

## Foamgrip PU

RLA Polymers Pty Ltd

Chemwatch Hazard Alert Code: 4

Chemwatch: 5278-29

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Safety Data Sheet according to WHS and ADG requirements

S.GHS.AUS.EN

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

#### Product Identifier

|                               |               |
|-------------------------------|---------------|
| Product name                  | Foamgrip PU   |
| Synonyms                      | Not Available |
| Proper shipping name          | AEROSOLS      |
| Other means of identification | Not Available |

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

|                          |   |
|--------------------------|---|
| Relevant identified uses | Use according to manufacturer's directions.<br>Application is by spray atomisation from a hand held aerosol pack<br>Expanding foam adhesive and insulating sealant. |
|--------------------------|---|

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

|                         |  |
|-------------------------|--|
| Registered company name | RLA Polymers Pty Ltd                           |
| Address                 | 215 Colchester Road Kilsyth VIC 3137 Australia |
| Telephone               | +61 3 9728 1644                                |
| Fax                     | +61 3 9728 6009                                |
| Website                 | www.rlagroup.com.au                            |
| Email                   | sales@rlagroup.com.au                          |

#### Emergency telephone number

|                                   |  |
|-----------------------------------|--|
| Association / Organisation        | Not Available  |
| Emergency telephone numbers       | +61 3 9728 1644 (RLA Group Technical Manager) business hours |
| Other emergency telephone numbers | 132766 (Security Monitoring Service)                         |

### 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              | Not Applicable   |
| Classification <sup>[1]</sup> | Aerosols Category 1, Gas under Pressure (Compressed gas), Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Respiratory Sensitizer Category 1, Skin Sensitizer Category 1, Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - repeated exposure Category 2 |
| Legend:                       | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI   |

#### Label elements

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

SIGNAL WORD **DANGER**

#### Hazard statement(s)

|      |   |
|------|---|
| H222 | Extremely flammable aerosol.                        |
| H280 | Contains gas under pressure; may explode if heated. |
| H332 | Harmful if inhaled.                                 |
| H315 | Causes skin irritation.                             |

|        |  |
|--------|--|
| H319   | Causes serious eye irritation.   |
| H334   | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H317   | May cause an allergic skin reaction.                                       |
| H351   | Suspected of causing cancer.   |
| H335   | May cause respiratory irritation.  |
| H373   | May cause damage to organs through prolonged or repeated exposure.         |
| AUH044 | Risk of explosion if heated under confinement                              |

**Precautionary statement(s) Prevention**

|      |  |
|------|--|
| P201 | Obtain special instructions before use.                            |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P211 | Do not spray on an open flame or other ignition source.            |
| P251 | Pressurized container: Do not pierce or burn, even after use.      |

**Precautionary statement(s) Response**

|           |  |
|-----------|--|
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P308+P313 | IF exposed or concerned: Get medical advice/attention.   |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.                  |
| P362      | Take off contaminated clothing and wash before reuse.  |

**Precautionary statement(s) Storage**

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

**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   |
|---------------|-----------|--|
| 101-68-8      | 40-48     | <u>4,4'-diphenylmethane diisocyanate (MDI)</u> |
| 9016-87-9     |           | <u>MDI oligomer</u>                            |
| 68476-85-7.   | <20       | <u>hydrocarbon propellant</u>                  |
| 74-98-6       |           | <u>propane</u>                                 |
| 106-97-8.     |           | <u>butane</u>                                  |
| 115-10-6      |           | <u>dimethyl ether</u>                          |
| Not Available | 10-30     | Ingredients determined not to be hazardous     |

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

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | <p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
| <b>Skin Contact</b> | <p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Remove any adhering solids with industrial skin cleansing cream.</li> <li>▶ <b>DO NOT use solvents.</b></li> <li>▶ Seek medical attention in the event of irritation.</li> </ul>  |
| <b>Inhalation</b>   | <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p> <p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>▶ Remove to fresh air.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul> |

|                  |   |
|------------------|---|
| <b>Ingestion</b> | Not considered a normal route of entry. |
|------------------|---|

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

Treat symptomatically.

For sub-chronic and chronic exposures to isocyanates:

- ▶ This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- ▶ Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- ▶ Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- ▶ Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- ▶ Some cross-sensitivity occurs between different isocyanates.
- ▶ Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- ▶ Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- ▶ Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- ▶ Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- ▶ There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

**NOTE:** Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV<sub>1</sub>, may not represent sensitivity.

[Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

#### SMALL FIRE:

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

#### LARGE FIRE:

- ▶ Water spray or fog.

### Special hazards arising from the substrate or mixture

|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

### Advice for firefighters

|                              |  |
|------------------------------|--|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul>  |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> <li>▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark.</li> </ul> <p>Combustion products include:</p> <ul style="list-style-type: none"> <li>▶ carbon monoxide (CO)</li> <li>▶ carbon dioxide (CO<sub>2</sub>)</li> <li>▶ isocyanates</li> <li>▶ and minor amounts of</li> <li>▶ hydrogen cyanide</li> <li>▶ nitrogen oxides (NO<sub>x</sub>)</li> <li>▶ other pyrolysis products typical of burning organic material.</li> </ul> |
| <b>HAZCHEM</b>               | 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

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> <li>▶ Shut off all possible sources of ignition and increase ventilation.</li> </ul>  |
| <b>Major Spills</b> | <p>For isocyanate spills of less than 40 litres (2 m<sup>2</sup>):</p> <ul style="list-style-type: none"> <li>▶ Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.</li> <li>▶ Notify supervision and others as necessary.</li> </ul> |

- ▶ Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots).
- ▶ Control source of leakage (where applicable).
- ▶ Avoid contamination with water, alkalis and detergent solutions.
- ▶ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.
- ▶ **DO NOT reseal container if contamination is suspected.**
- ▶ Open all containers with care.
- ▶ Clear area of personnel and move upwind.
- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ May be violently or explosively reactive.
- ▶ Wear breathing apparatus plus protective gloves.

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>     | <p>The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.</p> <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>▶ Prevent concentration in hollows and sumps.</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> </ul>   |

### Conditions for safe storage, including any incompatibilities

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Aerosol dispenser.</li> <li>▶ Check that containers are clearly labelled.</li> </ul>  |
| <b>Storage incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Avoid reaction with water, alcohols and detergent solutions.</li> <li>▶ Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, strong bases, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidisers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerisation reactions in these materials.</li> <li>▶ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.</li> <li>▶ The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.</li> <li>▶ For example, in "open vessel processes" (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in "closed vessel processes" (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.</li> </ul> <p>BREThERICK: Handbook of Reactive Chemical Hazards, 4th Edition</p> <ul style="list-style-type: none"> <li>▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances</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 | 4,4'-diphenylmethane diisocyanate (MDI) | Methylene bisphenyl isocyanate (MDI) | Not Available                     | Not Available                   | Not Available | Not Available |
| Australia Exposure Standards | hydrocarbon propellant                  | LPG (liquified petroleum gas)        | 1800 mg/m <sup>3</sup> / 1000 ppm | Not Available                   | Not Available | Not Available |
| Australia Exposure Standards | propane                                 | Propane                              | Not Available                     | Not Available                   | Not Available | Asphyxiant    |
| Australia Exposure Standards | butane                                  | Butane                               | 1900 mg/m <sup>3</sup> / 800 ppm  | Not Available                   | Not Available | Not Available |
| Australia Exposure Standards | dimethyl ether                          | Dimethyl ether                       | 760 mg/m <sup>3</sup> / 400 ppm   | 950 mg/m <sup>3</sup> / 500 ppm | Not Available | Not Available |

#### EMERGENCY LIMITS


| Ingredient                              | Material name   | TEEL-1                 | TEEL-2                | TEEL-3                |
|---|---|------------------------|-----------------------|-----------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | Methylene diphenyl diisocyanate; (Diphenylmethane diisocyanate; MDI)          | 0.45 mg/m <sup>3</sup> | Not Available         | Not Available         |
| 4,4'-diphenylmethane diisocyanate (MDI) | Methylenebis(isocyanato-benzene), 1,1'-; (Diphenyl methane diisocyanate)      | 29 mg/m <sup>3</sup>   | 40 mg/m <sup>3</sup>  | 240 mg/m <sup>3</sup> |
| MDI oligomer                            | Polymethylene polyphenyl isocyanate; (Polymeric diphenylmethane diisocyanate) | 0.15 mg/m <sup>3</sup> | 3.6 mg/m <sup>3</sup> | 22 mg/m <sup>3</sup>  |
| hydrocarbon propellant                  | Liquified petroleum gas; (L.P.G.)   | 65,000 ppm             | 2.30E+05 ppm          | 4.00E+05 ppm          |
| propane                                 | Propane   | Not Available          | Not Available         | Not Available         |
| butane                                  | Butane  | Not Available          | Not Available         | Not Available         |
| dimethyl ether                          | Methyl ether; (Dimethyl ether)  | 3,000 ppm              | 3800 ppm              | 7200 ppm              |

| Ingredient                              | Original IDLH        | Revised IDLH  |
|---|----------------------|---------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | 75 mg/m <sup>3</sup> | Not Available |

## Foamgrip PU

|  |                 |                      |
|--|-----------------|----------------------|
| MDI oligomer                               | Not Available   | Not Available        |
| hydrocarbon propellant                     | 2,000 [LEL] ppm | Not Available        |
| propane                                    | 2,100 [LEL] ppm | Not Available        |
| butane                                     | Not Available   | 1,600 (>10% LEL) ppm |
| dimethyl ether                             | Not Available   | Not Available        |
| Ingredients determined not to be hazardous | 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.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>  |
| <b>Personal protection</b>              |    |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> <li>▶ Close fitting gas tight goggles</li> </ul>  |
| <b>Skin protection</b>                  | See Hand protection below   |
| <b>Hands/feet protection</b>            | <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> <li>▶ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.</li> <li>▶ Protective gloves and overalls should be worn as specified in the appropriate national standard.</li> <li>▶ Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.</li> <li>▶ NOTE: Natural rubber, neoprene, PVC can be affected by isocyanates</li> <li>▶ No special equipment needed when handling small quantities.</li> <li>▶ <b>OTHERWISE:</b></li> <li>▶ For potentially moderate exposures:</li> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▶ For potentially heavy exposures:</li> <li>▶ Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul> |
| <b>Body protection</b>                  | See Other protection below  |
| <b>Other protection</b>                 | <p>No special equipment needed when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eyewash unit.</li> <li>▶ The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.</li> <li>▶ Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.</li> </ul> <p>BREITHERICK: Handbook of Reactive Chemical Hazards.</p>   |
| <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:

Foamgrip PU

| Material   | CPI |
|------------|-----|
| PE/EVAL/PE | 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 AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

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

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

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | Air-line*            | AX-2                 | AX-PAPR-2 ^            |
| up to 20 x ES                      | -                    | AX-3                 | -                      |
| 20+ x ES                           | -                    | Air-line**           | -                      |

\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

^ - 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.

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

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Light grey colour, opaque aerosol with hydrocarbon odour; not miscible with water. |  |                |
| <b>Physical state</b>                               | Compressed Gas   | <b>Relative density (Water = 1)</b>            | 1.02           |
| <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>          | 240 (MDI)      |
| <b>pH (as supplied)</b>                             | Not Applicable   | <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> | >200   | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | -81 (hydrocarbon propellant)   | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available  | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | HIGHLY FLAMMABLE.  | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | 16   | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | 1.5  | <b>Volatile Component (%vol)</b>               | Not Available  |
| <b>Vapour pressure (kPa)</b>                        | Negligible   | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water (g/L)</b>                    | Immiscible   | <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>▶ Elevated temperatures.</li> <li>▶ Presence of open flame.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> <li>▶ Presence of elevated temperatures.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

|                     |  |
|---------------------|--|
| <b>Inhaled</b>      | <p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of toxic gases may cause:</p> <ul style="list-style-type: none"> <li>▶ Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures;</li> <li>▶ respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest;</li> <li>▶ heart: collapse, irregular heartbeats and cardiac arrest;</li> <li>▶ gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain.</li> </ul> <p>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting. Pulmonary sensitisation may produce asthmatic reactions ranging from minor breathing difficulties to severe allergic attacks; this may occur following a single acute exposure or may develop without warning for several hours after exposure.</p> <p><b>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</b></p> |
| <b>Ingestion</b>    | <p>Accidental ingestion of the material may be damaging to the health of the individual. Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments</p>  |
| <b>Skin Contact</b> | <p>This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Spray mist may produce discomfort. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>   |

|                |  |
|----------------|--|
| <b>Eye</b>     | This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.<br>Not considered to be a risk because of the extreme volatility of the gas.  |
| <b>Chronic</b> | Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Harmful: danger of serious damage to health by prolonged exposure through inhalation. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.<br>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Main route of exposure to the gas in the workplace is by inhalation.<br><br>Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. [CCTRADE-Bayer, APMF]<br>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.<br><b>WARNING: Aerosol containers may present pressure related hazards.</b> |

|  | TOXICITY  | IRRITATION   |
|--|---|--|
| <b>Foamgrip PU</b>                             | Not Available   | Not Available  |
| <b>4,4'-diphenylmethane diisocyanate (MDI)</b> | Dermal (rabbit) LD50: >6200 mg/kg <sup>[2]</sup><br>Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>   | Dermal Sensitiser *<br>Skin (rabbit): 500 mg /24 hours |
| <b>MDI oligomer</b>                            | Dermal (rabbit) LD50: >9400 mg/kg <sup>[2]</sup><br>Inhalation (rat) LC50: 0.49 mg/l/4h <sup>[2]</sup><br>Oral (rat) LD50: 43000 mg/kg <sup>[2]</sup> | Eye (rabbit): 100 mg - mild                            |
| <b>hydrocarbon propellant</b>                  | Inhalation (rat) LC50: 84.684 mg/l/15 min <sup>[1]</sup><br>Inhalation (rat) LC50: 90.171125 mg/l/15 min <sup>[1]</sup>                               | Not Available  |
| <b>propane</b>                                 | Inhalation (rat) LC50: 84.684 mg/l/15 min <sup>[1]</sup>  | Not Available  |
| <b>butane</b>                                  | Inhalation (rat) LC50: 658 mg/l/4h <sup>[2]</sup>   | Not Available  |
| <b>dimethyl ether</b>                          | Inhalation (rat) LC50: 309 mg/l/4h <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>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)</b>                    | Inhalation (human) TCLo: 0.13 ppm/30 mins Eye (rabbit): 0.10 mg moderate  |
| <b>MDI OLIGOMER</b>   | product   |
| <b>HYDROCARBON PROPELLANT</b>                                     | No significant acute toxicological data identified in literature search. inhalation of the gas  |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.  |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.  |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.   |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.  |



|   |   |
|---|---|
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.   |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome. This group of compounds has therefore been classified as cancer-causing. |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.   |
| <b>4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) &amp; MDI OLIGOMER</b> | The substance is classified by IARC as Group 3:<br><b>NOT</b> classifiable as to its carcinogenicity to humans.<br>Evidence of carcinogenicity may be inadequate or limited in animal testing.  |

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

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

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

| Foamgrip PU                             | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|---|---------------|--------------------|---------------|---------------|---------------|
|   | Not Available | Not Available      | Not Available | Not Available | Not Available |
| 4,4'-diphenylmethane diisocyanate (MDI) | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|   | LC50          | 96                 | Fish          | >0.500mg/L    | 6             |
| MDI oligomer                            | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|   | Not Available | Not Available      | Not Available | Not Available | Not Available |
| hydrocarbon propellant                  | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|   | Not Available | Not Available      | Not Available | Not Available | Not Available |
| propane                                 | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|   | Not Available | Not Available      | Not Available | Not Available | Not Available |
| butane                                  | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|   | Not Available | Not Available      | Not Available | Not Available | Not Available |
| dimethyl ether                          | ENDPOINT      | TEST DURATION (HR) | SPECIES       | VALUE         | SOURCE        |
|   | LC50          | 96                 | Fish          | >4100.0mg/L   | 2             |
|   | EC50          | 48                 | Crustacea     | >4400.0mg/L   | 2             |
|   | NOEC          | 48                 | Crustacea     | >4000mg/L     | 1             |

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

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

### Persistence and degradability

| Ingredient                              | Persistence: Water/Soil  | Persistence: Air            |
|---|--------------------------|-----------------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (Half-life = 1 days) | LOW (Half-life = 0.24 days) |
| propane                                 | LOW                      | LOW                         |
| butane                                  | LOW                      | LOW                         |
| dimethyl ether                          | LOW                      | LOW                         |

### Bioaccumulative potential

Continued...



| Ingredient                              | Bioaccumulation     |
|---|---------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (BCF = 15)      |
| propane                                 | LOW (LogKOW = 2.36) |
| butane                                  | LOW (LogKOW = 2.89) |
| dimethyl ether                          | LOW (LogKOW = 0.1)  |

**Mobility in soil**

| Ingredient                              | Mobility           |
|---|--------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | LOW (KOC = 376200) |
| propane                                 | LOW (KOC = 23.74)  |
| butane                                  | LOW (KOC = 43.79)  |
| dimethyl ether                          | HIGH (KOC = 1.292) |

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

|                                     |  |
|-------------------------------------|--|
| <b>Product / Packaging disposal</b> | <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>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Discharge contents of damaged aerosol cans at an approved site.</li> <li>▶ Allow small quantities to evaporate.</li> <li>▶ <b>DO NOT</b> incinerate or puncture aerosol cans.</li> </ul> |
|-------------------------------------|--|

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

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

**Land transport (ADG)**

|                                     |   |                    |                    |                  |                |
|-------------------------------------|---|--------------------|--------------------|------------------|----------------|
| <b>UN number</b>                    | 1950  |                    |                    |                  |                |
| <b>UN proper shipping name</b>      | AEROSOLS  |                    |                    |                  |                |
| <b>Transport hazard class(es)</b>   | <table border="0"> <tr> <td>Class</td> <td>2.1</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>                              | Class              | 2.1                | Subrisk          | Not Applicable |
| Class                               | 2.1   |                    |                    |                  |                |
| Subrisk                             | Not Applicable  |                    |                    |                  |                |
| <b>Packing group</b>                | Not Applicable  |                    |                    |                  |                |
| <b>Environmental hazard</b>         | Not Applicable  |                    |                    |                  |                |
| <b>Special precautions for user</b> | <table border="0"> <tr> <td>Special provisions</td> <td>63 190 277 327 344</td> </tr> <tr> <td>Limited quantity</td> <td>1000ml</td> </tr> </table> | Special provisions | 63 190 277 327 344 | Limited quantity | 1000ml         |
| Special provisions                  | 63 190 277 327 344  |                    |                    |                  |                |
| Limited quantity                    | 1000ml  |                    |                    |                  |                |

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

|  |  |                    |                                   |                                 |                |                               |        |  |                |  |                  |
|--|--|--------------------|-----------------------------------|---------------------------------|----------------|-------------------------------|--------|--|----------------|--|------------------|
| <b>UN number</b>                         | 1950   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| <b>UN proper shipping name</b>           | Aerosols, flammable; Aerosols, flammable (engine starting fluid)   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| <b>Transport hazard class(es)</b>        | <table border="0"> <tr> <td>ICAO/IATA Class</td> <td>2.1</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>10L</td> </tr> </table>   | ICAO/IATA Class    | 2.1                               | ICAO / IATA Subrisk             | Not Applicable | ERG Code                      | 10L    |  |                |  |                  |
| ICAO/IATA Class                          | 2.1  |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| ICAO / IATA Subrisk                      | Not Applicable   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| ERG Code                                 | 10L  |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| <b>Packing group</b>                     | Not Applicable   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| <b>Environmental hazard</b>              | Not Applicable   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| <b>Special precautions for user</b>      | <table border="0"> <tr> <td>Special provisions</td> <td>A145 A167 A802; A1 A145 A167 A802</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>203</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>150 kg</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>203; Forbidden</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>75 kg; Forbidden</td> </tr> </table> | Special provisions | A145 A167 A802; A1 A145 A167 A802 | Cargo Only Packing Instructions | 203            | Cargo Only Maximum Qty / Pack | 150 kg | Passenger and Cargo Packing Instructions | 203; Forbidden | Passenger and Cargo Maximum Qty / Pack | 75 kg; Forbidden |
| Special provisions                       | A145 A167 A802; A1 A145 A167 A802  |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| Cargo Only Packing Instructions          | 203  |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| Cargo Only Maximum Qty / Pack            | 150 kg   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| Passenger and Cargo Packing Instructions | 203; Forbidden   |                    |                                   |                                 |                |                               |        |  |                |  |                  |
| Passenger and Cargo Maximum Qty / Pack   | 75 kg; Forbidden   |                    |                                   |                                 |                |                               |        |  |                |  |                  |

|   |                    |
|---|--------------------|
| Passenger and Cargo Limited Quantity Packing Instructions | Y203; Forbidden    |
| Passenger and Cargo Limited Maximum Qty / Pack            | 30 kg G; Forbidden |

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

|                                     |                    |                            |
|-------------------------------------|--------------------|----------------------------|
| <b>UN number</b>                    | 1950               |                            |
| <b>UN proper shipping name</b>      | AEROSOLS           |                            |
| <b>Transport hazard class(es)</b>   | IMDG Class         | 2.1                        |
|                                     | IMDG Subrisk       | Not Applicable             |
| <b>Packing group</b>                | Not Applicable     |                            |
| <b>Environmental hazard</b>         | Not Applicable     |                            |
| <b>Special precautions for user</b> | EMS Number         | F-D, S-U                   |
|                                     | Special provisions | 63 190 277 327 344 381 959 |
|                                     | Limited Quantities | 1000ml                     |

**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****4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI)(101-68-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|  |   |
|--|---|
| Australia Exposure Standards   | Australia Work Health and Safety Regulations 2016 - Hazardous chemicals (other than lead) requiring health monitoring |
| Australia Hazardous Substances Information System - Consolidated Lists | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs                         |
| Australia Inventory of Chemical Substances (AICS)                      |   |

**MDI OLIGOMER(9016-87-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|  |   |
|--|---|
| Australia Exposure Standards   | Australia Work Health and Safety Regulations 2016 - Hazardous chemicals (other than lead) requiring health monitoring |
| Australia Hazardous Substances Information System - Consolidated Lists | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs                         |
| Australia Inventory of Chemical Substances (AICS)                      |   |

**HYDROCARBON PROPELLANT(68476-85-7.) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|  |   |
|--|---|
| Australia Exposure Standards   | Australia Inventory of Chemical Substances (AICS)   |
| Australia Hazardous Substances Information System - Consolidated Lists | International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |

**PROPANE(74-98-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|  |   |
|--|---|
| Australia Exposure Standards   | Australia Inventory of Chemical Substances (AICS)   |
| Australia Hazardous Substances Information System - Consolidated Lists | International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |

**BUTANE(106-97-8.) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|  |   |
|--|---|
| Australia Exposure Standards   | Australia Inventory of Chemical Substances (AICS)   |
| Australia Hazardous Substances Information System - Consolidated Lists | International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |

**DIMETHYL ETHER(115-10-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|  |   |
|--|---|
| Australia Exposure Standards   | Australia Inventory of Chemical Substances (AICS)   |
| Australia Hazardous Substances Information System - Consolidated Lists | International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft |

| National Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | Y  |
| Canada - DSL                  | Y  |
| Canada - NDSL                 | N (dimethyl ether; butane; hydrocarbon propellant; 4,4'-diphenylmethane diisocyanate (MDI); propane; MDI oligomer) |
| China - IECSC                 | Y  |
| Europe - EINEC / ELINCS / NLP | N (MDI oligomer)   |
| Japan - ENCS                  | N (butane; hydrocarbon propellant)   |
| Korea - KECI                  | Y  |
| New Zealand - NZIoC           | Y  |
| Philippines - PICCS           | Y  |
| USA - TSCA                    | Y  |

**Legend:**

Y = All ingredients are on the inventory

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                   |
|---|--------------------------|
| 4,4'-diphenylmethane diisocyanate (MDI) | 101-68-8, 26447-40-5     |
| hydrocarbon propellant                  | 68476-85-7., 68476-86-8. |
| dimethyl ether                          | 115-10-6, 157621-61-9    |

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

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

### Definitions and abbreviations

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

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