



BT-320

Characteristics:

- **BT-320** is a rubber modified, Non Slump flexible white cement based tile adhesive.
- It is designed for bonding all types of ceramic, stone and mosaic tiles onto a variety of substrates like concrete, render, rendered brickwork, block work, Gyprock, plasterboard and fibre cement surfaces.
- It can be used internally or externally on wall and floor surfaces.
- **BT-320** can be used for fixing low porosity tiles.
- **BT-320** can be used to fix tiles over existing tiles as long as the surface is coated with an appropriate etching primer.
- **BT-320** can be used to fix tiles over most waterproofing membranes. However it is advisable to contact the manufacturer prior to commencing.
- **BT-320** is fast setting, so tiles can be grouted 6-8 hours @ 20°C after the completion of tiling.
- **BT-320** has been tested in accordance with AS 4992.1-2007 and passes its requirements.
- Do not use for moisture sensitive stone like green marble.

Preparation:

- Ensure all concrete slabs are allowed to cure for at least 6 weeks and have a wood float finish.
- All rendered surfaces must be allowed to cure for at least 7 days prior to commencing tiling.
- The maximum variation in the plane of the concrete must not exceed 5mm in 3 meters for floors and 4mm in 2 meters for walls.
- Steel trowelled finished concrete surfaces must be mechanically or chemically abraded prior to commencing tiling.
- Fibre Cement sheet, when used as an underlay must be a minimum of 6mm 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.
- It is recommended that all porous surfaces be primed with an appropriate porous primer to ensure a sound bond of the adhesive to the substrate.
- 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 to 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.

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 comers.
- Around the perimeter of the floor.
- In internal floors where any dimension exceeds 9m or 6m if subjected to sunlight.
- In external floors where any dimension exceeds 4.5m.
- 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 comers, and at junctions with columns.



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- Movement joints should go right through the tile adhesive bed to the background and 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 filled with a flexible sealant like Silicone and installed as per AS3958:2007.

Mixing:

- The mixing ratio of **BT-320** is 20kg of powder to 6 litres of water.
- Pour 6 litres of clean water into a drum and then gradually add the **BT-320** while mixing continuously until a smooth lump free mix is obtained. Always add powder to liquid.
- Allow the mix to stand for 1 minute, re-stir and then apply the adhesive onto the substrate.

Application:

- 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. 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-320** should be applied onto the substrate at a rate of 1m² at a time. Application rates greater than this can result in the 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 larger than 330mm x 330mm or tiles with lugs, grooves or uneven backing it is 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 6 - 8 hours at 20°C.
- Protect tiling from rain and inclement weather until 24 hours after grouting is complete.

Coverage:

A 20kg bag of **BT-320** will cover approximately 7-8m² using a 10mm notched trowel.

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.

Grouting Application:

- Grouting application can commence 24 hours after the completion of tiling.
- Grouting can be done using Smooth or Sanded Grouts.
- Apply the grout onto the surface using a rubber float or squeegee. Work the grout in a diagonal motion to avoid dislodging the grout from the joints.
- 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.



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Packaging/Shelf Life:

- **BT-320** is available in 20kg bags.
- A bag of **BT-320** 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-320** in temperatures above 40°C and below 5°C.
- **BT-320** cannot be used for fixing tiles over timber or steel framed floors where spans are larger than 5m or in external areas, call Beaumont's for technical advice.
- **BT-320** cannot be used for fixing tiles in permanently immersed situations like swimming pools, spas etc. and permanently damp concrete slabs like those present around the pool surrounds etc.
- For applications / situations not mentioned in these instructions please contact your nearest Beaumont's.
- **BT-320** 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 MSDS on this product please contact your nearest Beaumont's.

Safety Directions:

- Hazardous - Contains cement and silica.
- Wear gloves and mask when handling.
- Wash hands thoroughly after use.

Manual Handling:

- Manual handling of this bag without due care and attention may result in personal injury.

Technical Data:

Appearance: Off White Powder
Bulk Density: 1.18 +/- 0.05
Open Time: Approx 20 minutes @ 20°C
Adjustment Time: Approx 30 minutes @ 20°C
Pot Life: 2 Hours @ 20°C

Ready for grouting: 16 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.

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Beaumont Tiles

Version No: 2.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 01/08/2017

Print Date: 06/10/2017

S.GHS.AUS.EN

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

Product Identifier

Product name	BT-320
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions. 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	N/A
Website	www.tile.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	132766 (Security Monitoring Service)

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. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

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

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P260	Do not breathe dust/fume/gas/mist/vapours/spray.
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
65997-15-1	20-50	portland cement
14808-60-7	10-30	graded sand
Not Available	0-20	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> <ul style="list-style-type: none"> Immediately hold eyelids apart and flush the eye continuously with running water. 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. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. 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. Transport to hospital, or doctor, without delay.
Ingestion	<ul style="list-style-type: none"> If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to iron and its derivatives:

- Always treat symptoms rather than history.
- In general, however, toxic doses exceed 20 mg/kg of ingested material (as elemental iron) with lethal doses exceeding 180 mg/kg.
- Control of iron stores depend on variation in absorption rather than excretion. Absorption occurs through aspiration, ingestion and burned skin.
- Hepatic damage may progress to failure with hypoprothrombinaemia and hypoglycaemia. Hepatorenal syndrome may occur.
- Iron intoxication may also result in decreased cardiac output and increased cardiac pooling which subsequently produces hypotension.
- Serum iron should be analysed in symptomatic patients. Serum iron levels (2-4 hrs post-ingestion) greater than 100 ug/dL indicate poisoning with levels, in excess of 350 ug/dL, being potentially serious. Emesis or lavage (for obtunded patients with no gag reflex) are the usual means of decontamination.
- Activated charcoal does not effectively bind iron.
- Catharsis (using sodium sulfate or magnesium sulfate) may only be used if the patient already has diarrhoea.
- Deferoxamine is a specific chelator of ferric (3+) iron and is currently the antidote of choice. It should be administered parenterally. [Ellenhorn and Barceloux: Medical Toxicology]

For acute or short term repeated exposures to dichromates and chromates:

- Absorption occurs from the alimentary tract and lungs.

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- ▶ The kidney excretes about 60% of absorbed chromate within 8 hours of ingestion. Urinary excretion may take up to 14 days.
- ▶ Establish airway, breathing and circulation. Assist ventilation.
- ▶ Induce emesis with Ipecac Syrup if patient is not convulsing, in coma or obtunded and if the gag reflex is present.
- ▶ Otherwise use gastric lavage with endotracheal intubation.
- ▶ Fluid balance is critical. Peritoneal dialysis, haemodialysis or exchange transfusion may be effective although available data is limited.
- ▶ British Anti-Lewisite, ascorbic acid, folic acid and EDTA are probably not effective.
- ▶ There are no antidotes.
- ▶ Primary irritation, including chrome ulceration, may be treated with ointments comprising calcium-sodium-EDTA. This, together with the use of frequently renewed dressings, will ensure rapid healing of any ulcer which may develop.

The mechanism of action involves the reduction of Cr (VI) to Cr(III) and subsequent chelation; the irritant effect of Cr(III)/ protein complexes is thus avoided. [ILO Encyclopedia]

[Ellenhorn and Barceloux: Medical Toxicology]

- ▶ Manifestation of aluminium toxicity include hypercalcaemia, anaemia, Vitamin D refractory osteodystrophy and a progressive encephalopathy (mixed dysarthria-apraxia of speech, asterixis, tremulousness, myoclonus, dementia, focal seizures). Bone pain, pathological fractures and proximal myopathy can occur.
- ▶ Symptoms usually develop insidiously over months to years (in chronic renal failure patients) unless dietary aluminium loads are excessive.
- ▶ Serum aluminium levels above 60 ug/ml indicate increased absorption. Potential toxicity occurs above 100 ug/ml and clinical symptoms are present when levels exceed 200 ug/ml.
- ▶ Deferoxamine has been used to treat dialysis encephalopathy and osteomalacia. CaNa2EDTA is less effective in chelating aluminium.

[Ellenhorn and Barceloux: Medical Toxicology]

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

- ▶ Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- ▶ Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- ▶ Oxygen is given as indicated.
- ▶ The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- ▶ Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- ▶ Milk and water are the preferred diluents

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

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

* Catharsis and emesis are absolutely contra-indicated.

* Activated charcoal does not absorb alkali.

* Gastric lavage should not be used.

Supportive care involves the following:

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

SKIN AND EYE:

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

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

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

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

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none">▶ Alert Fire Brigade and tell them location and nature of hazard.▶ Wear breathing apparatus plus protective gloves in the event of a fire.▶ Prevent, by any means available, spillage from entering drains or water courses.▶ Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	<ul style="list-style-type: none">▶ Non combustible.▶ Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of: <ul style="list-style-type: none">▶ metal oxides▶ silicon dioxide (SiO₂) May emit poisonous fumes.
HAZCHEM	May emit corrosive fumes.
	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	<ul style="list-style-type: none">▶ Remove all ignition sources.▶ Clean up all spills immediately.
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Major Spills

- ▶ Avoid contact with skin and eyes.
 - ▶ Control personal contact with the substance, by using protective equipment.
- 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.

Other information

- ▶ Store in original containers.
- ▶ Keep containers securely sealed.
- ▶ Store in a cool, dry area protected from environmental extremes.
- ▶ 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

- ▶ 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	Quartz (respirable dust)	0.1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	graded sand	Quartz (respirable dust)	0.1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	graded sand	Silica - Crystalline	Not Available	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	5,000 mg/m3	Not Available		
graded sand	Not Available	Not Available		
Ingredients determined not to be hazardous	Not Available	Not Available		

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

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.

Personal protection



Eye and face protection

- ▶ Safety glasses with side shields.
- ▶ Chemical goggles.
- ▶ 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.

Skin protection

See Hand protection below

Hands/feet protection

NOTE:

- ▶ 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.
- ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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

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checked prior to the application.

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.

Personal hygiene is a key element of effective hand care.

- ▶ Neoprene rubber gloves

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- ▶ polychloroprene,
- ▶ nitrile rubber,
- ▶ butyl rubber,

Body protection

See Other protection below

Other protection

- ▶ Overalls,
- ▶ P.V.C. apron,
- ▶ Barrier cream,

Thermal hazards

Not Available

Respiratory protection

Particulate (AS/NZS 1716 & 1715, EN 143:2000 & 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 Air-line*	-	PAPR-P1
up to 50 x ES	Air-line**	P2	PAPR-P2
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(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)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Various coloured powder; partially soluble in water forming an alkaline (caustic) product.		
Physical state	Divided Solid	Relative density (Water = 1)	1.0
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	>11	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	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%)	Not Available
Vapour density (Air = 1)	Not Applicable	VOC g/L	<1

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ 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

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Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. 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.	
	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.	
Ingestion	Effects on lungs are significantly enhanced in the presence of respirable particles.	
	Accidental ingestion of the material may be damaging to the health of the individual.	
Skin Contact	This material can cause inflammation of the skin on contact in some persons.	
	The material may accentuate any pre-existing dermatitis condition.	
Eye	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.	
	Skin contact may result in severe irritation particularly to broken skin. Ulceration known as "chrome ulcers" may develop. Chrome ulcers and skin cancer are significantly related.	
Chronic	Open cuts, abraded or irritated skin should not be exposed to this material.	
	Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.	
RLA Tileflex	If applied to the eyes, this material causes severe eye damage.	
	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.	
portland cement	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.	
	Harmful: danger of serious damage to health by prolonged exposure through inhalation.	
graded sand	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.	
	Animal testing shows long term exposure to aluminium oxides may cause lung disease and cancer, depending on the size of the particle. The smaller the size, the greater the tendencies of causing harm.	
Legend:	Red blood cells and rabbit alveolar macrophages exposed to calcium silicate insulation materials in vitro showed haemolysis in one study but not in another.	
	Both studies showed the substance to be more cytotoxic than titanium dioxide but less toxic than asbestos.	
TOXICITY	In a small cohort mortality study of workers in a wollastonite quarry, the observed number of deaths from all cancers combined and lung cancer were lower than expected. Wollastonite is a calcium inosilicate mineral (CaSiO ₃).	
	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.	
IRRITATION	Cement dermatitis can be characterised by fissures, eczematous rash, dystrophic nails, and dry skin; acute contact with highly alkaline mixtures may cause localised necrosis.	
	Overexposure to the breathable dust may cause coughing, wheezing, difficulty in breathing and impaired lung function. Chronic symptoms may include decreased vital lung capacity and chest infections. Repeated exposures in the workplace 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 (1/50000 inch) are present.	
Not Available	Chronic excessive intake of iron have been associated with damage to the liver and pancreas. People with a genetic disposition to poor control over iron are at an increased risk.	
TOXICITY		
IRRITATION		
Not Available		

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

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.	
PORTLAND CEMENT & GRADED SAND	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.	

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

Continued...

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- ✓ -- Data available to make classification
✗ -- Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
RLA Tileflex	Not Available	Not Available	Not Available	Not Available	Not Available
	Available	Not Available	Not Available	Not Available	Not Available
portland cement	Not Available	Not Available	Not Available	Not Available	Not Available
	Available	Not Available	Not Available	Not Available	Not Available
graded sand	Not Available	Not Available	Not Available	Not Available	Not Available
	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. Otherwise: <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. 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. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. Bury residue in an authorised landfill. Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	HAZCHEM
	NO
	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

Continued...

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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 Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

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

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
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

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—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