



## Dunlop Trade Resaflex

Ardex (Ardex Australia)

Chemwatch: 4639-24

Version No: 6.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 08/01/2016

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S.GHS.AUS.EN

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

#### Product Identifier

|                               |                       |
|-------------------------------|-----------------------|
| Product name                  | Dunlop Trade Resaflex |
| Synonyms                      | ceramic tile adhesive |
| Other means of identification | Not Available         |

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

|                          |                        |
|--------------------------|------------------------|
| Relevant identified uses | Ceramic tile adhesive. |
|--------------------------|------------------------|

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

|                         |                                               |                                                  |
|-------------------------|-----------------------------------------------|--------------------------------------------------|
| Registered company name | Ardex (Ardex Australia)                       | Ardex (Ardex NZ)                                 |
| Address                 | 20 Powers Road Seven Hills NSW 2147 Australia | 32 Lane Street Woolston Christchurch New Zealand |
| Telephone               | 1800 224 070                                  | +64 3384 3029                                    |
| Fax                     | +61 2 9838 7817                               | +64 3384 9779                                    |
| Website                 | Not Available                                 | Not Available                                    |
| Email                   | Not Available                                 | Not Available                                    |

#### Emergency telephone number

|                                   |               |                                    |
|-----------------------------------|---------------|------------------------------------|
| Association / Organisation        | Not Available | Not Available                      |
| Emergency telephone numbers       | 1800 222 841  | 1800 222 841 (General information) |
| Other emergency telephone numbers | Not Available | Not Available                      |

### 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   |     |
| Toxicity     | 0   |     |
| Body Contact | 3   |     |
| Reactivity   | 1   |     |
| Chronic      | 2   |     |

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, Skin Sensitizer Category 1, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation) |
| Legend:            | 1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI                                                               |

#### Label elements

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

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## Dunlop Trade Resaflex

SIGNAL WORD **DANGER**

## Hazard statement(s)

|      |                                      |
|------|--------------------------------------|
| H315 | Causes skin irritation.              |
| H318 | Causes serious eye damage.           |
| H317 | May cause an allergic skin reaction. |
| H335 | May cause respiratory irritation.    |

## Precautionary statement(s) Prevention

|      |                                                                            |
|------|----------------------------------------------------------------------------|
| P271 | Use only outdoors or in a well-ventilated area.                            |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P261 | Avoid breathing dust/fumes.                                                |
| P272 | Contaminated work clothing should not be allowed out of the workplace.     |

## 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.                                                                            |
| P362           | Take off contaminated clothing and wash before reuse.                                                                            |
| P302+P352      | IF ON SKIN: Wash with plenty of soap and water.                                                                                  |

## Precautionary statement(s) Storage

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| P405      | Store locked up.                                                 |
| 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                   |
|---------------|-----------|------------------------|
| 65997-15-1    | 30-60     | <u>portland cement</u> |
| Not Available | 10-30     | rubber crumb           |
| 14808-60-7.   | 10-30     | <u>graded sand</u>     |
| Not Available | 1-10      | additives              |

## SECTION 4 FIRST AID MEASURES

## Description of first aid measures

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          |
| Inhalation   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>                                                                                   |
| Ingestion    | <ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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

Treat symptomatically.

## SECTION 5 FIREFIGHTING MEASURES

## Dunlop Trade Resaflex

**Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

**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>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Fire/Explosion Hazard</b> | <p>''''''</p> <ul style="list-style-type: none"> <li>▶ Solid which exhibits difficult combustion or is difficult to ignite.</li> <li>▶ Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.</li> <li>▶ Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.</li> <li>▶ A dust explosion may release large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.</li> </ul> <p>Other decomposition products include:<br/>carbon monoxide (CO)<br/>carbon dioxide (CO<sub>2</sub>)<br/>silicon dioxide (SiO<sub>2</sub>)<br/>metal oxides<br/>other pyrolysis products typical of burning organic material.<br/>May emit poisonous fumes.<br/>May emit corrosive fumes.</p> |
| <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 dust and contact with skin and eyes.</li> <li>▶ Wear protective clothing, gloves, safety glasses and dust respirator.</li> <li>▶ Use dry clean up procedures and avoid generating dust.</li> </ul> |
| <b>Major Spills</b> | <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ <b>CAUTION:</b> Advise personnel in area.</li> <li>▶ Alert Emergency Services and tell them location and nature of hazard.</li> <li>▶ Control personal contact by wearing protective clothing.</li> </ul>                              |

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

**SECTION 7 HANDLING AND STORAGE****Precautions for safe handling**

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Safe handling</b>     | <ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)</li> <li>▶ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.</li> <li>▶ Establish good housekeeping practices.</li> <li>▶ Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Keep dry.</li> <li>▶ Store under cover.</li> <li>▶ Protect containers against physical damage.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**Conditions for safe storage, including any incompatibilities**

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable container</b>      | <p>Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.</p> <p><b>NOTE:</b> Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.</p>                                                                                                    |
| <b>Storage incompatibility</b> | <ul style="list-style-type: none"> <li>▶ <b>WARNING:</b> Avoid or control reaction with peroxides. All <i>transition metal</i> peroxides should be considered as potentially explosive. For example transition metal complexes of alkyl hydroperoxides may decompose explosively.</li> <li>▶ The pi-complexes formed between chromium(0), vanadium(0) and other transition metals (haloarene-metal complexes) and mono-or poly-fluorobenzene</li> </ul> |

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- ▶ show extreme sensitivity to heat and are explosive.
- ▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
- ▶ Avoid contact with copper, aluminium and their alloys.
- ▶ Avoid reaction with oxidising agents

## 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 | portland cement | Portland cement                                                           | 10 mg/m3  | Not Available | Not Available | Not Available |
| Australia Exposure Standards | graded sand     | Silica - Crystalline: Quartz (respirable dust) / Quartz (respirable dust) | 0.1 mg/m3 | Not Available | Not Available | Not Available |

## EMERGENCY LIMITS

| Ingredient  | Material name                                 | TEEL-1      | TEEL-2   | TEEL-3    |
|-------------|-----------------------------------------------|-------------|----------|-----------|
| graded sand | Silica, crystalline-quartz; (Silicon dioxide) | 0.075 mg/m3 | 33 mg/m3 | 200 mg/m3 |

| Ingredient      | Original IDLH         | Revised IDLH  |
|-----------------|-----------------------|---------------|
| portland cement | N.E. mg/m3 / N.E. ppm | 5,000 mg/m3   |
| rubber crumb    | Not Available         | Not Available |
| graded sand     | N.E. mg/m3 / N.E. ppm | 50 mg/m3      |
| additives       | 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> </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> </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.</p> <ul style="list-style-type: none"> <li>▶ Neoprene rubber gloves</li> </ul> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> <li>▶ polychloroprene.</li> <li>▶ nitrile rubber.</li> <li>▶ butyl rubber.</li> </ul> |
| <b>Body protection</b>                  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C. apron.</li> <li>▶ Barrier cream.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Thermal hazards</b>                  | Not Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | P1<br>Air-line*      | -<br>-               | PAPR-P1<br>-           |
| up to 50 x ES                      | Air-line**           | P2                   | PAPR-P2                |

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|                |   |            |         |
|----------------|---|------------|---------|
| up to 100 x ES | - | P3         | -       |
|                |   | Air-line*  | -       |
| 100+ x ES      | - | Air-line** | PAPR-P3 |

\* - Negative pressure demand \*\* - Continuous flow

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)

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- ▶ The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- ▶ Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- ▶ Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- ▶ Try to avoid creating dust conditions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

|                                                     |                             |                                                |                |
|-----------------------------------------------------|-----------------------------|------------------------------------------------|----------------|
| <b>Appearance</b>                                   | Powder; insoluble in water. |                                                |                |
| <b>Physical state</b>                               | Divided Solid               | <b>Relative density (Water = 1)</b>            | 1.5 (bulk)     |
| <b>Odour</b>                                        | Not Available               | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available               | <b>Auto-ignition temperature (°C)</b>          | Not Applicable |
| <b>pH (as supplied)</b>                             | Not Applicable              | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available               | <b>Viscosity (cSt)</b>                         | Not Applicable |
| <b>Initial boiling point and boiling range (°C)</b> | Not Applicable              | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | Not Applicable              | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Applicable              | <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 Applicable |
| <b>Lower Explosive Limit (%)</b>                    | Not Applicable              | <b>Volatile Component (%vol)</b>               | Not Applicable |
| <b>Vapour pressure (kPa)</b>                        | Not Applicable              | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water (g/L)</b>                    | Immiscible                  | <b>pH as a solution (1%)</b>                   | Not Applicable |
| <b>Vapour density (Air = 1)</b>                     | Not Applicable              | <b>VOC g/L</b>                                 | Not Applicable |

## SECTION 10 STABILITY AND REACTIVITY

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

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhaled</b>   | <p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.</p> <p>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p> <p>Effects on lungs are significantly enhanced in the presence of respirable particles.</p> |
| <b>Ingestion</b> | <p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Skin Contact</b> | <p>This material can cause inflammation of the skin on contact in some persons.<br/>The material may accentuate any pre-existing dermatitis condition<br/>Handling wet cement can cause dermatitis. Cement when wet is quite alkaline and this alkali action on the skin contributes strongly to cement contact dermatitis since it may cause drying and defatting of the skin which is followed by hardening, cracking, lesions developing, possible infections of lesions and penetration by soluble salts.<br/>Open cuts, abraded or irritated skin should not be exposed to this material<br/>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Eye</b>          | <p>If applied to the eyes, this material causes severe eye damage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Chronic</b>      | <p>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.<br/>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.<br/>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.<br/>There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.<br/>Cement contact dermatitis (CCD) may occur when contact shows an allergic response, which may progress to sensitisation. Sensitisation is due to soluble chromates (chromate compounds) present in trace amounts in some cements and cement products. Soluble chromates readily penetrate intact skin. Cement dermatitis can be characterised by fissures, eczematous rash, dystrophic nails, and dry skin; acute contact with highly alkaline mixtures may cause localised necrosis.<br/>Overexposure to respirable dust may cause coughing, wheezing, difficulty in breathing and impaired lung function. Chronic symptoms may include decreased vital lung capacity, chest infections<br/>Repeated exposures, in an occupational setting, to high levels of fine- divided dusts may produce a condition known as pneumoconiosis which is the lodgement of any inhaled dusts in the lung irrespective of the effect. This is particularly true when a significant number of particles less than 0.5 microns (1/50,000 inch), are present. Lung shadows are seen in the X-ray.</p> |

|                              |                 |                   |
|------------------------------|-----------------|-------------------|
| <b>Dunlop Trade Resaflex</b> | <b>TOXICITY</b> | <b>IRRITATION</b> |
|                              | Not Available   | Not Available     |
| <b>portland cement</b>       | <b>TOXICITY</b> | <b>IRRITATION</b> |
|                              | Not Available   | Not Available     |
| <b>graded sand</b>           | <b>TOXICITY</b> | <b>IRRITATION</b> |
|                              | Not Available   | 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>PORTLAND CEMENT</b>                   | <p>The following information refers to contact allergens as a group and may not be specific to this product.<br/>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.<br/><br/>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.</p> |
| <b>PORTLAND CEMENT &amp; GRADED SAND</b> | <p>No significant acute toxicological data identified in literature search.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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

**Legend:** ✖ - Data available but does not fill the criteria for classification  
✔ - Data required to make classification available  
☹ - Data Not Available to make classification

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

| Ingredient    | Endpoint       | Test Duration (hr) | Species        | Value          | Source         |
|---------------|----------------|--------------------|----------------|----------------|----------------|
| Not Available | Not Applicable | Not Applicable     | Not Applicable | Not Applicable | Not Applicable |

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

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

**Persistence and degradability**

| Ingredient | Persistence: Water/Soil               | Persistence: Air                      |
|------------|---------------------------------------|---------------------------------------|
|            | No Data available for all ingredients | No Data available for all ingredients |

**Bioaccumulative potential**

| Ingredient | Bioaccumulation                       |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

**Mobility in soil**

| Ingredient | Mobility                              |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

**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> </ul> |

**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****PORTLAND CEMENT(65997-15-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|                              |                                                   |
|------------------------------|---------------------------------------------------|
| Australia Exposure Standards | Australia Inventory of Chemical Substances (AICS) |
|------------------------------|---------------------------------------------------|

**GRADED SAND(14808-60-7.) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

|                                                                        |                                                                                               |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Australia Exposure Standards                                           | Australia Inventory of Chemical Substances (AICS)                                             |
| Australia Hazardous Substances Information System - Consolidated Lists | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs |

| National Inventory            | Status                                                                                                                                                                                   |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AICS              | Y                                                                                                                                                                                        |
| Canada - DSL                  | Y                                                                                                                                                                                        |
| Canada - NDSL                 | N (portland cement; graded sand)                                                                                                                                                         |
| China - IECSC                 | Y                                                                                                                                                                                        |
| Europe - EINEC / ELINCS / NLP | Y                                                                                                                                                                                        |
| Japan - ENCS                  | N (portland cement)                                                                                                                                                                      |
| Korea - KECI                  | Y                                                                                                                                                                                        |
| New Zealand - NZIoC           | Y                                                                                                                                                                                        |
| Philippines - PICCS           | N (portland cement)                                                                                                                                                                      |
| USA - TSCA                    | Y                                                                                                                                                                                        |
| <b>Legend:</b>                | Y = All ingredients are on the inventory<br>N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

**SECTION 16 OTHER INFORMATION****Other information**

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

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

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

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

**Definitions and abbreviations**

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

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