|--|
| Product name                  | LEX  |
| Synonyms                      | Not Available                                      |
| Proper shipping name          | CORROSIVE LIQUID, N.O.S. (contains glutaraldehyde) |
| Other means of identification | Not Available                                      |

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

|                          |  |
|--------------------------|--|
| Relevant identified uses | Use according to manufacturer's directions.<br>Arterial Embalming Fluid. |
|--------------------------|--|

#### Details of the supplier of the safety data sheet

|                         |   |  |
|-------------------------|---|--|
| Registered company name | Hyqual Australia                                  | The Champion Company                                   |
| Address                 | 31 Enterprise Street Caloundra QLD 4551 Australia | 400 Harrison Street Springfield OH 45505 United States |
| Telephone               | +61 7 5492 7122                                   | +1 93 7324 5681  |
| Fax                     | +61 7 5492 7144                                   | +1 937 324 2397  |
| Website                 | www.hyqual.com                                    | www.thechampioncompany.com                             |
| Email                   | enquiries@hyqual.com                              | Not Available  |

#### Emergency telephone number

|                                   |                                  |               |
|-----------------------------------|----------------------------------|---------------|
| Association / Organisation        | Not Available                    | Not Available |
| Emergency telephone numbers       | 13 11 26 (Poisons Info. Hotline) | Not Available |
| Other emergency telephone numbers | Not Available                    | Not Available |

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

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

COMBUSTIBLE LIQUID, regulated for storage purposes only

|                               |   |
|-------------------------------|---|
| Poisons Schedule              | S6  |
| Classification <sup>[1]</sup> | Flammable Liquid Category 4, Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 3, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Respiratory Sensitizer Category 1, Germ cell mutagenicity Category 2, Carcinogenicity Category 1A, Chronic Aquatic Hazard Category 3 |
| Legend:                       | 1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI   |

#### Label elements

|                     |               |
|---------------------|---------------|
| Hazard pictogram(s) |               |
| SIGNAL WORD         | <b>DANGER</b> |

#### Hazard statement(s)

|      |                             |
|------|-----------------------------|
| H227 | Combustible liquid.         |
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed.       |
| H331 | Toxic if inhaled.           |

## LEX

|        |  |
|--------|--|
| H314   | Causes severe skin burns and eye damage.                                   |
| H317   | May cause an allergic skin reaction.                                       |
| H334   | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H341   | Suspected of causing genetic defects.                                      |
| H350   | May cause cancer.  |
| H412   | Harmful to aquatic life with long lasting effects.                         |
| AUH018 | In use, may form flammable/explosive vapour/air mixture.                   |
| AUH019 | May form explosive peroxides.  |

## Precautionary statement(s) Prevention

|      |  |
|------|--|
| P201 | Obtain special instructions before use.                                    |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.         |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray.                           |
| P271 | Use only outdoors or in a well-ventilated area.                            |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P281 | Use personal protective equipment as required.                             |
| P285 | In case of inadequate ventilation wear respiratory protection.             |

## Precautionary statement(s) Response

|                |  |
|----------------|--|
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.                       |
| P304+P340      | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313      | IF exposed or concerned: Get medical advice/attention.   |
| P310           | Immediately call a POISON CENTER or doctor/physician.  |
| P342+P311      | If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  |

## Precautionary statement(s) Storage

|           |  |
|-----------|--|
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405      | Store locked up.                             |

## Precautionary statement(s) Disposal

|      |   |
|------|---|
| P501 | Dispose of contents/container in accordance with local regulations. |
|------|---|

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No   | %[weight] | Name                  |
|----------|-----------|-----------------------|
| 67-63-0  | 10-20     | <u>isopropanol</u>    |
| 50-00-0  | 1-10      | <u>formaldehyde</u>   |
| 111-30-8 | 1-10      | <u>glutaraldehyde</u> |
| 108-95-2 | 0.5-2     | <u>phenol</u>         |

## SECTION 4 FIRST AID MEASURES

## Description of first aid measures

|              |  |
|--------------|--|
| Eye Contact  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with 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>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</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> |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>   |
| Inhalation   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> </ul>   |

|                  |   |
|------------------|---|
|                  | <ul style="list-style-type: none"> <li>▶ Transport to hospital, or doctor, without delay.</li> <li>▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>▶ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b><br/>(ICSC13719)</p> |
| <b>Ingestion</b> | <ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <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>▶ Transport to hospital or doctor without delay.</li> </ul>  |

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

To treat poisoning by the higher aliphatic alcohols (up to C7):

- ▶ Gastric lavage with copious amounts of water.
- ▶ It may be beneficial to instill 60 ml of mineral oil into the stomach.
- ▶ Oxygen and artificial respiration as needed.
- ▶ Electrolyte balance: it may be useful to start 500 ml. M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.
- ▶ To protect the liver, maintain carbohydrate intake by intravenous infusions of glucose.
- ▶ Haemodialysis if coma is deep and persistent. [GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, Ed 5]

#### 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 shock.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Anticipate and treat, where necessary, for seizures.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/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.
- ▶ 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.
- ▶ If the patient is hypoglycaemic (decreased or loss of consciousness, tachycardia, pallor, dilated pupils, diaphoresis and/or dextrose strip or glucometer readings below 50 mg), give 50% dextrose.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ 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.
- ▶ Acidosis may respond to hyperventilation and bicarbonate therapy.
- ▶ Haemodialysis might be considered in patients with severe intoxication.
- ▶ Consult a toxicologist as necessary. BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For C8 alcohols and above.

Symptomatic and supportive therapy is advised in managing patients.

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

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

### Special hazards arising from the substrate or mixture

#### Fire Incompatibility

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

### Advice for firefighters

#### Fire Fighting

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear full body protective clothing with breathing apparatus.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Use fire fighting procedures suitable for surrounding area.
- ▶ **Do not approach containers suspected to be hot.**
- ▶ Cool fire exposed containers with water spray from a protected location.

## LEX

|                              |  |
|------------------------------|--|
|                              | <ul style="list-style-type: none"> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul>   |
| <b>Fire/Explosion Hazard</b> | <p><b>WARNING:</b> In use may form flammable/ explosive vapour-air mixtures.</p> <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>▶ May emit acrid smoke.</li> <li>▶ Mists containing combustible materials may be explosive.</li> </ul> <p>Combustion products include:<br/>carbon dioxide (CO<sub>2</sub>)<br/>other pyrolysis products typical of burning organic material.<br/>May emit corrosive fumes.</p> <p><b>WARNING:</b> Long standing in contact with air and light may result in the formation of potentially explosive peroxides.</p> |
| <b>HAZCHEM</b>               | 2X   |

## 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> | <p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> <li>▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>▶ Check regularly for spills and leaks.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>▶ Wipe up.</li> <li>▶ Place in a suitable, labelled container for waste disposal.</li> </ul> |
| <b>Major Spills</b> | <p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by all means available, spillage from entering drains or water courses.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Increase ventilation.</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> </ul> <p>The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example.</p> <p>Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.</p> <ul style="list-style-type: none"> <li>▶ A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date.</li> <li>▶ The person or laboratory receiving the chemical should record a receipt date on the bottle.</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>▶ Avoid contact with moisture.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ Keep containers securely sealed when not in use.</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> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>  |

### Conditions for safe storage, including any incompatibilities

|                           |  |
|---------------------------|--|
| <b>Suitable container</b> | <ul style="list-style-type: none"> <li>▶ Lined metal can, lined metal pail/ can.</li> <li>▶ Plastic pail.</li> <li>▶ Polyliner drum.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"> <li>▶ Drums and jerricans must be of the non-removable head type.</li> <li>▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> </ul> <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> |
|---------------------------|--|

|                                       |  |
|---------------------------------------|--|
|                                       | <ul style="list-style-type: none"> <li>▶ Removable head packaging;</li> <li>▶ Cans with friction closures and</li> <li>▶ low pressure tubes and cartridges</li> </ul> <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p>  |
| <p><b>Storage incompatibility</b></p> | <p>Alcohols</p> <ul style="list-style-type: none"> <li>▶ are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents.</li> <li>▶ reacts, possibly violently, with alkaline metals and alkaline earth metals to produce hydrogen</li> <li>▶ react with strong acids, strong caustics, aliphatic amines, isocyanates, acetaldehyde, benzoyl peroxide, chromic acid, chromium oxide, dialkylzincs, dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus halides, phosphorus pentasulfide, tangerine oil, triethylaluminium, triisobutylaluminium</li> <li>▶ should not be heated above 49 deg. C. when in contact with aluminium equipment</li> </ul> <p>Formaldehyde:</p> <ul style="list-style-type: none"> <li>▶ is a strong reducing agent</li> <li>▶ may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures</li> <li>▶ will polymerize with active organic material such as phenol</li> <li>▶ reacts violently with strong oxidisers, hydrogen peroxide, potassium permanganate, acrylonitrile, caustics (sodium hydroxide, yielding formic acid and flammable hydrogen), magnesium carbonate, nitromethane, nitrogen oxides (especially a elevated temperatures), peroxyformic acid</li> <li>▶ is incompatible with strong acids (hydrochloric acid forms carcinogenic bis(chloromethyl)ether*), amines, ammonia, aniline, bisulfides, gelatin, iodine, magnesite, phenol, some monomers, tannins, salts of copper, iron, silver.</li> <li>▶ acid catalysis can produce impurities: methylal, methyl formate</li> </ul> <p>Aqueous solutions of formaldehyde:</p> <ul style="list-style-type: none"> <li>▶ slowly oxidise in air to produce formic acid</li> <li>▶ attack carbon steel</li> </ul> <p>Concentrated solutions containing formaldehyde are:</p> <ul style="list-style-type: none"> <li>▶ unstable, both oxidising slowly to form formic acid and polymerising; in dilute aqueous solutions formaldehyde appears as monomeric hydrate (methylene glycol) - the more concentrated the solution the more polyoxymethylene glycol occurs as oligomers and polymers (methanol and amine-containing compounds inhibit polymer formation)</li> <li>▶ readily subject to polymerisation, at room temperature, in the presence of air and moisture, to form paraformaldehyde (8-100 units of formaldehyde), a solid mixture of linear polyoxymethylene glycols containing 90-99% formaldehyde; a cyclic trimer, trioxane (CH<sub>2</sub>O<sub>3</sub>), may also form</li> </ul> <p>Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents</p> <p>*The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl:<br/> <math>\log(\text{BCME})\text{ppb} = -2.25 + 0.67 \cdot \log(\text{HCHO})\text{ppm} + 0.77 \cdot \log(\text{HCl})\text{ppm}</math><br/>         Assume values for formaldehyde, in air, of 1 ppm and for HCl of 5 ppm, resulting BCME concentration, in air, would be 0.02 ppb.</p> <p>Glutaraldehyde:</p> <ul style="list-style-type: none"> <li>▶ is a strong reducing agent</li> <li>▶ reacts with water forming an aqueous polymer solution</li> <li>▶ reacts violently with strong oxidisers, strong acids, bromine, ketones</li> <li>▶ is incompatible with caustics, ammonia, amines, acetophenone, acetyl benzene, xylenes</li> <li>▶ the activated form (an alkaline solutions) react readily with alcohol, ketones, amines, hydrazines and proteins</li> <li>▶ Dangerous goods of other classes.</li> </ul> |

**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 | isopropanol    | Isopropyl alcohol | 400 ppm / 983 mg/m3 | 1230 mg/m3 / 500 ppm | Not Available        | Not Available |
| Australia Exposure Standards | formaldehyde   | Formaldehyde      | 1 ppm / 1.2 mg/m3   | 2.5 mg/m3 / 2 ppm    | Not Available        | Not Available |
| Australia Exposure Standards | glutaraldehyde | Glutaraldehyde    | Not Available       | Not Available        | 0.1 ppm / 0.41 mg/m3 | Not Available |
| Australia Exposure Standards | phenol         | Phenol            | 1 ppm / 4 mg/m3     | Not Available        | Not Available        | Not Available |

**EMERGENCY LIMITS**


| Ingredient     | Material name     | TEEL-1        | TEEL-2        | TEEL-3        |
|----------------|-------------------|---------------|---------------|---------------|
| isopropanol    | Isopropyl alcohol | 400 ppm       | 2000 ppm      | 12000 ppm     |
| formaldehyde   | Formaldehyde      | Not Available | Not Available | Not Available |
| glutaraldehyde | Glutaraldehyde    | Not Available | Not Available | Not Available |
| phenol         | Phenol            | Not Available | Not Available | Not Available |

| Ingredient     | Original IDLH | Revised IDLH  |
|----------------|---------------|---------------|
| isopropanol    | 2,000 ppm     | Not Available |
| formaldehyde   | 20 ppm        | Not Available |
| glutaraldehyde | Not Available | Not Available |
| phenol         | 250 ppm       | Not Available |

**Exposure controls**

|  |   |
|--|---|
| <p><b>Appropriate engineering controls</b></p> | <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</p> |
|--|---|

## LEX

|                                |   |
|--------------------------------|---|
|                                | "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.<br>Employers may need to use multiple types of controls to prevent employee overexposure.   |
| <b>Personal protection</b>     |    |
| <b>Eye and face protection</b> | <ul style="list-style-type: none"> <li>▶ Chemical goggles.</li> <li>▶ Full face shield may be required for supplementary but never for primary protection of eyes.</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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.</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> <li>▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>   |
| <b>Body protection</b>         | See Other protection below  |
| <b>Other protection</b>        | <ul style="list-style-type: none"> <li>▶ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent]</li> <li>▶ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent]</li> <li>▶ Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.</li> <li>▶ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.</li> <li>▶ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.</li> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Eyewash unit.</li> <li>▶ Ensure there is ready access to a safety shower.</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:

LEX

| Material          | CPI |
|-------------------|-----|
| NEOPRENE          | A   |
| BUTYL             | C   |
| BUTYL/NEOPRENE    | C   |
| NAT+NEOPR+NITRILE | C   |
| NATURAL RUBBER    | C   |
| NATURAL+NEOPRENE  | C   |
| NEOPRENE/NATURAL  | C   |
| NITRILE           | C   |
| NITRILE+PVC       | C   |
| PE                | C   |
| PE/EVAL/PE        | C   |
| PVA               | C   |
| PVC               | C   |
| TEFLON            | C   |
| VITON             | C   |
| VITON/NEOPRENE    | C   |

**Respiratory protection**

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

- 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

\* 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>                                   | Reddish colour liquid with mild pleasant odour; miscible with water. |  |                |
| <b>Physical state</b>                               | Liquid   | <b>Relative density (Water = 1)</b>            | 0.988          |
| <b>Odour</b>  | Not Available  | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available  | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | Not Available  | <b>Decomposition temperature</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> | 88   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | 66   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | 1 BuAC = 1   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Combustible.   | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | 72   | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | 6.7  | <b>Volatile Component (%vol)</b>               | 12             |
| <b>Vapour pressure (kPa)</b>                        | Not Available  | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water (g/L)</b>                    | Miscible   | <b>pH as a solution (1%)</b>                   | Not Available  |
| <b>Vapour density (Air = 1)</b>                     | ~1   | <b>VOC g/L</b>                                 | Not Available  |

## SECTION 10 STABILITY AND REACTIVITY

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

|                     |  |
|---------------------|--|
| <b>Inhaled</b>      | Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. Aliphatic alcohols with more than 3-carbons cause headache, dizziness, drowsiness, muscle weakness and delirium, central depression, coma, seizures and behavioural changes. Secondary respiratory depression and failure, as well as low blood pressure and irregular heart rhythms, may follow.   |
| <b>Ingestion</b>    | Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.<br>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.  |
| <b>Skin Contact</b> | The material can produce chemical burns following direct contact with the skin.<br>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>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.   |
| <b>Eye</b>          | The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.<br>If applied to the eyes, this material causes severe eye damage.  |
| <b>Chronic</b>      | Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.<br>Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure.<br>Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.<br>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.<br>Low concentrations cause skin reddening and irritation, occupational asthma, nasal discharge, sneezing and congestion. Long term exposure may cause chronic fatigue. There may be reduced body weight and damage to the nose with repeated high doses. It does not cause changes to foetal development, but may cause blood cancers (leukaemias).<br>When administered by inhalation, formaldehyde caused squamous cell carcinomas of the nose cavity in animal testing. In humans, excess occurrence of a |



## LEX

|  |  |
|--|--|
|  | <p>number of cancers has been reported in humans, but the evidence is strongest for a link between formaldehyde and cancers of the nose and nasopharynx. Formaldehyde exposure has also been associated with cancers of the lung and oropharynx. Some studies have concluded that formaldehyde can sensitise the airways and cause asthma, but the mechanism is unknown. There is limited evidence that formaldehyde has any adverse effect on reproduction or development in humans. An investigation of reproductive function in female workers exposed to formaldehyde in the garment industry, revealed an increased incidence of menstrual disorders, inflammatory disease of the reproductive tract, sterility, anaemia and low birth weight among offspring.</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>There are inconclusive reports of human sensitisation from skin contacts with isopropanol. Chronic alcoholics are more tolerant of the whole-body effects of isopropanol.</p> <p>Animal testing showed the chronic exposure did not produce reproductive effects.</p> <p>Studies show that inhaling this substance for over a long period (e.g. in an occupational setting) may increase the risk of cancer.</p> |
|--|--|

| LEX            | TOXICITY  | IRRITATION   |
|----------------|---|--|
|                | Not Available   | Not Available  |
| isopropanol    | Not Available   | Eye (rabbit): 10 mg - moderate<br>Eye (rabbit): 100 mg - SEVERE<br>Eye (rabbit): 100mg/24hr-moderate<br>Skin (rabbit): 500 mg - mild                                 |
| formaldehyde   | Not Available   | Eye (human): 4 ppm/5m<br>Eye (rabbit): 0.75 mg/24H SEVERE<br>Skin (human): 0.15 mg/3d-I mild<br>Skin (rabbit): 2 mg/24H SEVERE                                       |
| glutaraldehyde | dermal (rat) LD50: >2500 mg/kg <sup>[2]</sup><br>Inhalation (rat) LC50: 0.48 mg/l/4hd <sup>[2]</sup><br>Oral (rat) LD50: =66 mg/kg <sup>[2]</sup> | Eye (rabbit): 0.25mg/24h-SEVERE<br>Eye (rabbit): 1 mg-SEVERE<br>Skin (human): 6 mg/3d-int-SEVERE<br>Skin (rabbit): 13 mg open-mild<br>Skin (rabbit): 2 mg/24h-SEVERE |
| phenol         | dermal (rat) LD50: =525 mg/kg <sup>[2]</sup><br>Inhalation (rat) LC50: 0.316 mg/l/4H <sup>[2]</sup><br>Oral (rat) LD50: 317 mg/kg <sup>[2]</sup>  | Eye(rabbit): 100 mg rinse - mild<br>Eye(rabbit): 5 mg - SEVERE<br>Skin(rabbit): 500 mg open -SEVERE<br>Skin(rabbit): 500 mg/24hr - SEVERE                            |

**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

|                      |  |
|----------------------|--|
| ISOPROPANOL          | <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. Intentional swallowing is common particularly among alcoholics or suicide victims and also leads to fainting, breathing difficulty, nausea, vomiting and headache. In the absence of unconsciousness, recovery usually occurred. Repeated doses may damage the kidneys.</p> <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>   |
| FORMALDEHYDE         | <p>No significant acute toxicological data identified in literature search.</p> <p><b>WARNING:</b> This substance has been classified by the IARC as Group 1: <b>CARCINOGENIC TO HUMANS.</b><br/> Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen<br/> [National Toxicology Program: U.S. Dep. of Health &amp; Human Services 2002]</p>   |
| GLUTARALDEHYDE       | <p>Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.</p> <p>Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.</p> <p>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.</p> <p>Animal testing shows that glutaraldehyde has a high acute toxicity through inhalation and it may cause lung damage. It is corrosive to the skin and eyes and exposure to its vapours has caused irritation to the nose and breathing difficulties. It can sensitise skin and irritate the joints in animal testing. Prolonged skin contact can result in absorption through the skin (although absorption rates are low) according to laboratory testing with human skin tissue. It is not known whether glutaraldehyde causes genetic damage.</p> |
| ISOPROPANOL & PHENOL | <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>  |



## LEX

|   |   |
|---|---|
| <b>FORMALDEHYDE &amp; GLUTARALDEHYDE</b>              | The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.  |
| <b>FORMALDEHYDE &amp; PHENOL</b>                      | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  |
| <b>FORMALDEHYDE &amp; GLUTARALDEHYDE &amp; PHENOL</b> | 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. 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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. |

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

**Legend:** ✗ – Data available but does not fill the criteria for classification  
 ✓ – Data available to make classification  
 ⊗ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

| LEX            | ENDPOINT      | TEST DURATION (HR) | SPECIES                       | VALUE         | SOURCE        |
|----------------|---------------|--------------------|-------------------------------|---------------|---------------|
|                | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| isopropanol    | LC50          | 96                 | Fish                          | 9-640mg/L     | 2             |
|                | EC50          | 48                 | Crustacea                     | 12500mg/L     | 5             |
|                | EC50          | 96                 | Algae or other aquatic plants | 993.232mg/L   | 3             |
|                | EC29          | 504                | Crustacea                     | =100mg/L      | 1             |
|                | NOEC          | 5760               | Fish                          | 0.02mg/L      | 4             |
| formaldehyde   | LC50          | 96                 | Fish                          | 0.035mg/L     | 4             |
|                | EC50          | 48                 | Crustacea                     | 0.3mg/L       | 4             |
|                | EC50          | 96                 | Algae or other aquatic plants | 0.788mg/L     | 4             |
|                | NOEC          | 96                 | Algae or other aquatic plants | <0.1mg/L      | 4             |
| glutaraldehyde | LC50          | 96                 | Fish                          | 3.5mg/L       | 4             |
|                | EC50          | 48                 | Crustacea                     | 0.75mg/L      | 4             |
|                | EC50          | 72                 | Algae or other aquatic plants | =0.61mg/L     | 1             |
|                | NOEC          | 96                 | Crustacea                     | 0.16mg/L      | 2             |
| phenol         | LC50          | 96                 | Fish                          | 0.00175mg/L   | 4             |
|                | EC50          | 48                 | Crustacea                     | 3.1mg/L       | 2             |
|                | EC50          | 96                 | Algae or other aquatic plants | 0.0611mg/L    | 4             |
|                | BCF           | 24                 | Fish                          | 60mg/L        | 4             |
|                | EC10          | 0.5                | Algae or other aquatic plants | 0.076mg/L     | 4             |
|                | NOEC          | 144                | Crustacea                     | 0.01mg/L      | 4             |

**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.

Continued...

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

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

Prevent, by any means available, spillage from entering drains or water courses.

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

#### Persistence and degradability

| Ingredient     | Persistence: Water/Soil   | Persistence: Air            |
|----------------|---------------------------|-----------------------------|
| isopropanol    | LOW (Half-life = 14 days) | LOW (Half-life = 3 days)    |
| formaldehyde   | LOW (Half-life = 14 days) | LOW (Half-life = 2.97 days) |
| glutaraldehyde | LOW                       | LOW                         |
| phenol         | LOW (Half-life = 10 days) | LOW (Half-life = 0.95 days) |

#### Bioaccumulative potential

| Ingredient     | Bioaccumulation        |
|----------------|------------------------|
| isopropanol    | LOW (LogKOW = 0.05)    |
| formaldehyde   | LOW (LogKOW = 0.35)    |
| glutaraldehyde | LOW (LogKOW = -0.1821) |
| phenol         | LOW (BCF = 17.5)       |

#### Mobility in soil

| Ingredient     | Mobility           |
|----------------|--------------------|
| isopropanol    | HIGH (KOC = 1.06)  |
| formaldehyde   | HIGH (KOC = 1)     |
| glutaraldehyde | HIGH (KOC = 1.094) |
| phenol         | LOW (KOC = 268)    |


### SECTION 13 DISPOSAL CONSIDERATIONS

#### Waste treatment methods

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible.</li> <li>▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus.</li> <li>▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> |
|-------------------------------------|---|

### SECTION 14 TRANSPORT INFORMATION

#### Labels Required

|                         |   |
|-------------------------|---|
|                         |  |
| <b>Marine Pollutant</b> | NO<br>Not Applicable  |
| <b>HAZCHEM</b>          | 2X  |

#### Land transport (ADG)

|                                     |  |                |
|-------------------------------------|--|----------------|
| <b>UN number</b>                    | 1760   |                |
| <b>UN proper shipping name</b>      | CORROSIVE LIQUID, N.O.S. (contains glutaraldehyde) |                |
| <b>Transport hazard class(es)</b>   | Class  | 8              |
|                                     | Subrisk  | Not Applicable |
| <b>Packing group</b>                | III  |                |
| <b>Environmental hazard</b>         | Not Applicable                                     |                |
| <b>Special precautions for user</b> | Special provisions                                 | 223 274        |
|                                     | Limited quantity                                   | 5 L            |

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

|                                     |   |                |
|-------------------------------------|---|----------------|
| <b>UN number</b>                    | 1760  |                |
| <b>UN proper shipping name</b>      | Corrosive liquid, n.o.s. * (contains glutaraldehyde)      |                |
| <b>Transport hazard class(es)</b>   | ICAO/IATA Class   | 8              |
|                                     | ICAO / IATA Subrisk                                       | Not Applicable |
|                                     | ERG Code  | 8L             |
| <b>Packing group</b>                | III   |                |
| <b>Environmental hazard</b>         | Not Applicable  |                |
| <b>Special precautions for user</b> | Special provisions  | A3 A803        |
|                                     | Cargo Only Packing Instructions                           | 856            |
|                                     | Cargo Only Maximum Qty / Pack                             | 60 L           |
|                                     | Passenger and Cargo Packing Instructions                  | 852            |
|                                     | Passenger and Cargo Maximum Qty / Pack                    | 5 L            |
|                                     | Passenger and Cargo Limited Quantity Packing Instructions | Y841           |
|                                     | Passenger and Cargo Limited Maximum Qty / Pack            | 1 L            |

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

|                                     |  |                |
|-------------------------------------|--|----------------|
| <b>UN number</b>                    | 1760   |                |
| <b>UN proper shipping name</b>      | CORROSIVE LIQUID, N.O.S. (contains glutaraldehyde) |                |
| <b>Transport hazard class(es)</b>   | IMDG Class   | 8              |
|                                     | IMDG Subrisk                                       | Not Applicable |
| <b>Packing group</b>                | III  |                |
| <b>Environmental hazard</b>         | Not Applicable                                     |                |
| <b>Special precautions for user</b> | EMS Number   | F-A , S-B      |
|                                     | Special provisions                                 | 223 274        |
|                                     | Limited Quantities                                 | 5 L            |

**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****ISOPROPANOL(67-63-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards  
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**FORMALDEHYDE(50-00-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards  
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Inventory of Chemical Substances (AICS)  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**GLUTARALDEHYDE(111-30-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

## LEX

Australia Exposure Standards  
 Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Inventory of Chemical Substances (AICS)  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

**PHENOL(108-95-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards  
 Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Inventory of Chemical Substances (AICS)  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**National Inventory Status**

| National Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | Y  |
| Canada - DSL                  | Y  |
| Canada - NDSL                 | N (phenol; isopropanol; formaldehyde; glutaraldehyde)  |
| China - IECSC                 | Y  |
| Europe - EINEC / ELINCS / NLP | Y  |
| Japan - ENCS                  | Y  |
| Korea - KECI                  | Y  |
| New Zealand - NZIoC           | Y  |
| Philippines - PICCS           | Y  |
| USA - TSCA                    | Y  |
| <b>Legend:</b>                | Y = All ingredients are on the inventory<br>N = Not determined or one or more 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> | 16/11/2018 |
| <b>Initial Date</b>  | 08/10/2013 |

**SDS Version Summary**

| Version | Issue Date | Sections Updated |
|---------|------------|------------------|
| 2.1.1.1 | 05/09/2018 | Classification   |

**Other information****Ingredients with multiple cas numbers**

| Name         | CAS No  |
|--------------|---|
| formaldehyde | 50-00-0, 8005-38-7, 8006-07-3, 8013-13-6, 112068-71-0 |

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

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.