

# Hyper Dressing Motor Active

Chemwatch: 5415-28  
Version No: 2.1.1.1  
Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

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L.GHS.AUS.EN

## SECTION 1 Identification of the substance / mixture and of the company / undertaking

### Product Identifier

|                               |                         |
|-------------------------------|-------------------------|
| Product name                  | Hyper Dressing          |
| Synonyms                      | DRTU170320 (32oz/946ml) |
| Other means of identification | Not Available           |

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

|                          |             |
|--------------------------|-------------|
| Relevant identified uses | Automotive. |
|--------------------------|-------------|

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

|                         |   |
|-------------------------|---|
| Registered company name | Motor Active  |
| Address                 | 35 Slough Business Park, Holker Street Silverwater NSW 2128 Australia |
| Telephone               | +61 2 9737 9422 1800 350 622  |
| Fax                     | +61 2 9737 9414   |
| Website                 | <a href="http://www.motoractive.com.au">www.motoractive.com.au</a>    |
| Email                   | andrew.spira@motoractive.com.au                                       |

### Emergency telephone number

|                                   |   |
|-----------------------------------|---|
| Association / Organisation        | MotorActive   |
| Emergency telephone numbers       | +61 2 9737 9422 (For General Information Monday to Friday 8:30am to 5:pm) |
| Other emergency telephone numbers | 13 11 26 (In Case of Emergency contact: Poison Information Hotline)       |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

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

### ChemWatch Hazard Ratings

|              | Min | Max |  |
|--------------|-----|-----|--|
| Flammability | 1   | 1   |  |
| Toxicity     | 0   | 0   |  |
| Body Contact | 3   | 3   |  |
| Reactivity   | 0   | 0   |  |
| Chronic      | 0   | 0   |  |

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

|                    |   |
|--------------------|---|
| Poisons Schedule   | Not Applicable  |
| Classification [1] | Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Acute Aquatic Hazard Category 3                                |
| Legend:            | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

### Label elements

|                     |  |
|---------------------|--|
| Hazard pictogram(s) |  |
|---------------------|--|

|             |        |
|-------------|--------|
| Signal word | Danger |
|-------------|--------|

### Hazard statement(s)

|      |                            |
|------|----------------------------|
| H315 | Causes skin irritation.    |
| H318 | Causes serious eye damage. |
| H402 | Harmful to aquatic life.   |

## Hyper Dressing

## Supplementary statement(s)

Not Applicable

## CLP classification (additional)

Not Applicable

## Precautionary statement(s) Prevention

|      |  |
|------|--|
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P273 | Avoid release to the environment.  |

## Precautionary statement(s) Response

|                |  |
|----------------|--|
| 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.  |
| P321           | Specific treatment (see advice on this label).   |
| P362           | Take off contaminated clothing and wash before reuse.  |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P332+P313      | If skin irritation occurs: Get medical advice/attention.   |

## Precautionary statement(s) Storage

Not Applicable

## Precautionary statement(s) Disposal

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

## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No      | %[weight] | Name                                 |
|-------------|-----------|--------------------------------------|
| 63148-62-9  | 40-70     | <u>polydimethylsiloxane(s)</u>       |
| 160875-66-1 | 1-10      | <u>2-propylheptanol, ethoxylated</u> |
| 4170-30-3   | <1        | <u>crotonaldehyde</u>                |
| 7732-18-5   | 20-40     | <u>water</u>                         |

## SECTION 4 First aid measures

## Description of first aid measures

|              |  |
|--------------|--|
| Eye Contact  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> |
| Skin Contact | <p>If skin 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, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>  |
| Ingestion    | <ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>   |

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

Treat symptomatically.

## SECTION 5 Firefighting measures

## Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

In such an event consider:

- ▶ foam.
- ▶ dry chemical powder.

Continued...

## Hyper Dressing

▶ carbon dioxide.

## Special hazards arising from the substrate or mixture

|                      |             |
|----------------------|-------------|
| Fire Incompatibility | None known. |
|----------------------|-------------|

## 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>▶ 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 water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ Avoid spraying water onto liquid pools.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul>   |
| Fire/Explosion Hazard | <p>The emulsion is not combustible under normal conditions. However, it will break down under fire conditions and the hydrocarbon component will burn.</p> <ul style="list-style-type: none"> <li>▶ High temperature decomposition products include silicon dioxide, small amounts of formaldehyde, formic acid, acetic acid and traces of silicon polymers.</li> <li>▶ These gases may ignite and, depending on circumstances, may cause the resin/polymer to ignite.</li> <li>▶ An outer skin of silica may also form. Extinguishing of fire, beneath the skin, may be difficult.</li> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>▶ May emit acrid smoke.</li> <li>▶ Mists containing combustible materials may be explosive.</li> </ul> <p>Combustion products include:<br/>carbon dioxide (CO<sub>2</sub>)<br/>silicon dioxide (SiO<sub>2</sub>)<br/>other pyrolysis products typical of burning organic material.<br/>May emit poisonous fumes.<br/>May emit corrosive fumes.</p> <p><b>CARE:</b> Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.</p> |
| HAZCHEM               | Not Applicable   |

## SECTION 6 Accidental release measures

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

|              |  |
|--------------|--|
| Minor Spills | <p>Slippery when spilt.</p> <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 spill with sand, earth, inert material or vermiculite.</li> <li>▶ Wipe up.</li> <li>▶ Place in a suitable, labelled container for waste disposal.</li> </ul>   |
| Major Spills | <ul style="list-style-type: none"> <li>▶ Silicone fluids, even in small quantities, may present a slip hazard.</li> <li>▶ It may be necessary to rope off area and place warning signs around perimeter.</li> <li>▶ Clean up area from spill, with suitable absorbant, as soon as practically possible.</li> <li>▶ Final cleaning may require use of steam, solvents or detergents.</li> </ul> <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</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> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Absorb remaining product with sand, earth or vermiculite.</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</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>▶ <b>DO NOT</b> allow clothing wet with material to stay in contact with skin</li> <li>▶ Avoid all personal contact, including inhalation.</li> </ul> |
|---------------|--|

Continued...

## Hyper Dressing

|                   |   |
|-------------------|---|
|                   | <ul style="list-style-type: none"> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>Prevent concentration in hollows and sumps.</li> <li><b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li><b>DO NOT allow material to contact humans, exposed food or food utensils.</b></li> <li>Avoid contact with incompatible materials.</li> <li><b>When handling, DO NOT eat, drink or smoke.</b></li> <li>Keep containers securely sealed when not in use.</li> <li>Avoid physical damage to containers.</li> <li>Always wash hands with soap and water after handling.</li> <li>Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul> |
| Other information | <ul style="list-style-type: none"> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>  |

## Conditions for safe storage, including any incompatibilities

|                         |  |
|-------------------------|--|
| Suitable container      | <ul style="list-style-type: none"> <li>Metal can or drum</li> <li>Packaging as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul> |
| Storage incompatibility | <ul style="list-style-type: none"> <li>Avoid strong acids, bases.</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 | crotonaldehyde | Crotonaldehyde | 2 ppm / 5.7 mg/m <sup>3</sup> | Not Available | Not Available | Not Available |

## Emergency Limits

| Ingredient              | Material name   | TEEL-1                | TEEL-2                | TEEL-3                  |
|-------------------------|---|-----------------------|-----------------------|-------------------------|
| polydimethylsiloxane(s) | Dimethyl siloxane; (Dimethylpolysiloxane; Syltherm XLT; Syltherm 800; Silicone 360) | 65 mg/m <sup>3</sup>  | 720 mg/m <sup>3</sup> | 4,300 mg/m <sup>3</sup> |
| polydimethylsiloxane(s) | Polydimethyl siloxane; (Dimethylpolysiloxane)                                       | 6.8 mg/m <sup>3</sup> | 75 mg/m <sup>3</sup>  | 450 mg/m <sup>3</sup>   |
| crotonaldehyde          | Crotonaldehyde, trans-  | Not Available         | Not Available         | Not Available           |
| crotonaldehyde          | Crotonaldehyde, cis-  | Not Available         | Not Available         | Not Available           |

| Ingredient                    | Original IDLH | Revised IDLH  |
|-------------------------------|---------------|---------------|
| polydimethylsiloxane(s)       | Not Available | Not Available |
| 2-propylheptanol, ethoxylated | Not Available | Not Available |
| crotonaldehyde                | 50 ppm        | Not Available |
| water                         | Not Available | Not Available |

## Occupational Exposure Banding

| Ingredient                    | Occupational Exposure Band Rating  | Occupational Exposure Band Limit |
|-------------------------------|--|----------------------------------|
| 2-propylheptanol, ethoxylated | E  | ≤ 0.1 ppm                        |
| Notes:                        | Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health. |                                  |

## MATERIAL DATA

## Exposure controls

|                                  |   |                                |
|----------------------------------|---|--------------------------------|
| Appropriate engineering controls | <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. 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> <p>General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> |                                |
|                                  | Type of Contaminant:  | Air Speed:                     |
|                                  | solvent, vapours, degreasing etc., evaporating from tank (in still air)   | 0.25-0.5 m/s<br>(50-100 f/min) |

## Hyper Dressing

|   |   |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
|---|---|------------------------|------------------------|---|---------------------------------|---|----------------------------------|----------------------------------|-------------------------------|---|------------------------------------|--|
|   | <p>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</p> <p>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</p> <p>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</p> <p>Within each range the appropriate value depends on:</p> <table><tr><td>Lower end of the range</td><td>Upper end of the range</td></tr><tr><td>1: Room air currents minimal or favourable to capture</td><td>1: Disturbing room air currents</td></tr><tr><td>2: Contaminants of low toxicity or of nuisance value only</td><td>2: Contaminants of high toxicity</td></tr><tr><td>3: Intermittent, low production.</td><td>3: High production, heavy use</td></tr><tr><td>4: Large hood or large air mass in motion</td><td>4: Small hood - local control only</td></tr></table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>   | Lower end of the range | Upper end of the range | 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents | 2: Contaminants of low toxicity or of nuisance value only | 2: Contaminants of high toxicity | 3: Intermittent, low production. | 3: High production, heavy use | 4: Large hood or large air mass in motion | 4: Small hood - local control only | <p>0.5-1 m/s (100-200 f/min.)</p> <p>1-2.5 m/s (200-500 f/min)</p> <p>2.5-10 m/s (500-2000 f/min.)</p> |
| Lower end of the range                                    | Upper end of the range  |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| 1: Room air currents minimal or favourable to capture     | 1: Disturbing room air currents   |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| 2: Contaminants of low toxicity or of nuisance value only | 2: Contaminants of high toxicity  |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| 3: Intermittent, low production.                          | 3: High production, heavy use   |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| 4: Large hood or large air mass in motion                 | 4: Small hood - local control only  |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| Personal protection                                       |    |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| Eye and face protection                                   | <ul style="list-style-type: none"><li>▶ Safety glasses with side shields.</li><li>▶ Chemical goggles.</li><li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. 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. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li></ul>   |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| Skin protection   | See Hand protection below   |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| Hands/feet protection                                     | <ul style="list-style-type: none"><li>▶ Wear chemical protective gloves, e.g. PVC.</li><li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li></ul> <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> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"><li>• frequency and duration of contact,</li><li>• chemical resistance of glove material,</li><li>• glove thickness and</li><li>• dexterity</li></ul> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"><li>• When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li><li>• When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li><li>• Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.</li><li>• Contaminated gloves should be replaced.</li></ul> <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"><li>• Excellent when breakthrough time &gt; 480 min</li><li>• Good when breakthrough time &gt; 20 min</li><li>• Fair when breakthrough time &lt; 20 min</li><li>• Poor when glove material degrades</li></ul> <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"><li>• Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li><li>• Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li></ul> <p>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> |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| Body protection   | See Other protection below  |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |
| Other protection  | <ul style="list-style-type: none"><li>▶ Overalls.</li><li>▶ P.V.C apron.</li><li>▶ Barrier cream.</li><li>▶ Skin cleansing cream.</li></ul>   |                        |                        |   |                                 |   |                                  |                                  |                               |   |                                    |  |

## Hyper Dressing

▶ Eye wash unit.

## 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:

Hyper Dressing

| Material       | CPI |
|----------------|-----|
| BUTYL          | A   |
| NATURAL RUBBER | C   |
| NEOPRENE       | C   |
| PVA            | C   |
| TEFLON         | C   |
| VITON          | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

## Respiratory protection

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

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

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

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator  |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 10 x ES                      | A-AUS P2             | -                    | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | A-AUS / Class 1 P2   | -                       |
| up to 100 x ES                     | -                    | A-2 P2               | A-PAPR-2 P2 ^           |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

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

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

|   |   |  |                |
|---|---|--|----------------|
| <b>Appearance</b>                                   | Milky blue liquid with sweet grape odour; mixes with water. |  |                |
| <b>Physical state</b>                               | Liquid  | <b>Relative density (Water = 1)</b>            | 0.98-1         |
| <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>                             | 5-6.5   | <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> | 100   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | >100 (CC)   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Applicable  | <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>               | Negligible     |
| <b>Vapour pressure (kPa)</b>                        | Not Available   | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water</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>▶ Silicone fluids are stable under normal storage conditions.</li> <li>▶ Hazardous polymerisation will not occur.</li> <li>▶ At temperatures &gt; 150 C, silicones can slowly react with the oxygen in air.</li> <li>▶ When heated &gt; 300 C, silicones can slowly depolymerise to volatile siloxanes whether or not air is present.</li> <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   |

Continued...

## Hyper Dressing

|   |               |
|---|---------------|
| <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>The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>The low vapour pressure of silicone fluids make exposures to potentially harmful vapours unlikely. The vapours of a low molecular weight member of this family, hexamethyldisiloxane, were tolerated by guinea pigs at concentrations of 25000 ppm for 30 minutes without apparent ill-effect. Higher saturated vapour concentrations (39000-40000 ppm) produced death in 15-20 minutes; deaths appeared to occur as a result of respiratory failure as animals removed from exposure, prior to death, almost always survived. Although animal studies show that silicone fluids are removed very slowly from the lungs, their presence is not expected to produce adverse effects; exposure to aerosols is unlikely to result in damage to the health. When heated at high temperatures, the fumes and oxidation products of methyl silicones can be both irritating and produce toxic effects following inhalation. Massive exposures of heated silicone oil can produce central nervous system depression leading to death. Not normally a hazard due to non-volatile nature of product</p>   |
| <b>Ingestion</b>    | <p>Animal studies with silicone fluids indicate that acute toxicity is very low; large doses are required to produce death. Some silicone fluids have a laxative action and may also produce central nervous system depression. Silicone fluids have been used for their defoaming and flatulence-reducing action in the gastrointestinal tract without any reported ill-effects. Aspiration of silicone fluids or emulsions may produce chemical pneumonitis.</p> <p>High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort. Ingestion may result in nausea, abdominal irritation, pain and vomiting</p>   |
| <b>Skin Contact</b> | <p>Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Low molecular weight silicone fluids may exhibit solvent action and may produce skin irritation.</p> <p>One of the mechanisms of skin irritation caused by surfactants is considered to be denaturation of the proteins of skin. It has also been established that there is a connection between the potential of surfactants to denature protein in vitro and their effect on the skin. Nonionic surfactants do not carry any net charge and, therefore, they can only form hydrophobic bonds with proteins. For this reason, proteins are not deactivated by nonionic surfactants, and proteins with poor solubility are not solubilized by nonionic surfactants</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, puncture wounds 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>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. When the eyes of human subjects were exposed to silicone fluids, there was evidence of transitory conjunctival irritation within a few hours; this resolved within 24 hours. When applied to the eyes of rabbits, silicone fluids produced transitory irritation which lasted no longer than 48 hours. Injection into the various structures of the eye of animals produced corneal scarring, degenerative changes in the retina, foreign body reaction and cataracts.</p> <p>Some nonionic surfactants may produce a localised anaesthetic effect on the cornea; this may effectively eliminate the warning discomfort produced by other substances and lead to corneal injury. Irritant effects range from minimal to severe dependent on the nature of the surfactant, its concentration and the duration of contact. Pain and corneal damage represent the most severe manifestation of irritation.</p>  |
| <b>Chronic</b>      | Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.   |

|                                      |   |                                  |
|--------------------------------------|---|----------------------------------|
| <b>Hyper Dressing</b>                | <b>TOXICITY</b>   | <b>IRRITATION</b>                |
|                                      | Dermal (None) LD50: >5000 mg/kg <sup>[2]</sup>              | Not Available                    |
|                                      | Inhalation (None) LC50: >50 mg/l/4h(vapour)* <sup>[2]</sup> |                                  |
|                                      | Oral (None) LD50: >5000 mg/kg* <sup>[2]</sup>               |                                  |
| <b>polydimethylsiloxane(s)</b>       | <b>TOXICITY</b>   | <b>IRRITATION</b>                |
|                                      | Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>            | Eye (rabbit): 100 mg/1h - mild.  |
|                                      | Oral (rat) LD50: >17000 mg/kg <sup>[2]</sup>                |                                  |
| <b>2-propylheptanol, ethoxylated</b> | <b>TOXICITY</b>   | <b>IRRITATION</b>                |
|                                      | Not Available   | Not Available                    |
| <b>crotonaldehyde</b>                | <b>TOXICITY</b>   | <b>IRRITATION</b>                |
|                                      | Dermal (rabbit) LD50: 128-170 mg/kg <sup>[2]</sup>          | Eye (rabbit): 45 ppm             |
|                                      | Inhalation (rat) LC50: 0.275 mg/l/60M <sup>[2]</sup>        | Skin (rabbit): 500 mg(open)-mild |
|                                      | Oral (rat) LD50: 80 mg/kg <sup>[2]</sup>                    |                                  |
| <b>water</b>                         | <b>TOXICITY</b>   | <b>IRRITATION</b>                |
|                                      | Oral (rat) LD50: >90000 mg/kg <sup>[2]</sup>                | Not Available                    |



## Hyper Dressing

**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

## POLYDIMETHYLSILOXANE(S)

NOTE: Tumorigenic in rats : Neoplastic by RTECS criteria. Product subject to review for use in body implants Chronic exposure Carcinogenicity-rat-Implant Tumorigenic:Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Endocrine:Tumors

For siloxanes:

Effects which based on the reviewed literature do not seem to be problematic are acute toxicity, irritant effects, sensitization and genotoxicity. Some studies indicate that some of the siloxanes may have endocrine disrupting properties, and reproductive effects have caused concern about the possible effects of the siloxanes on humans and the environment.

Only few siloxanes are described in the literature with regard to health effects, and it is therefore not possible to make broad conclusions and comparisons of the toxicity related to short-chained linear and cyclic siloxanes based on the present evaluation. Data are primarily found on the cyclic siloxanes D4 (octamethylcyclotetrasiloxane) and D5 (decamethylcyclopentasiloxane) and the short-linear HMDS (hexamethyldisiloxane).

These three siloxanes have a relatively low order of acute toxicity by oral, dermal and inhalatory routes and do not require classification for this effect.

They are not found to be irritating to skin or eyes and are also not found sensitizing by skin contact. Data on respiratory sensitization have not been identified.

Subacute and subchronic toxicity studies show that the liver is the main target organ for D4 which also induces liver cell enzymes. This enzyme induction contributes to the elimination of the substance from the tissues. Primary target organ for D5 exposure by inhalation is the lung. D5 has an enzyme induction profile similar to that of D4. Subacute and subchronic inhalation of HMDS affect in particular the lungs and kidneys in rats. None of the investigated siloxanes show any signs of genotoxic effects *in vitro* or *in vivo*. Preliminary results indicate that D5 has a potential carcinogenic effect.

D4 is considered to impair fertility in rats by inhalation and is classified as a substance toxic to reproduction in category 3 with the risk phrase R62 ('Possible risk of impaired fertility').

The results of a study to screen for oestrogen activity indicate that D4 has very weak oestrogenic and antioestrogenic activity and is a partial agonist (enhances the effect of the estrogen). It is not uncommon for compounds that are weakly oestrogenic to also have antioestrogenic properties. Comparison of the oestrogenic potency of D4 relative to ethinyloestradiol (steroid hormone) indicates that D4 is 585,000 times less potent than ethinyloestradiol in the rat strain Sprague- Dawley and 3.7 million times less potent than ethinyloestradiol in the Fisher-344 rat strain. Because of the lack of effects on other endpoints designated to assess oestrogenicity, the oestrogenicity as mode of action for the D4 reproductive effects has been questioned. An indirect mode of action causing a delay of the LH (luteinising hormone) surge necessary for optimal timing of ovulation has been suggested as the mechanism.

Based on the reviewed information, the critical effects of the siloxanes are impaired fertility (D4) and potential carcinogenic effects (uterine tumours in females). Furthermore there seem to be some effects on various organs following repeated exposures, the liver (D4), kidney (HMDS) and lung (D5 and HMDS) being the target organs.

A possible oestrogenic effect contributing to the reproductive toxicity of D4 is debated. There seems however to be some indication that this toxicity may be caused by another mechanism than oestrogen activity.

Studies are available for linear siloxanes from an analogue group comprising di- to hexa- siloxanes, as well as key physicochemical properties. The results of the acute toxicity studies for this analogue group are in agreement: there is no evidence from any of the available studies that the substances in this group have any potential for acute toxicity (in terms of either lethality or adverse clinical effects) by any route up to and exceeding the maximum dose levels tested according to current OECD guidelines. It is therefore valid to read-across the lack of acute toxicity between the members of the group where there are data gaps

The metabolism of silanes and siloxanes is influenced by the chemistry of silicon, and it is fundamentally different from that of carbon compounds. These differences are due to the fact that silicon is more electropositive than carbon; Si-Si bonds are less stable than C-C bonds and Si-O bonds form very readily, the latter due to their high bond energy. Functional groups such as -OH, -CO<sub>2</sub>H, and -CH<sub>2</sub>OH are commonly seen in organic drug metabolites. If such functionalities are formed from siloxane metabolism, they will undergo rearrangement with migration of the Si atom from carbon to oxygen. Consequently, alpha hydroxysilanes may isomerise to silanols and this provides a mechanism by which very polar metabolites may be formed from highly hydrophobic alkylsiloxanes in relatively few metabolic steps

2-PROPYLHEPTANOL,  
ETHOXYLATED

Human beings have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents, and other cleaning products . Exposure to these chemicals can occur through ingestion, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that volumes well above a reasonable intake level would have to occur to produce any toxic response. Moreover, no fatal case of poisoning with alcohol ethoxylates has ever been reported. Multiple studies investigating the acute toxicity of alcohol ethoxylates have shown that the use of these compounds is of low concern in terms of oral and dermal toxicity .

Clinical animal studies indicate these chemicals may produce gastrointestinal irritation such as ulcerations of the stomach, pilo-erection, diarrhea, and lethargy. Similarly, slight to severe irritation of the skin or eye was generated when undiluted alcohol ethoxylates were applied to the skin and eyes of rabbits and rats. The chemical shows no indication of being a genotoxin, carcinogen, or mutagen (HERA 2007). No information was available on levels at which these effects might occur, though toxicity is thought to be substantially lower than that of nonylphenol ethoxylates. Polyethers, for example, ethoxylated surfactants and polyethylene glycols, are highly susceptible towards air oxidation as the ether oxygens will stabilize intermediary radicals involved. Investigations of a chemically well-defined alcohol (pentaethylene glycol mono-n-dodecyl ether) ethoxylate, showed that polyethers form complex mixtures of oxidation products when exposed to air.

Sensitization studies in guinea pigs revealed that the pure nonoxidized surfactant itself is nonsensitizing but that many of the investigated oxidation products are sensitizers. Two hydroperoxides were identified in the oxidation mixture, but only one (16-hydroperoxy-3,6,9,12,15-pentaoxaheptacosan-1-ol ) was stable enough to be isolated. It was found to be a strong sensitizer in LLNA (local lymph node assay for detection of sensitization capacity). The formation of other hydroperoxides was indicated by the detection of their corresponding aldehydes in the oxidation mixture .

On the basis of the lower irritancy, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their susceptibility towards autoxidation also increases the irritation. Because of their irritating effect, it is difficult to diagnose ACD to these compounds by patch testing.

Alcohol ethoxylates are according to CESIO (2000) classified as Irritant or Harmful depending on the number of EO-units:

EO < 5 gives Irritant (Xi) with R38 (Irritating to skin) and R41 (Risk of serious damage to eyes)

EO > 5-15 gives Harmful (Xn) with R22 (Harmful if swallowed) - R38/41

EO > 15-20 gives Harmful (Xn) with R22-41

>20 EO is not classified (CESIO 2000)

Oxo-AE, C13 EO10 and C13 EO15, are Irritating (Xi) with R36/38 (Irritating to eyes and skin) .

AE are not included in Annex 1 of the list of dangerous substances of the Council Directive 67/548/EEC

In general, alcohol ethoxylates (AE) are readily absorbed through the skin of guinea pigs and rats and through the gastrointestinal mucosa of rats. AE are quickly eliminated from the body through the urine, faeces, and expired air (CO<sub>2</sub>). Orally dosed AE was absorbed rapidly and extensively in rats, and more than 75% of the dose was absorbed. When applied to the skin of humans, the doses were absorbed slowly and incompletely (50% absorbed in 72 hours). Half of the absorbed surfactant was excreted promptly in the urine and smaller amounts of AE appeared in the faeces and expired air (CO<sub>2</sub>) . The metabolism of C12 AE yields PEG, carboxylic acids, and CO<sub>2</sub> as metabolites. The LD50 values after oral administration to rats range from about 1-15 g/kg body weight indicating a low to moderate acute toxicity.

The ability of nonionic surfactants to cause a swelling of the stratum corneum of guinea pig skin has been studied. The swelling mechanism of the skin involves a combination of ionic binding of the hydrophilic group as well as hydrophobic interactions of the alkyl chain with the substrate. One of the mechanisms of skin irritation caused by surfactants is considered to be denaturation of the proteins of skin. It has also been established that there is a connection between the potential of surfactants to denature protein *in vitro* and their effect on the skin. Nonionic



## Hyper Dressing

surfactants do not carry any net charge and, therefore, they can only form hydrophobic bonds with proteins. For this reason, proteins are not deactivated by nonionic surfactants, and proteins with poor solubility are not solubilized by nonionic surfactants. A substantial amount of toxicological data and information in vivo and in vitro demonstrates that there is no evidence for alcohol ethoxylates (AEs) being genotoxic, mutagenic or carcinogenic. No adverse reproductive or developmental effects were observed. The majority of available toxicity studies revealed NOAELs in excess of 100 mg/kg bw/d but the lowest NOAEL for an individual AE was established to be 50 mg/kg bw/day. This value was subsequently considered as a conservative, representative value in the risk assessment of AE. The effects were restricted to changes in organ weights with no histopathological organ changes with the exception of liver hypertrophy (indicative of an adaptive response to metabolism rather than a toxic effect). It is noteworthy that there was practically no difference in the NOAEL in oral studies of 90-day or 2 years of duration in rats. A comparison of the aggregate consumer exposure and the systemic NOAEL (taking into account an oral absorption value of 75%) results in a Margin of Exposure of 5,800. Taking into account the conservatism in the exposure assessment and the assigned systemic NOAEL, this margin of exposure is considered more than adequate to account for the inherent uncertainty and variability of the hazard database and inter and intra-species extrapolations.

AEs are not contact sensitizers. Neat AE are irritating to eyes and skin. The irritation potential of aqueous solutions of AEs depends on concentrations. Local dermal effects due to direct or indirect skin contact in certain use scenarios where the products are diluted are not of concern as AEs are not expected to be irritating to the skin at in-use concentrations. Potential irritation of the respiratory tract is not a concern given the very low levels of airborne AE generated as a consequence of spray cleaner aerosols or laundry powder detergent dust.

In summary, the human health risk assessment has demonstrated that the use of AE in household laundry and cleaning detergents is safe and does not cause concern with regard to consumer use.

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. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

For acrolein:

The overall evidence from acute, intermediate, and chronic duration studies in experimental animals indicates that the respiratory system is a target for acrolein. While the entire respiratory tract may be affected by acrolein inhalation, the nasal epithelium appears to be more sensitive at lower exposures (<1 ppm), which is consistent with human perception of nasal irritation. The deeper respiratory regions (bronchiolar and alveolar regions) appear to be sensitive to higher exposure levels, with severe effects being observed from exposures of 100 ppm or higher. The available data do not suggest species differences in the respiratory toxicity of acrolein. Humans and animals appear to show similar low concentration effects (i.e., mild irritation). It should be noted, however, that rodents are obligate nosebreathers, while humans are mouth-breathers. As a result, the lower respiratory tract of rodents may not present as likely a target organ as that of humans.

The data in experimental animals clearly indicate that respiratory toxicity is a primary cause of acrolein lethality following inhalation and show an inverse relationship between the exposure concentration and the time it takes for death to occur after acute-duration exposures. Exposure of rats to airborne concentrations of acrolein of 100-40,000 ppm for short periods of time (

Volunteers exposed to increasing levels of acrolein vapors for 35 minutes reported statistically significant nose irritation at 0.26 ppm, throat irritation at 0.43 ppm, and a decrease in respiratory rate at 0.60 ppm. No statistically significant difference was observed between controls and subjects exposed to 0.17 ppm. In the same study, constant exposure to 0.3 ppm acrolein for 40 minutes resulted in reports of mild nose irritation shortly after onset of exposure, while throat irritation was reported after 10 minutes. Severity of irritation was subjectively scored as "not at all" to "a little". A 20% decrease in respiratory rate was also observed. The significance of the decrease in respiratory rate is not clear, but in animals, particularly rodents, it is considered to represent a reflex response to protect the respiratory tract from toxicants.

Intermediate-duration exposures to acrolein concentrations between 0.4 and 5.0 ppm for up to 180 days caused increased relative lung weights, as well as histological alterations, inflammation across the entire respiratory tract, and oedema of rats, monkeys, guinea pigs, and dogs, and rabbits and hamsters. Decreased pulmonary function was observed in rats exposed to 4 ppm for up to 62 days. Daily 10-minute exposures of 262 ppm for 8 weeks resulted in peribronchial hemorrhage and bronchial lumen obstruction in rats.

**Gastrointestinal effects:** Gastrointestinal irritation is the primary effect of oral exposure to acrolein. Though the clinical signs are consistent and dose-related across acute and intermediate exposures, possible adaptation to irritating effects may have important implications for chronic exposures. Rats administered a single gavage dose of 25 mg/kg of acrolein in saline showed severe multifocal ulceration of the forestomach and glandular stomach 48 hours after dosing. The areas of ulceration showed severe inflammation, focal hemorrhage, and oedema

**Neurological effects:** Acrolein may induce release of peptides that could play a role in the physiological response to irritants. Concentrations of acrolein between 22 and 249 ppm for 10 minutes induced a dose-related decrease in substance P (a short-chain polypeptide that functions as a neurotransmitter or neuromodulator) and calcitonin gene-related peptide in nerve terminals innervating the trachea of rats. No change was seen in total nerve distribution and number or in vasoactive intestinal peptide. Likewise, substance P-mediated vasodilation of the rat upper respiratory tract was observed at 20 ppm, but not at 2-10 ppm, for 50 minutes.

**Reproductive effects:** Male and female rats exposed to 0.55 ppm acrolein continuously for 26 days prior to mating and presumed gestational days 0 through 22 showed not affect the number of pregnancies or the number and weights of the fetuses. In another study no effect was seen on the reproductive fitness of rats exposed to 0.4-4 ppm for 62 days.

**Carcinogenicity:** Hamsters exposed to a single acrolein concentration of 4.0 ppm for 7 hours/day, 5 days/week for 52 weeks showed no evidence of respiratory tract tumors or tumors in other tissues and organs. Rats exposed to 8 ppm acrolein for 1 hour/day, 7 days/week for 18 months showed no evidence of tumors in the respiratory tract or in other tissues and organs. As an electrophile, acrolein forms adducts with glutathione and other cellular components and is therefore cytotoxic. Mutagenicity was shown in some in vitro tests. Acrolein forms different DNA adducts in vivo, but mutagenic and cancerogenous effects have not been demonstrated for oral exposure. In subchronic oral studies, local lesions were detected in the stomach of rats. Systemic effects have not been reported from basic studies. A WHO working group established a tolerable oral acrolein intake of 7.5 µg/kg body weight/day. Acrolein exposure via food cannot be assessed due to analytical difficulties and the lack of reliable content measurements. Human biomonitoring of an acrolein urinary metabolite allows rough estimates of acrolein exposure in the range of a few µg/kg body weight/day. High exposure could be ten times higher after the consumption of certain foods. Although the estimation of the dietary acrolein exposure is associated with uncertainties, it is concluded that a health risk seems to be unlikely.

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 cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

The substance is classified by IARC as Group 3:

**NOT** classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

## CROTONALDEHYDE

2-PROPYLHEPTANOL,  
ETHOXYLATED & WATER

No significant acute toxicological data identified in literature search.

Acute Toxicity



Carcinogenicity



## Hyper Dressing

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Skin Irritation/Corrosion         | ✓ | Reproductivity           | ✗ |
| Serious Eye Damage/Irritation     | ✓ | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✗ |
| Mutagenicity                      | ✗ | Aspiration Hazard        | ✗ |

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

## SECTION 12 Ecological information

## Toxicity

| Hyper Dressing   | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|--|---------------|--------------------|-------------------------------|---------------|---------------|
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| polydimethylsiloxane(s)  | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | BCF           | 72                 | Fish                          | 1.33mg/L      | 4             |
| 2-propylheptanol, ethoxylated  | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | Not Available | Not Available      | Not Available                 | Not Available | Not Available |
| crotonaldehyde   | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | LC50          | 96                 | Fish                          | ≈0.6mg/L      | 1             |
|  | EC50          | 48                 | Crustacea                     | 2mg/L         | 2             |
|  | EC50          | 72                 | Algae or other aquatic plants | 0.597mg/L     | 2             |
|  | EC10          | 96                 | Algae or other aquatic plants | <0.385mg/L    | 2             |
|  | NOEC          | 984                | Fish                          | 0.025mg/L     | 2             |
| water  | Endpoint      | Test Duration (hr) | Species                       | Value         | Source        |
|  | LC50          | 96                 | Fish                          | 897.520mg/L   | 3             |
|  | EC50          | 96                 | Algae or other aquatic plants | 8768.874mg/L  | 3             |
| <b>Legend:</b> 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.

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

## Persistence and degradability

| Ingredient     | Persistence: Water/Soil   | Persistence: Air            |
|----------------|---------------------------|-----------------------------|
| crotonaldehyde | LOW (Half-life = 14 days) | LOW (Half-life = 0.75 days) |
| water          | LOW                       | LOW                         |

## Bioaccumulative potential

| Ingredient     | Bioaccumulation       |
|----------------|-----------------------|
| crotonaldehyde | LOW (LogKOW = 0.6013) |
| water          | LOW (LogKOW = -1.38)  |

## Mobility in soil

| Ingredient     | Mobility          |
|----------------|-------------------|
| crotonaldehyde | LOW (KOC = 5.096) |
| water          | LOW (KOC = 14.3)  |

## SECTION 13 Disposal considerations

## Waste treatment methods

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

Continued...

## Hyper Dressing

## SECTION 14 Transport information

## Labels Required

|                  |                |
|------------------|----------------|
| Marine Pollutant | NO             |
| HAZCHEM          | Not Applicable |

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

Not Applicable

## SECTION 15 Regulatory information

## Safety, health and environmental regulations / legislation specific for the substance or mixture

## polydimethylsiloxane(s) is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australian Inventory of Industrial Chemicals (AIIC)

## 2-propylheptanol, ethoxylated is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

## crotonaldehyde is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7

Australian Inventory of Industrial Chemicals (AIIC)

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

## water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

## National Inventory Status

| National Inventory             | Status  |
|--------------------------------|---|
| Australia - AIIC               | Yes   |
| Australia - Non-Industrial Use | No (polydimethylsiloxane(s); 2-propylheptanol, ethoxylated; crotonaldehyde; water)  |
| Canada - DSL                   | No (2-propylheptanol, ethoxylated)  |
| Canada - NDSL                  | No (polydimethylsiloxane(s); 2-propylheptanol, ethoxylated; crotonaldehyde; water)  |
| China - IECSC                  | Yes   |
| Europe - EINEC / ELINCS / NLP  | No (polydimethylsiloxane(s); 2-propylheptanol, ethoxylated)   |
| Japan - ENCS                   | No (2-propylheptanol, ethoxylated)  |
| Korea - KECI                   | Yes   |
| New Zealand - NZIoC            | Yes   |
| Philippines - PICCS            | No (2-propylheptanol, ethoxylated)  |
| USA - TSCA                     | Yes   |
| Taiwan - TCSI                  | Yes   |
| Mexico - INSQ                  | No (2-propylheptanol, ethoxylated)  |
| Vietnam - NCI                  | Yes   |
| Russia - ARIPS                 | No (2-propylheptanol, ethoxylated)  |
| <b>Legend:</b>                 | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets) |

## SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 29/07/2020 |
| Initial Date  | 29/07/2020 |

## Other information

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

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

## Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer

Continued...

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**Hyper Dressing**

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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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TEL (+61 3) 9572 4700.