



## Cavity 48

Hyqual Australia

Chemwatch Hazard Alert Code: 3

Chemwatch: 40-0121  
Version No: 4.1.1.1  
Safety Data Sheet according to WHS and ADG requirements

Issue Date: 20/02/2024  
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S.GHS.AUS.EN

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

#### Product Identifier

|                               |   |
|-------------------------------|---|
| Product name                  | Cavity 48   |
| Synonyms                      | Not Available   |
| Proper shipping name          | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (contains isopropanol, methanol, glutaraldehyde and phenol) |
| 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>Cavityl 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                   | office@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.**

|                               |   |
|-------------------------------|---|
| Poisons Schedule              | S6  |
| Classification <sup>[1]</sup> | Flammable Liquid Category 3, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) 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, Specific target organ toxicity - single exposure Category 2, 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 **DANGER**

#### Hazard statement(s)

|      |                               |
|------|-------------------------------|
| H226 | Flammable liquid and vapour.  |
| H302 | Harmful if swallowed.         |
| H312 | Harmful in contact with skin. |
| H331 | Toxic if inhaled.             |

Continued...

|        |  |
|--------|--|
| 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.                                      |
| H371   | May cause damage to organs.  |
| H412   | Harmful to aquatic life with long lasting effects.                         |
| 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.   |
| P309+P311      | IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.  |
| P310           | Immediately 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                   |
|-----------|-----------|------------------------|
| 111-30-8  | 10-20     | <u>glutaraldehyde</u>  |
| 67-63-0   | 10-20     | <u>isopropanol</u>     |
| 67-56-1   | 1-10      | <u>methanol</u>        |
| 108-95-2  | 1-10      | <u>phenol</u>          |
| 107-21-1  | 1-5       | <u>ethylene glycol</u> |
| 1319-77-3 | 1-5       | <u>cresols</u>         |

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

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | <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> |
| <b>Skin Contact</b> | <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>   |
| <b>Inhalation</b>   | <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> </ul>  |

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|           |  |
|-----------|--|
|           | <ul style="list-style-type: none"> <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> <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>       |
| Ingestion | <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> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> </ul> |

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

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

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.

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate spray, by a doctor or a person authorised by him/her should be considered.

(ICSC24419/24421)

**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.

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## Special hazards arising from the substrate or mixture

|                      |  |
|----------------------|--|
| Fire Incompatibility | <ul style="list-style-type: none"> <li>▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul> |
|----------------------|--|

## Advice for firefighters

|                       |  |
|-----------------------|--|
| Fire Fighting         | <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 in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ If safe, switch off electrical equipment until vapour fire hazard removed.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ Avoid spraying water onto liquid pools.</li> </ul>   |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> <li>▶ Liquid and vapour are flammable.</li> <li>▶ Moderate fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> <li>▶ Moderate explosion hazard when exposed to heat or flame.</li> <li>▶ Vapour may travel a considerable distance to source of ignition.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Combustion products include:<br/>carbon monoxide (CO)<br/>carbon dioxide (CO<sub>2</sub>)<br/>aldehydes<br/>other pyrolysis products typical of burning organic material.</p> <p><b>WARNING:</b> Long standing in contact with air and light may result in the formation of potentially explosive peroxides.</p> |
| HAZCHEM               | *3W  |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

|              |  |
|--------------|--|
| Minor Spills | <ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</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 small quantities with vermiculite or other absorbent material.</li> <li>▶ Wipe up.</li> <li>▶ Collect residues in a flammable waste container.</li> <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> </ul> |
| Major Spills | <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>▶ May be violently or explosively reactive.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</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

|                   |   |
|-------------------|---|
| Safe handling     | <ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <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 overexposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid generation of static electricity.</li> </ul> |
| Other information | <ul style="list-style-type: none"> <li>▶ Store in original containers in approved flammable liquid storage area.</li> <li>▶ Store away from incompatible materials in a cool, dry, well-ventilated area.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> </ul>   |

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- ▶ No smoking, naked lights, heat or ignition sources.
- ▶ Storage areas should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorised personnel - adequate security must be provided so that unauthorised personnel do not have access.
- ▶ Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets, allowable quantities and minimum storage distances.
- ▶ Use non-sparking ventilation systems, approved explosion proof equipment and intrinsically safe electrical systems.

## Conditions for safe storage, including any incompatibilities

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Packing as supplied by manufacturer.</li> <li>▶ Plastic containers may only be used if approved for flammable liquid.</li> <li>▶ Check that containers are clearly labelled and free from leaks.</li> <li>▶ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> <li>▶ For materials with a viscosity of at least 2680 cSt. (23 deg. C)</li> <li>▶ For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)</li> <li>▶ Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used.</li> <li>▶ Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages</li> <li>▶ In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</li> </ul> |
| <b>Storage incompatibility</b> | <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>   |

## 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 | glutaraldehyde  | Glutaraldehyde                | Not Available       | Not Available        | 0.1 ppm / 0.41 mg/m3 | Not Available |
| Australia Exposure Standards | isopropanol     | Isopropyl alcohol             | 400 ppm / 983 mg/m3 | 1230 mg/m3 / 500 ppm | Not Available        | Not Available |
| Australia Exposure Standards | methanol        | Methyl alcohol                | 200 ppm / 262 mg/m3 | 328 mg/m3 / 250 ppm  | Not Available        | Not Available |
| Australia Exposure Standards | phenol          | Phenol                        | 1 ppm / 4 mg/m3     | Not Available        | Not Available        | Not Available |
| Australia Exposure Standards | ethylene glycol | Ethylene glycol (particulate) | 10 mg/m3            | Not Available        | Not Available        | Not Available |
| Australia Exposure Standards | ethylene glycol | Ethylene glycol (vapour)      | 20 ppm / 52 mg/m3   | 104 mg/m3 / 40 ppm   | Not Available        | Not Available |
| Australia Exposure Standards | cresols         | Cresol, all isomers           | 5 ppm / 22 mg/m3    | Not Available        | Not Available        | Not Available |

## EMERGENCY LIMITS

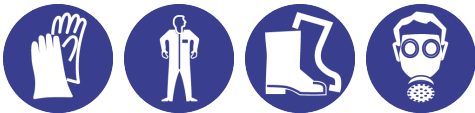
| Ingredient      | Material name  | TEEL-1        | TEEL-2        | TEEL-3        |
|-----------------|--|---------------|---------------|---------------|
| glutaraldehyde  | Glutaraldehyde   | Not Available | Not Available | Not Available |
| isopropanol     | Isopropyl alcohol  | 400 ppm       | 2000 ppm      | 12000 ppm     |
| methanol        | Methyl alcohol; (Methanol)                                 | Not Available | Not Available | Not Available |
| phenol          | Phenol   | Not Available | Not Available | Not Available |
| ethylene glycol | Ethylene glycol  | 30 ppm        | 40 ppm        | 60 ppm        |
| cresols         | Cresols, all isomers; (includes 95-48-7,108-39-4,106-44-5) | 14 ppm        | 25 ppm        | 250 ppm       |

| Ingredient      | Original IDLH | Revised IDLH  |
|-----------------|---------------|---------------|
| glutaraldehyde  | Not Available | Not Available |
| isopropanol     | 2,000 ppm     | Not Available |
| methanol        | 6,000 ppm     | Not Available |
| phenol          | 250 ppm       | Not Available |
| ethylene glycol | Not Available | Not Available |
| cresols         | 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. 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.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> |
|---|---|

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|                                |   |
|--------------------------------|---|
| <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>▶ 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> <li>▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</li> <li>▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</li> <li>▶ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.</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:  
Cavity 48

| Material          | CPI |
|-------------------|-----|
| NEOPRENE          | B   |
| 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   |
| PVDC/PE/PVDC      | C   |
| SARANEX-23        | C   |
| SARANEX-23 2-PLY  | C   |
| TEFLON            | C   |
| VITON             | 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

**Respiratory protection**

Type AX-P 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

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>                                   | Two colour, flammable bi-layer liquid, milky when agitated with pungent odour; miscible with water. |  |                |
| <b>Physical state</b>                               | Liquid  | <b>Relative density (Water = 1)</b>            | 1.03           |
| <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> | 65.6  | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | 38.4 (TCC)  | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | <1 BuAC = 1   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Flammable.  | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Available   | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | Not Available   | <b>Volatile Component (%vol)</b>               | 25             |
| <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>      | <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. 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>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.</p> <p>Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.</p>  |
| <b>Ingestion</b>    | <p>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.</p> <p>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p>  |
| <b>Skin Contact</b> | <p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>The material can produce chemical burns following direct contact with the skin.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>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.</p>  |
| <b>Eye</b>          | <p>The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.</p> <p>If applied to the eyes, this material causes severe eye damage.</p>  |
| <b>Chronic</b>      | <p>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.</p> <p>Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure.</p> <p>Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> |



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|                 |  |  |
|-----------------|--|--|
| Cavity 48       | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | Not Available  | Not Available                          |
| glutaraldehyde  | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | dermal (rat) LD50: >2500 mg/kg <sup>[2]</sup>                      | Eye (rabbit): 0.25mg/24h-SEVERE        |
|                 | Inhalation (rat) LC50: 0.48 mg/l/4hd <sup>[2]</sup>                | Eye (rabbit): 1 mg-SEVERE              |
|                 | Oral (rat) LD50: =66 mg/kg <sup>[2]</sup>                          | Skin (human): 6 mg/3d-int-SEVERE       |
|                 |  | Skin (rabbit): 13 mg open-mild         |
|                 | Skin (rabbit): 2 mg/24h-SEVERE                                     |  |
| isopropanol     | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | Not Available  | Eye (rabbit): 10 mg - moderate         |
|                 |  | Eye (rabbit): 100 mg - SEVERE          |
|                 |  | Eye (rabbit): 100mg/24hr-moderate      |
|                 | Skin (rabbit): 500 mg - mild                                       |  |
| methanol        | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | Not Available  | Eye (rabbit): 100 mg/24h-moderate      |
|                 |  | Eye (rabbit): 40 mg-moderate           |
|                 | Skin (rabbit): 20 mg/24 h-moderate                                 |  |
| phenol          | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | dermal (rat) LD50: =525 mg/kg <sup>[2]</sup>                       | Eye(rabbit): 100 mg rinse - mild       |
|                 | Inhalation (rat) LC50: 0.316 mg/l/4H <sup>[2]</sup>                | Eye(rabbit): 5 mg - SEVERE             |
|                 | Oral (rat) LD50: 317 mg/kg <sup>[2]</sup>                          | Skin(rabbit): 500 mg open -SEVERE      |
|                 | Skin(rabbit): 500 mg/24hr - SEVERE                                 |  |
| ethylene glycol | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | Dermal (rabbit) LD50: 9530 mg/kg <sup>[2]</sup>                    | Eye (rabbit): 100 mg/1h - mild         |
|                 | Inhalation (rat) LC50: 100.2 mg/m <sup>3</sup> /8hr <sup>[2]</sup> | Eye (rabbit): 12 mg/m <sup>3</sup> /3D |
|                 | Oral (rat) LD50: =3.58-12.7 mg/kg <sup>[2]</sup>                   | Eye (rabbit): 1440mg/6h-moderate       |
|                 |  | Eye (rabbit): 500 mg/24h - mild        |
|                 | Skin (rabbit): 555 mg(open)-mild                                   |  |
| cresols         | <b>TOXICITY</b>  | <b>IRRITATION</b>                      |
|                 | dermal (rat) LD50: =242 mg/kg <sup>[2]</sup>                       | Not Available                          |
|                 | Oral (rat) LD50: 1454 mg/kg <sup>[2]</sup>                         |  |

**Legend:**

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. \* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

|                        |   |
|------------------------|---|
| <b>GLUTARALDEHYDE</b>  | <p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>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.</p> <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> |
| <b>ISOPROPANOL</b>     | <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 difficulties, nausea, vomiting and headache. In the absence of unconsciousness, recovery usually occurred. Repeated doses may damage the kidneys.</p>  |
| <b>ETHYLENE GLYCOL</b> | <p>For ethylene glycol:</p> <p>Ethylene glycol is quickly and extensively absorbed throughout the gastrointestinal tract. Limited information suggests that it is also absorbed through the airways; absorption through skin is apparently slow. Following absorption, it is distributed throughout the body. In humans, it is initially metabolized by alcohol dehydrogenase to form glycoaldehyde, which is rapidly converted to glycolic acid and glyoxal. These breakdown products are oxidized to glyoxylate,</p>  |



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|  |   |
|--|---|
|  | which may be further metabolized to formic acid, oxalic acid, and glycine. Breakdown of both glycine and formic acid can generate carbon dioxide, which is one of the major elimination products of ethylene glycol. In addition to exhaled carbon dioxide, ethylene glycol is eliminated in the urine as both the parent compound and glycolic acid.<br>[Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat cells.  |
| <b>GLUTARALDEHYDE &amp; PHENOL &amp; CRESOLS</b> | 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. 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. |
| <b>ISOPROPANOL &amp; METHANOL</b>                | 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.  |
| <b>ISOPROPANOL &amp; PHENOL</b>                  | 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.  |
| <b>PHENOL &amp; CRESOLS</b>                      | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  |

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <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

| Cavity 48 | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|-----------|---------------|--------------------|---------------|---------------|---------------|
|           | Not Available | Not Available      | Not Available | Not Available | Not Available |

| glutaraldehyde | ENDPOINT | TEST DURATION (HR) | SPECIES                       | VALUE     | SOURCE |
|----------------|----------|--------------------|-------------------------------|-----------|--------|
|                | 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      |

| isopropanol | ENDPOINT | TEST DURATION (HR) | SPECIES                       | VALUE       | SOURCE |
|-------------|----------|--------------------|-------------------------------|-------------|--------|
|             | 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           |        |

| methanol | ENDPOINT | TEST DURATION (HR) | SPECIES                       | VALUE        | SOURCE |
|----------|----------|--------------------|-------------------------------|--------------|--------|
|          | LC50     | 96                 | Fish                          | 15-400mg/L   | 2      |
|          | EC50     | 48                 | Crustacea                     | >10000mg/L   | 4      |
|          | EC50     | 96                 | Algae or other aquatic plants | 3382.800mg/L | 3      |
|          | BCF      | 24                 | Algae or other aquatic plants | 0.05mg/L     | 4      |
|          | EC0      | 168                | Algae or other aquatic plants | =530mg/L     | 1      |
| NOEC     | 72       | Crustacea          | 0.1mg/L                       | 4            |        |

| phenol | ENDPOINT | TEST DURATION (HR) | SPECIES                       | VALUE       | SOURCE |
|--------|----------|--------------------|-------------------------------|-------------|--------|
|        | 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           |        |

Continued...

## Cavity 48

| ethylene glycol | ENDPOINT | TEST DURATION (HR) | SPECIES                       | VALUE          | SOURCE |
|-----------------|----------|--------------------|-------------------------------|----------------|--------|
|                 | LC50     | 96                 | Fish                          | 2284.940mg/L   | 3      |
|                 | EC50     | 48                 | Crustacea                     | 5046.29mg/L    | 5      |
|                 | EC50     | 96                 | Algae or other aquatic plants | 6500-13000mg/L | 1      |
|                 | NOEC     | 552                | Crustacea                     | >=1-mg/L       | 2      |

| cresols | ENDPOINT | TEST DURATION (HR) | SPECIES   | VALUE    | SOURCE |
|---------|----------|--------------------|-----------|----------|--------|
|         | LC50     | 96                 | Fish      | ca.9mg/L | 1      |
|         | EC50     | 48                 | Crustacea | 7mg/L    | 4      |
|         | NOEC     | 96                 | Fish      | 0.3mg/L  | 2      |

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

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

Do NOT 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.

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

### Persistence and degradability

| Ingredient      | Persistence: Water/Soil   | Persistence: Air            |
|-----------------|---------------------------|-----------------------------|
| glutaraldehyde  | LOW                       | LOW                         |
| isopropanol     | LOW (Half-life = 14 days) | LOW (Half-life = 3 days)    |
| methanol        | LOW                       | LOW                         |
| phenol          | LOW (Half-life = 10 days) | LOW (Half-life = 0.95 days) |
| ethylene glycol | LOW (Half-life = 24 days) | LOW (Half-life = 3.46 days) |
| cresols         | LOW (Half-life = 49 days) | LOW (Half-life = 0.67 days) |

### Bioaccumulative potential

| Ingredient      | Bioaccumulation        |
|-----------------|------------------------|
| glutaraldehyde  | LOW (LogKOW = -0.1821) |
| isopropanol     | LOW (LogKOW = 0.05)    |
| methanol        | LOW (BCF = 10)         |
| phenol          | LOW (BCF = 17.5)       |
| ethylene glycol | LOW (BCF = 200)        |

### Mobility in soil

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

## 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> <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

Cavity 48

Labels Required

|                  |   |
|------------------|---|
|                  |  |
| Marine Pollutant | NO<br>Not Applicable  |
| HAZCHEM          | *3W   |

Land transport (ADG)

|                              |   |
|------------------------------|---|
| UN number                    | 2924  |
| UN proper shipping name      | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (contains isopropanol, methanol, glutaraldehyde and phenol) |
| Transport hazard class(es)   | Class : 3<br>Subrisk : 8  |
| Packing group                | III   |
| Environmental hazard         | Not Applicable  |
| Special precautions for user | Special provisions : 223 274<br>Limited quantity : 5 L  |

Air transport (ICAO-IATA / DGR)

|                              |  |
|------------------------------|--|
| UN number                    | 2924   |
| UN proper shipping name      | Flammable liquid, corrosive, n.o.s. * (contains isopropanol, methanol, glutaraldehyde and phenol)  |
| Transport hazard class(es)   | ICAO/IATA Class : 3<br>ICAO / IATA Subrisk : 8<br>ERG Code : 3C  |
| Packing group                | III  |
| Environmental hazard         | Not Applicable   |
| Special precautions for user | Special provisions : A3<br>Cargo Only Packing Instructions : 365<br>Cargo Only Maximum Qty / Pack : 60 L<br>Passenger and Cargo Packing Instructions : 354<br>Passenger and Cargo Maximum Qty / Pack : 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions : Y342<br>Passenger and Cargo Limited Maximum Qty / Pack : 1 L |

Sea transport (IMDG-Code / GGVSee)

|                              |   |
|------------------------------|---|
| UN number                    | 2924  |
| UN proper shipping name      | FLAMMABLE LIQUID, CORROSIVE, N.O.S. (contains isopropanol, methanol, glutaraldehyde and phenol) |
| Transport hazard class(es)   | IMDG Class : 3<br>IMDG Subrisk : 8  |
| Packing group                | III   |
| Environmental hazard         | Not Applicable  |
| Special precautions for user | EMS Number : F-E , S-C<br>Special provisions : 223 274<br>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

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

## Cavity 48

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

**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

**METHANOL(67-56-1) 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 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

**ETHYLENE GLYCOL(107-21-1) 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) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

**CREOLS(1319-77-3) 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) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

**National Inventory Status**

| National Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | Y  |
| Canada - DSL                  | Y  |
| Canada - NDSL                 | N (phenol; methanol; cresols; ethylene glycol; isopropanol; 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> | 20/02/2024 |
| <b>Initial Date</b>  | 02/10/2013 |

**SDS Version Summary**

| Version | Issue Date | Sections Updated |
|---------|------------|------------------|
| 2.1.1.1 | 20/02/2024 | Classification   |

## Other information

### Ingredients with multiple cas numbers

| Name    | CAS No                |
|---------|-----------------------|
| oresols | 1319-77-3, 15831-10-4 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

### Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average  
PC – STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit,  
IDLH: Immediately Dangerous to Life or Health Concentrations  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index

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