



## Chemeco Dyna Clean Heavy Duty Cleaner (HDC)

Chemwatch: 7124-29  
Version No: 4.1.1.1  
Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

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S.GHS.AUS.EN

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

#### Product Identifier

|                               |                                     |
|-------------------------------|-------------------------------------|
| Product name                  | Dyna Clean Heavy Duty Cleaner (HDC) |
| Synonyms                      | Not Available                       |
| Proper shipping name          | SODIUM HYDROXIDE SOLUTION           |
| Other means of identification | Not Available                       |

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

|                          |   |
|--------------------------|---|
| Relevant identified uses | Used for the cleaning of concrete surfaces, as a steam cleaner and as a heavy duty stove cleaning liquid. |
|--------------------------|---|

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

|                         |                               |
|-------------------------|-------------------------------|
| Registered company name | Chemeco (Aust)                |
| Address                 | 17 Yale Drive Epping VIC 3076 |
| Telephone               | +61 3 9408 8699               |
| Fax                     | +61 3 9408 8399               |
| Website                 | www.chemeco.com.au            |
| Email                   | info@chemeco.com.au           |

#### Emergency telephone number

|                                   |               |
|-----------------------------------|---------------|
| Association / Organisation        | Not Available |
| Emergency telephone numbers       | Not Available |
| Other emergency telephone numbers | 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              | S5   |
| Classification <sup>[1]</sup> | Metal Corrosion Category 1, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1                               |
| Legend:                       | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |

#### Label elements

|                    |  |
|--------------------|--|
| GHS label elements |  |
|--------------------|--|

|             |               |
|-------------|---------------|
| SIGNAL WORD | <b>DANGER</b> |
|-------------|---------------|

#### Hazard statement(s)

|      |  |
|------|--|
| H290 | May be corrosive to metals.              |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage.               |

#### Precautionary statement(s) Prevention

|      |  |
|------|--|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
|------|--|

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**P280** Wear protective gloves/protective clothing/eye protection/face protection.

**P234** Keep only in original container.

## 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.

**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**P310** Immediately call a POISON CENTER or doctor/physician.

## Precautionary statement(s) Storage

**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                              |
|---------------|-----------|-----------------------------------|
| 1310-73-2     | <10       | sodium hydroxide                  |
| 10213-79-3    | <10       | sodium metasilicate, pentahydrate |
| 111-76-2      | <10       | ethylene glycol monobutyl ether   |
| Not Available | <10       | surfactants                       |
| Not Available | <1        | dye                               |
| 7732-18-5     | >60       | water                             |

## 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 contact occurs:</p> <ul style="list-style-type: none"> <li>Immediately remove all contaminated clothing, including footwear.</li> <li>Flush skin and hair with running water (and soap if available).</li> <li>Seek medical attention in event of irritation.</li> </ul>  |
| 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> <li>Transport to hospital, or doctor, without delay.</li> </ul>   |
| 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> </ul> |

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

Treat symptomatically.

For acute or short-term repeated exposures to highly alkaline materials:

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.

Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

- Neutralising agents should never be given since exothermic heat reaction may compound injury.

\* Catharsis and emesis are absolutely contra-indicated.

\* Activated charcoal does not absorb alkali.

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\* Gastric lavage should not be used.

Supportive care involves the following: ▶

Withhold oral feedings initially.

- ▶ If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- ▶ Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- ▶ Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- ▶ Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).

### Special hazards arising from the substrate or mixture

**Fire Incompatibility** ▶ Reacts with aluminium / zinc producing flammable, explosive hydrogen gas

### Advice for firefighters

|                              |   |
|------------------------------|---|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> </ul>   |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Expansion or decomposition on heating may lead to violent rupture of containers.</li> <li>▶ Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).</li> </ul> <p>Decomposes on heating and produces toxic fumes of: carbon dioxide (CO<sub>2</sub>), sulfur oxides (SO<sub>x</sub>) May emit corrosive fumes.</p> |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> </ul>        |
| <b>Major Spills</b> | <ul style="list-style-type: none"> <li>▶ 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 any means available, spillage from entering drains or water course.</li> </ul> |

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

|                          |  |
|--------------------------|--|
| <b>Safe handling</b>     | <ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ <b>WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.</b></li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> </ul>   |

### Conditions for safe storage, including any incompatibilities

|                                |   |
|--------------------------------|---|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Polyethylene or polypropylene container.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul> |
| <b>Storage incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> </ul>   |

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

## Chemeco Dyna Clean Heavy Duty Cleaner (HDC)

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA


| Source                       | Ingredient                      | Material name    | TWA                 | STEL               | Peak          | Notes         |
|------------------------------|---------------------------------|------------------|---------------------|--------------------|---------------|---------------|
| Australia Exposure Standards | sodium hydroxide                | Sodium hydroxide | Not Available       | Not Available      | 2 mg/m3       | Not Available |
| Australia Exposure Standards | ethylene glycol monobutyl ether | 2-Butoxyethanol  | 96.9 mg/m3 / 20 ppm | 242 mg/m3 / 50 ppm | Not Available | Sk            |

## EMERGENCY LIMITS

| Ingredient                        | Material name                          | TEEL-1        | TEEL-2        | TEEL-3        |
|-----------------------------------|--|---------------|---------------|---------------|
| sodium hydroxide                  | Sodium hydroxide                       | Not Available | Not Available | Not Available |
| sodium metasilicate, pentahydrate | Sodium metasilicate pentahydrate       | 45 mg/m3      | 45 mg/m3      | 170 mg/m3     |
| sodium metasilicate, pentahydrate | Sodium silicate; (Sodium metasilicate) | 18 mg/m3      | 230 mg/m3     | 230 mg/m3     |
| ethylene glycol monobutyl ether   | Butoxyethanol, 2-; (Glycol ether EB)   | 20 ppm        | 20 ppm        | 700 ppm       |

| Ingredient                        | Original IDLH | Revised IDLH   |
|-----------------------------------|---------------|----------------|
| sodium hydroxide                  | 250 mg/m3     | 10 mg/m3       |
| sodium metasilicate, pentahydrate | Not Available | Not Available  |
| ethylene glycol monobutyl ether   | 700 ppm       | 700 [Unch] ppm |
| surfactants                       | Not Available | Not Available  |
| dye                               | Not Available | Not Available  |
| water                             | Not Available | Not Available  |

## Exposure controls

|   |  |
|---|--|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>  |
| <b>Personal protection</b>              |   |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</li> <li>Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.</li> <li>Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.</li> <li>Alternatively a gas mask may replace splash goggles and face shields.</li> </ul> |
| <b>Skin protection</b>                  | See Hand protection below  |
| <b>Hands/feet protection</b>            | <ul style="list-style-type: none"> <li>Elbow length PVC gloves</li> <li>When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> </ul>  |
| <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> </ul>  |
| <b>Thermal hazards</b>                  | Not Available  |

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**

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

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| Material       | CPI |
|----------------|-----|
| BUTYL          | A   |
| NEOPRENE       | A   |
| NATURAL RUBBER | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as

## Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator  |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 5 x ES                       | A-AUS / Class 1 P2   | -                    | A-PAPR-AUS / Class 1 P2 |
| up to 25 x ES                      | Air-line*            | A-2 P2               | A-PAPR-2 P2             |
| up to 50 x ES                      | -                    | A-3 P2               | -                       |
| 50+ x ES                           | -                    | Air-line**           | -                       |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G =

Continued...

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"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.

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

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

|   |   |  |                |
|---|---|--|----------------|
| <b>Appearance</b>                                   | A pink coloured mobile alkaline liquid with a sweet ethereal odour; mix with water. |  |                |
| <b>Physical state</b>                               | Liquid  | <b>Relative density (Water = 1)</b>            | 1.022-1.032    |
| <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 Applicable |
| <b>pH (as supplied)</b>                             | 12.1-12.7   | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | 0   | <b>Viscosity (cSt)</b>                         | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b> | 100   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | Not Available   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Available   | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Applicable  | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | Not Applicable  | <b>Volatile Component (%vol)</b>               | Not Available  |
| <b>Vapour pressure (kPa)</b>                        | 2.4@20C   | <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>                     | Not Available   | <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>      | Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea. Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane.   |
| <b>Ingestion</b>    | Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow.  |
| <b>Skin Contact</b> | The material can produce chemical burns following direct contact with the skin. Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.  |
| <b>Eye</b>          | Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness. |
| <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.   |

|  |  |                                      |
|--|--|--------------------------------------|
| <b>NV Chemicals Heavy Duty Cleaner (HDC)</b> | <b>TOXICITY</b>                              | <b>IRRITATION</b>                    |
|  | Not Available                                | Not Available                        |
| <b>sodium hydroxide</b>                      | <b>TOXICITY</b>                              | <b>IRRITATION</b>                    |
|  | Oral (rabbit) LD50: 325 mg/kg <sup>[1]</sup> | Eye (rabbit): 0.05 mg/24h SEVERE     |
|  |  | Eye (rabbit): 1 mg/24h SEVERE        |
|  |  | Eye (rabbit): 1 mg/30s rinsed-SEVERE |
|  |  | Skin (rabbit): 500 mg/24h SEVERE     |

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| sodium metasilicate, pentahydrate | TOXICITY  | IRRITATION   |
|-----------------------------------|---|--|
|                                   | Oral (rat) LD50: 847 mg/kg <sup>[2]</sup>         | Skin (human): 250 mg/24h SEVERE<br>Skin (rabbit): 250 mg/24h SEVERE    |
| ethylene glycol monobutyl ether   | TOXICITY  | IRRITATION   |
|                                   | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>     | * [Union Carbide]  |
|                                   | Inhalation (rat) LC50: 450 ppm/4hr <sup>[2]</sup> | Eye (rabbit): 100 mg SEVERE  |
|                                   | Oral (rat) LD50: 250 mg/kg <sup>[2]</sup>         | Eye (rabbit): 100 mg/24h-moderate<br>Skin (rabbit): 500 mg, open; mild |
| water                             | TOXICITY  | IRRITATION   |
|                                   | Oral (rat) LD50: >90000 mg/kg <sup>[2]</sup>      | Not Available  |

**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>SODIUM HYDROXIDE</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.  |
| <b>SODIUM METASILICATE, PENTAHYDRATE</b>                                       | The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.<br>sodium metasilicate anhydrous:   |
| <b>ETHYLENE GLYCOL MONOBUTYL ETHER</b>   | For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):<br>Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates.<br>EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers.<br><b>Acute Toxicity:</b> Oral LD50 values in rats for all category members range from 739 (EGHE) to 3089 mg/kg bw (EGPE), with values increasing with decreasing molecular weight.<br>Exposure of pregnant rats to ethylene glycol monobutyl ether (2-butoxyethanol) at 100 ppm or rabbits at 200 ppm during organogenesis resulted in maternal toxicity and embryotoxicity including a decreased number of viable implantations per litter. Slight foetotoxicity in the form of poorly ossified or unossified skeletal elements was also apparent in rats. Teratogenic effects were not observed in other species.<br>At least one researcher has stated that the reproductive effects were less than that of other monoalkyl ethers of ethylene glycol.<br>For ethylene glycol:<br>Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract. Limited information suggests that it is also absorbed through the respiratory tract; dermal absorption is apparently slow. Following absorption, ethylene glycol is distributed throughout the body according to total body water. In most mammalian species, including humans, ethylene glycol is initially metabolised by alcohol.<br>NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS |
| <b>WATER</b>   | No significant acute toxicological data identified in literature search.   |
| <b>SODIUM HYDROXIDE &amp; ETHYLENE GLYCOL MONOBUTYL ETHER</b>                  | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.   |
| <b>SODIUM HYDROXIDE &amp; SODIUM METASILICATE, PENTAHYDRATE</b>                | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.   |
| <b>SODIUM METASILICATE, PENTAHYDRATE &amp; ETHYLENE GLYCOL MONOBUTYL ETHER</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>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 required to make classification available  
 ☐ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

| Ingredient       | Endpoint | Test Duration (hr) | Species                       | Value          | Source |
|------------------|----------|--------------------|-------------------------------|----------------|--------|
| sodium hydroxide | EC50     | 384                | Crustacea                     | 27901.643mg/L  | 3      |
| sodium hydroxide | EC50     | 96                 | Algae or other aquatic plants | 1034.10043mg/L | 3      |

Continued...

## Chemeco Dyna Clean Heavy Duty Cleaner (HDC)

|                                   |      |     |                               |              |   |
|-----------------------------------|------|-----|-------------------------------|--------------|---|
| sodium hydroxide                  | LC50 | 96  | Fish                          | 4.16158mg/L  | 3 |
| sodium hydroxide                  | NOEC | 96  | Fish                          | 56mg/L       | 4 |
| sodium hydroxide                  | EC50 | 48  | Crustacea                     | 40.4mg/L     | 2 |
| sodium metasilicate, pentahydrate | EC50 | 96  | Crustacea                     | 160mg/L      | 1 |
| sodium metasilicate, pentahydrate | LC50 | 96  | Fish                          | 180mg/L      | 1 |
| sodium metasilicate, pentahydrate | EC50 | 48  | Crustacea                     | 1700mg/L     | 2 |
| sodium metasilicate, pentahydrate | EC50 | 72  | Algae or other aquatic plants | 207mg/L      | 2 |
| ethylene glycol monobutyl ether   | EC50 | 384 | Crustacea                     | 51.539mg/L   | 3 |
| ethylene glycol monobutyl ether   | LC50 | 96  | Fish                          | 222.042mg/L  | 3 |
| ethylene glycol monobutyl ether   | EC50 | 48  | Crustacea                     | 164mg/L      | 2 |
| ethylene glycol monobutyl ether   | NOEC | 168 | Crustacea                     | 56mg/L       | 2 |
| ethylene glycol monobutyl ether   | EC50 | 96  | Algae or other aquatic plants | 720mg/L      | 2 |
| water                             | EC50 | 384 | Crustacea                     | 199.179mg/L  | 3 |
| water                             | EC50 | 96  | Algae or other aquatic plants | 8768.874mg/L | 3 |
| water                             | LC50 | 96  | Fish                          | 897.520mg/L  | 3 |

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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

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            |
|---------------------------------|---------------------------|-----------------------------|
| sodium hydroxide                | LOW                       | LOW                         |
| ethylene glycol monobutyl ether | LOW (Half-life = 56 days) | LOW (Half-life = 1.37 days) |
| water                           | LOW                       | LOW                         |

**Bioaccumulative potential**

| Ingredient                      | Bioaccumulation        |
|---------------------------------|------------------------|
| sodium hydroxide                | LOW (LogKOW = -3.8796) |
| ethylene glycol monobutyl ether | LOW (BCF = 2.51)       |
| water                           | LOW (LogKOW = -1.38)   |

**Mobility in soil**

| Ingredient                      | Mobility         |
|---------------------------------|------------------|
| sodium hydroxide                | LOW (KOC = 14.3) |
| ethylene glycol monobutyl ether | HIGH (KOC = 1)   |
| water                           | LOW (KOC = 14.3) |

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

| Product / Packaging disposal |   |
|------------------------------|---|
|                              | <ul style="list-style-type: none"> <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.</li> <li>Treatment should involve: Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).</li> </ul> |

**SECTION 14 TRANSPORT INFORMATION****Labels Required**



## Chemeco Dyna Clean Heavy Duty Cleaner (HDC)

|                  |   |
|------------------|---|
|                  |  |
| Marine Pollutant | NO  |
| HAZCHEM          | 2R  |

## Land transport (ADG)

|                              |  |
|------------------------------|--|
| UN number                    | 1824   |
| UN proper shipping name      | SODIUM HYDROXIDE SOLUTION                      |
| Transport hazard class(es)   | Class 8<br>Subrisk Not Applicable              |
| Packing group                | III  |
| Environmental hazard         | Not Applicable                                 |
| Special precautions for user | Special provisions 223<br>Limited quantity 5 L |

## Air transport (ICAO-IATA / DGR)

|                              |  |
|------------------------------|--|
| UN number                    | 1824   |
| UN proper shipping name      | Sodium hydroxide solution  |
| Transport hazard class(es)   | ICAO/IATA Class 8<br>ICAO / IATA Subrisk Not Applicable<br>ERG Code 8L   |
| Packing group                | III  |
| Environmental hazard         | Not Applicable   |
| Special precautions for user | Special provisions A3A803<br>Cargo Only Packing Instructions 856<br>Cargo Only Maximum Qty / Pack 60 L<br>Passenger and Cargo Packing Instructions 852<br>Passenger and Cargo Maximum Qty / Pack 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions Y841<br>Passenger and Cargo Limited Maximum Qty / Pack 1 L |

## Sea transport (IMDG-Code / GGVSee)

|                              |   |
|------------------------------|---|
| UN number                    | 1824  |
| UN proper shipping name      | SODIUM HYDROXIDE SOLUTION   |
| Transport hazard class(es)   | IMDG Class 8<br>IMDG Subrisk Not Applicable                             |
| Packing group                | III   |
| Environmental hazard         | Not Applicable  |
| Special precautions for user | EMS Number F-A, S-B<br>Special provisions 223<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

## SODIUM HYDROXIDE(1310-73-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

## SODIUM METASILICATE, PENTAHYDRATE(10213-79-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

## ETHYLENE GLYCOL MONOBUTYL ETHER(111-76-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Continued...



## Chemeco Dyna Clean Heavy Duty Cleaner (HDC)

## Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

## Australia Inventory of Chemical Substances (AICS)

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

## WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

## Australia Inventory of Chemical Substances (AICS)

| National Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | Y  |
| Canada - DSL                  | Y  |
| Canada - NDSL                 | N (sodium metasilicate, pentahydrate; water; ethylene glycol monobutyl ether; sodium hydroxide)  |
| China - IECSC                 | Y  |
| Europe - EINEC / ELINCS / NLP | Y  |
| Japan - ENCS                  | N (water)  |
| 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

## Other information

## Ingredients with multiple cas numbers

| Name             | CAS No                |
|------------------|-----------------------|
| sodium hydroxide | 1310-73-2, 12200-64-5 |

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.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

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