

BT-1

PREMIUM GRADE POLYMER MODIFIED, FLEXIBLE WHITE CEMENT BASED TILE ADHESIVE. NON SLIP/NON SLUMP IDEAL FOR LARGE FORMAT TILES, OVER EXISTING TILES, INTERNAL, EXTERNAL AND SWIMMING POOLS.

TECHNICAL DATA SHEET



BT-1 is a premium grade polymer modified, highly flexible, white cement based tile adhesive. **BT-1** is non slip/non slump and ideal for large format tiles. It is designed for bonding all types of ceramic, stone and mosaic tiles onto a variety of substrates like concrete, render, brickwork, blockwork, Gyprock, plasterboard, fibre cement and appropriately prepared flooring boards. It can be used internally or externally on wall and floor surfaces. It can be used for fixing Porcelain and Vitrified tiles, and is suitable for use over and green screeds.

PRODUCT FEATURES

- C2 – High bond strength
- E – Extended open time
- T – Non slip / slump
- S2 – Highly Flexible
- White
- Extended coverage
- Water washable
- Suitable for areas where thermal movement is anticipated
- 0.9mm crack bridging capability
- Low VOC

SUITABLE TILE TYPES

- Terracotta
- Ceramic
- Porcelain
- Glass mosaics
- Natural Stone: including marble, granite, limestone & travertine

AREAS OF USE

- Interior & exterior applications
- Walls & floors
- Sand / cement screeds
- Concrete
- Cement render
- Plasterboard
- Fibrous cement sheeting
- Compressed fibrous cement sheeting
- Tiling over Beaumont's certified waterproofing membranes
- Existing Tiles
- Suitable for Green Screeds
- Suitable for use in fully submersed installations like concrete swimming pools and spa's

PREPARATION:

- **BT-1** is suitable for use over 7 day old concrete which has a woodfloat finish.
- All rendered surfaces must be allowed to cure for at least 24 hours prior to commencing tiling.
- The maximum variation in the plane of the concrete must not exceed 5mm in 3 metres for floors and 4mm in 2 metres for walls.
- Steel trowelled finished concrete surfaces must be mechanically or abraded prior to commencing tiling.
- Fibre Cement sheet when used as an underlay must be a minimum of 5mm in thickness. For heavy duty commercial applications it should be a minimum of 9mm thick and all should be fixed in accordance with the manufacturers instructions and the relevant standards.
- Compressed Fibre-Cement sheets when used as a floor substrate must be 15mm thick and when used as a wall substrate must be 9mm thick and must be installed in accordance with the manufacturer's instructions and the relevant standards.
- Gypsum - plasterboard sheets when used as a wall substrate must be a minimum of 10mm thick and installed in accordance with the manufacturer's instructions and the relevant standards.
- Ensure all surfaces are sound, dry and free from excessive movement, oil, dust, grease, wax, curing compounds, release agents and any other loose contaminating materials.
- All porous surfaces like concrete, screeds, fibre cement sheet etc. should be primed using Uniprime.
- When applying the primer onto a floor surface it is recommended to firstly pour some primer in a section then spread the primer using a broom, brush or roller. Then continue this method of application until the entire area is primed. Note: This method of application ensures a thorough coat of the primer on the surface.
- Allow the primer to dry for approximately 30-40 minutes at 20°C prior to commencing tiling.
- Any excess primer that has not dried should be removed with a rag prior to tiling.

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EXPANSION/MOVEMENT JOINTS:

Expansion / movement joints must be provided to allow for movement between adjacent building components. They should be as follows:

Over Existing joints in the substrate.

- Where two different substrates meet. e.g. Timber and Concrete.
- Around fixed elements in the floor e.g. Columns.
- At internal vertical corners.
- Around the perimeter of the floor.

• In internal floors where any dimension exceeds 9m or 6m if subjected to sunlight. Framed floors should have an expansion joint every 4.5m In external floors where any dimension exceeds 4.5 m.

• On wall surfaces at storey heights horizontally and approximately 3m-4.5m apart vertically. Ideally they should be located over movement joints in the structural background and at structural material changes, for example the horizontal joint at the bottom of floor slabs, vertical joints at internal vertical corners, and at junctions with columns.

• Movement joints should go right through the tile adhesive bed to the background and be kept free from dirt and adhesive droppings. Movement joints must not be less than 6mm and not wider than 10mm.

• The movement joints must be installed as per AS3958:2007.

MIXING:

• The mixing ratio of **BT-1** is approx 4.5 litres of water to each 15kg bag. Pour water into a clean drum. Gradually add the **BT-1** powder while mixing continuously until a smooth lump free mix is obtained.

• Always add powder to liquid. Allow to stand for 3 minutes, stir then apply the adhesive onto the substrate.

• The Open time of **BT-1** is approx 30 minutes @ 20°C, the Pot life of **BT-1** is 2 hours @ 20°C.

COVERAGE:

• A 15kg bag of **BT-1** will cover approximately 6-7m² using a 10mm notched trowel.

APPLICATION:

• All tiling should be carried out in accordance with Australian Standard AS3958.1-2007.

• Once the surface has been appropriately prepared in accordance with Beaumont's instructions then apply the adhesive onto the substrate using an appropriate notched trowel. For floor tiling use a 10mm x 10mm square notched trowel for tiles up to 300mm x 300mm. For tiles 300mm x 300mm and larger use a 12mm x 12mm square notched trowel and back butter each tile. For mosaic tiles use a 6mm x 6mm square notched trowel.

• For wall tiling use 6mm x 6mm square notched trowel for tiles up to 150mm x 150mm. For tiles larger than 150mm x 150mm use a 10mm x 10mm square notched trowel.

• **BT-1** should be applied onto the substrate at a rate of 1m² at a time. Application rates greater than this can result in the tile adhesive skinning before the tiles are laid into it.

• Once the adhesive is applied onto the substrate ensure that it does not skin prior to bedding the tiles into it. Once the adhesive skins do not lay tiles into it, but remove it and apply fresh adhesive.

• When placing the tiles into the adhesive press them in by using a sliding action. Ensure no voids occur and full coverage of adhesive is under the tiles.

• For tiles with lugs, grooves or uneven backing it may be required to butter the back of the tile with adhesive in addition to trowelling the adhesive onto the substrate.

• The final bed thickness of the adhesive should be at least 2mm for wall tiling and 3mm for floor tiling.

• Once the tiling is completed do not disturb the tiled surface for at least 24 hours at 20°C.

• Protect tiling from rain and inclement weather until 24 hours after grouting is complete.

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GROUTING APPLICATION:

- Grouting application can commence 24 hours after the completion of tiling.
- Grouting can be done using Beaumont's range of grouts.
- Clean up can be done using a damp sponge.
- Ensure you use a clean sponge every time.
- Grout will fully dry in 24 hours at 20°C, after which time the area can be put into service.

PACKAGING / SHELF LIFE:

- **BT-1** is available in 15kg bags.
- A bag of **BT-1**, when stored in a cool, dry environment, and is stored above ground level, will have a shelf life of approximately 12 months.

HANDY TIPS:

- Do not apply **BT-1** in temperatures above 30°C and below 5°C.
- In areas where more tolerance to movement is required, add RLA Uniflex mixed 50/50 with clean water to grout.
- **BT-1** cannot be used for fixing tiles directly onto tongue and groove timber flooring.
- For applications / situations not mentioned in these instructions please contact your nearest Beaumont Tiles.
- **BT-1** being cement based is alkaline in nature, and therefore may cause dermatitis. It is recommended that applicators wear PVC gloves or similar and safety goggles.
- For a full SDS on this product please contact your nearest Beaumont Tiles.

CLEAN UP:

- Excess adhesive from the face of the tiles can be cleaned up with damp cloth while the adhesive is still wet
- Adhesive that has oozed out into the grout joint must be raked out with a knife / spatula etc.
- Tools and other equipment can be cleaned up using water while the adhesive is still wet.

TECHNICAL DATA

Appearance	White Powder
Bulk Density	1.18 +/- 0.05
Open Time Approx	30 minutes @ 20°C
Adjustment Time	Approx 30 minutes @ 20°C
Pot Life	2 Hours @ 20°C
Ready for grouting	24 hours @ 20°C
Light foot traffic	24 hours
Ready for wet area service	3-4 days

Disclaimer: The information supplied is to the best of our knowledge true and accurate. The actual application of the product is beyond the manufacturers control. Any failure or damage caused by the incorrect usage of the product is not the responsibility of the manufacturer. The manufacturer insists that all workmanship must be carried out in accordance with AS 3958.1-2007. It is also the responsibility of the end user to ensure that the literature in their possession is the latest issue.

BT - 1

Beaumont Tiles

Version No: 6.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 23/10/2018

Print Date: 24/10/2018

S.GHS.AUS.EN

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

Product Identifier

Product name	BT - 1
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	Tile adhesive.
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Details of the supplier of the safety data sheet

Registered company name	Beaumont Tiles
Address	225 Marion Road, MARLESTON, SA, 5033
Telephone	+61 (08) 8292 4444
Fax	Not Available
Website	www.tiles.com.au
Email	info@tile.com.au

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 (08) 8292 4444
Other emergency telephone numbers	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.

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), Specific target organ toxicity - repeated exposure Category 2
Legend:	1. Classification drawn from HSIS; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s) Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
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P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1317-65-3	1-10	<u>limestone</u>
65997-15-1	30-60	<u>portland cement</u>
14808-60-7	10-30	<u>silica crystalline - quartz</u>
	10-30	Ingredients determined not to be hazardous

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

Eye Contact	<p>If this product comes in contact with the eyes:</p> <p>Immediately hold eyelids apart and flush the eye continuously with running water.</p> <p>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.</p> <p>Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</p> <p>Transport to hospital or doctor without delay.</p> <p>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</p>
Skin Contact	<p>If skin or hair contact occurs:</p> <p>Immediately flush body and clothes with large amounts of water, using safety shower if available.</p> <p>Quickly remove all contaminated clothing, including footwear.</p> <p>Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</p> <p>Transport to hospital, or doctor.</p>
Inhalation	<p>If fumes or combustion products are inhaled remove from contaminated area.</p> <p>Lay patient down. Keep warm and rested.</p> <p>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</p> <p>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.</p> <p>Transport to hospital, or doctor, without delay.</p>
Ingestion	<p>If swallowed do NOT induce vomiting.</p> <p>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</p> <p>Observe the patient carefully.</p> <p>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</p> <p>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</p> <p>Seek medical advice.</p>

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Advice for firefighters

Fire Fighting	Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water courses. Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. 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). 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. 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 - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. Combustion products include: carbon monoxide (CO) carbon dioxide (CO ₂) silicon dioxide (SiO ₂) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.
HAZCHEM	Not Applicable

SECTION 6 ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	Remove all ignition sources. Clean up all spills immediately. Avoid contact with skin and eyes. Control personal contact with the substance, by using protective equipment.
Major Spills	Moderate hazard. CAUTION: Advise personnel in area. Alert Emergency Services and tell them location and nature of hazard. Control personal contact by wearing protective clothing.

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

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

Safe handling	Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. 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) Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.
Other information	Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	Polyethylene or polypropylene container. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	WARNING: 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. The pi-complexes formed between chromium(0), vanadium(0) and other transition metals (haloarene-metal complexes) and mono- or poly-fluorobenzene 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	limestone	Calcium carbonate	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	portland cement	Portland cement	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	silica crystalline - quartz	Silica - Crystalline: Quartz (respirable dust)	0.1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	silica crystalline - quartz	Quartz (respirable dust)	0.1 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
limestone	Limestone; (Calcium carbonate; Dolomite)	45 mg/m3	500 mg/m3	3,000 mg/m3
limestone	Carbonic acid, calcium salt	45 mg/m3	210 mg/m3	1,300 mg/m3
silica crystalline - quartz	Silica, crystalline-quartz; (Silicon dioxide)	0.075 mg/m3	33 mg/m3	200 mg/m3

Ingredient	Original IDLH	Revised IDLH
limestone	Not Available	Not Available
portland cement	5,000 mg/m3	Not Available
silica crystalline - quartz	25 mg/m3 / 50 mg/m3	Not Available

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</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>
Personal protection	
Eye and face protection	<p>Safety glasses with side shields.</p> <p>Chemical goggles.</p> <p>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.</p>
Skin protection	See Hand protection below
Hands/feet protection	<p>NOTE:</p> <p>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.</p> <p>Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</p> <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> <p>Neoprene rubber gloves</p> <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"> polychloroprene. nitrile rubber. butyl rubber.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream.

Respiratory protection

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

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

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

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

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), 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

Appearance	Off white powder; slightly soluble in water forming an alkaline (caustic) product.		
Physical state	Divided Solid	Relative density (Water = 1)	1.9
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water (g/L)	Partly miscible	pH as a solution (1%)	>11 (1:1 with water)
Vapour density (Air = 1)	Not Applicable	VOC g/L	<1

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. 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>
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	<p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	If applied to the eyes, this material causes severe eye damage.
Chronic	<p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>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.</p> <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation.</p> <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.</p> <p>[Silica present in this product does not meet the criteria for the hazard statements for respirable fraction.</p>

BT - 1

BT - 1	TOXICITY	IRRITATION
	Not Available	Not Available
limestone	TOXICITY	IRRITATION
	Oral (rat) LD50: 6450 mg/kg ^[2]	Skin (rabbit): 500 mg/24h-moderate
portland cement	TOXICITY	IRRITATION
	Not Available	Not Available
silica crystalline - quartz	TOXICITY	IRRITATION
	Oral (rat) LD50: =500 mg/kg ^[2]	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

LIMESTONE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Eye (rabbit) 0.75: mg/24h - No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.
PORTLAND CEMENT	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. 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. No significant acute toxicological data identified in literature search.
SILICA CRYSTALLINE - QUARTZ	WARNING: For inhalation exposure <u>ONLY</u> : This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS The International Agency for Research on Cancer (IARC) has classified occupational exposures to respirable (<5 µm) crystalline silica as being carcinogenic to humans. This classification is based on what IARC considered sufficient evidence from epidemiological studies of humans for the carcinogenicity of inhaled silica in the forms of quartz and cristobalite. Crystalline silica is also known to cause silicosis, a non-cancerous lung disease. Intermittent exposure produces; focal fibrosis, (pneumoconiosis), cough, dyspnoea, liver tumours.

Acute Toxicity	⊘	Carcinogenicity	⊘
Skin Irritation/Corrosion	✓	Reproductivity	⊘
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✓
Mutagenicity	⊘	Aspiration Hazard	⊘

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

BT - 1	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
limestone	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>56000mg/L	4
	EC50	72	Algae or other aquatic plants	>14mg/L	2
	NOEC	72	Algae or other aquatic plants	14mg/L	2
portland cement	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
silica crystalline - quartz	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

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
	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"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority.
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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

LIMESTONE(1317-65-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Inventory of Chemical Substances(AICS)	
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)	

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

Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
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SILICA CRYSTALLINE - QUARTZ(14808-60-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

National Inventory Status

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (portland cement; silica crystalline - quartz)
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
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

Revision Date	23/10/2018
Initial Date	21/08/2017

Other information

Ingredients with multiple cas numbers

Name	CAS No
silica crystalline - quartz	14808-60-7, 122304-48-7, 122304-49-8, 12425-26-2, 1317-79-9, 70594-95-5, 87347-84-0, 308075-07-2

Classification of the preparation and its individual components has drawn on official and authoritative sources 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 – TWVA: 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