

DESCRIPTION:

BT-500 is a premium, white, polymer modified adhesive with excellent mastic type characteristics. Green Tag Certified and featuring respirable silica free technology, BT-500 is a versatile, user and eco-friendly adhesive option for internal and external wall and floor tiling and immersed applications.

FEATURES & BENEFITS

- · C2 High bond strength
- E Extended open time
- T Non slip / slump
- S1 Good flexibility
- White
- Excellent rheology
- Low VOC
- Global green tag certified
- RCS Respirable Crystalline Silica Free

SUITABLE TILE TYPES

- Terracotta
- Ceramic
- Porcelain
- Glass mosaics
- Natural Stone: including marble, granite, limestone & travertine (not moisture sensitive)

AREAS OF USE

- · Interior & exterior applications
- Walls & floors
- Concrete
- Sand /cement screeds
- Cement render
- Compressed fibre cement sheeting
- Plasterboard
- Acoustic Underlay (Refer to Beaumont Tiles for further information)
- Swimming pools
- Tiling over Beaumont's BT-Rapid waterproof membrane
- Large format tile installations
- Suitable over green screeds, concrete and render

SURFACE PREPARATION

- Ensure all surfaces are clean, sound, dry, and free from dirt, dust, oil, grease, wax residues, curing compounds, release agents, paints, sharp protruding objects and other loose and contaminating materials that could compromise the adhesion of the overlaid tiling system.
- All surfaces are to be fit for purpose for their intended use.
- Ensure all concrete slabs are allowed to cure for at least seven days, have a wood float finish, and a minimum compressive strength of 20MPa.
- 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 and burnished concrete surfaces must be mechanically abraded to roughen surface before commencing tiling. Alternatively, surfaces can be primed with a suitable non porous surface primer or **GRIPSET OP PRIMER**
- All rendered surfaces must be allowed to cure for at least 24 hours before commencing tiling.
- Ceramic Tile Underlay to be fixed as per manufacturers recommendations and be a minimum of 6mm thick.
- Compressed fibre cement sheeting to be installed and tiled over as per manufacturer's recommendations
- Gypsum-plasterboard sheeting to be installed as per manufacturers recommendations
- Existing tiles must be well bonded, sound and secure. Surface of tiles to be mechanically abraded/roughened to remove at least 80% of the tile glaze. Alternatively, surfaces can be primed with a suitable non porous surface primer or <u>GRIPSET OP</u> <u>PRIMER</u>



PRIMING

Highly porous and non-porous surfaces to be primed before installation of BT-500.

POROUS/ABSORBENT SURFACES

• Apply <u>**BT POROUS PRIMER**</u> by brush or roller to the substrate at the specified coverage and allow to dry

NON POROUS/NON ABSORBENT SURFACES

 Apply a suitable non porous surface primer or <u>GRIPSET OP PRIMER</u> by brush or roller to the substrate at the specified coverage and allow to dry *Refer to relevant data sheets for specific application and coverage details

SURFACE POROSITY TESTING

To determine the porosity of a substrate and recommended primer, a water droplet test as per ASTM F3191-16 Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates is recommended.

MIXING

- The mixing ratio of BT-500 is 5.5-6litres of water per 20kg bag
- Pour 5.5-6litres of clean water into a clean pail and gradually add the BT-500 while mixing continuously using an electric stirrer with paddle attachment until a smooth, homogenous & lump-free consistency is obtained.
- Always add powder to the liquid.
- Allow the mix to stand for 5 minutes and re-stir before applying the adhesive onto the substrate.

COVERAGE

• A 20kg bag of BT-500 will cover approximately 7m² using a 10mm notched trowel.

APPLICATION

- All preparation and tiling should be carried out in accordance with AS 3958:2023 – Installation of Ceramic and Stone Tiles.
- Once the surface has been prepared in accordance with Beaumont's instructions, apply the adhesive onto the substrate using an appropriate sized notched trowel for the tile size.
- For tiles larger than 300 x 300mm back-butter the tiles in addition to notching the floor. With Clip systems use a 12, 15 or 20mm notch and back butter the tile to ensure coverage complies with the standard.

APPLICATION continued

- BT-500 should be applied onto the substrate at a rate of 1m² 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 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.

GROUTING APPLICATION

- Grouting application can commence after adhesive has cured for 24 hours, or until the adhesive has hardened sufficiently that tiles are well fixed and will not be displaced during the grouting application*
- Any adhesive that has leached into the grout joint must be raked out with a knife/spatula etc. prior to grouting
- Protect tiling from rain and inclement weather until 24 hours after grouting is complete.
 *Drying times may be extended in humid conditions and colder temperatures.

CLEAN UP

- Excess adhesive from the face of the tiles can be cleaned up with a damp cloth while the adhesive is still in a wet state
- Tools and other equipment can be cleaned using water while the adhesive is still wet.
- Dried adhesive to be removed by mechanical means

PACKAGING/SHELF LIFE

- BT-500 is available in 20kg bags.
- A bag of BT-500, when stored in a cool, dry environment, and stored off the ground, will have a shelf life of approximately 12 months







PRECAUTIONS

- Do not apply BT-500 when surface or ambient temperatures are above 35°C and below 5°C.
- BT-500 is not suitable for tiling over timber flooring.
- Not suitable for use with moisture sensitive stone
- Contact RLA's Technical Department for detailed advice for applications/situations not mentioned in these instructions.

SAFETY & HANDLING

- Do not breathe dust; wear suitable respiratory protection.
- Use in well-ventilated areas.
- · Avoid contact with skin and eyes.
- · Wear eye protection and suitable gloves and clothing.
- Do not eat, drink, or smoke while using this product.
- Take off contaminated clothing and wash before reuse.

The Safety Data Sheet is available upon request.

RESPIRABLE SILICA CONTENT

• *Silica (Respirable Crystaline Fraction) levels are below the concentration limit for carcinogens (0.1%) as per schedule 6 of the Model Work Health Safety Regulations 2023.

FIRST AID

- If poisoning occurs, contact a doctor or the Poisons Information Centre.
- If swallowed, DO NOT induce vomiting; give a glass of water and immediately call the Poisons Information Centre and a doctor.
- For advice or if you feel unwell, contact a Poisons Information Centre: Australia ph. 131126, New Zealand ph. 0800 764 766 or a doctor at once.
- If on SKIN, remove all contaminated clothing immediately and wash the skin with soap and water.
- If in EYES, rinse carefully with water for several minutes. Remove contact lenses and continue rinsing.
- If eye irritation persists, get medical advice/attention.
- If inhaled, remove them to fresh air, and keep them at rest in a position comfortable for breathing

PRODUCT INFORMATION

Colour	White
Bulk Density (kg/dm3)	1.18
Shelf life	12 months
Packaging	20kg bags
Coverage - 10mm notch	7m ²

APPLICATION DATA - 20°C AT 50% RH

Note: Ambient and surface temperatures, humidity, tile and surface porosity will vary dry times

Mixing Ratio	5.5-6 litres water per 20kg bag
Open Time	30 minutes
Adjustment Time	40 minutes
Pot Life	1 hours
Ready for Grouting	24 hours
Light Foot traffic	24 hours
Ready for wet area service	3 days
Ready for water immersion	7 days
PERFORMANCE (ISO 13007)	
Tensile adhesion strength after	
28 days	≥1MPa
Water immersion	≥1MPa
Freeze/thaw	≥1MPa
CLASSIFICATION	C2TES1







WARRANTY STATEMENT:

RLA Polymers guarantees this product against manufacturing defects and guarantees it to be manufactured to our published specification.

We certify that this product is suitable for use when fully cured and will perform as described in our technical data sheet or other published materials.

RLA Polymers will replace the product free of charge when purchased from any legally verifiable source and where a product is proven to have been stored, handled, and install according to instructions published on our packaging and within the stated shelf life. The Installation of all materials must be carried out in accordance with the relevant Australian Standard and the Floorcovering Manufacturer's instructions, and the floorcoverings must have been subject to normal traffic conditions.

Warranty doesn't apply if damage, loss, failure to follow instructions, or other circumstances are out of our control. Sufficient time and access to investigate any complaint must be accorded to RLA Polymers.

The consumer is responsible for any expenses incurred in making a claim.

A claim form can be requested by:

PHONE:	<u>1800 242 931</u>
EMAIL:	info@rlapolymers.com.au
MAIL:	215 Colchester Road Kilsyth Victoria 3137
	(Attention Customer Service)
WEBSITE:	www.rlapolymers.com.au

AUSTRALIAN CONSUMER LAW:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality, and the failure does not amount to a major failure. The benefits under our warranty are in addition to other rights and remedies available to the consumer under the law in relation to the goods and services to which the warranty relates.

DISCLAIMER:

All statements and technical information contained herein are based on tests we believe to be reliable, but the accuracy thereof is not guaranteed.

Users assume all risk and liability resulting from the use of the product and must confirm the suitability thereof by their own tests. Conditions of Sale contain a limited warranty against manufacturing defects.



Beaumont Tiles.

Version No: 2.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 19/06/2023 Print Date: 22/06/2023 S.GHS.AUS.EN

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

Product Identifier

Product name	BT500
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses Tile adhesive. Use according to manufacturer's directions.

Details of the manufacturer or supplier of the safety data sheet

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

Emergency telephone number

Association / Organisation	Beaumont Tiles.	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	+61 (08) 8292 4444 (24Hrs)	+61 1800 951 288
Other emergency telephone numbers	Not Available	+61 3 9573 3188

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 Hazards identification

Classification of the substance or mixture

H317

May cause an allergic skin reaction.

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, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Carcinogenicity Category 1A
Legend:	1. Classification by vendor; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
Signal word	Danger
Hazard statement(s)	
H315	Causes skin irritation

H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H350	May cause cancer.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing dust/fumes.

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.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water.

Precautionary statement(s) Storage

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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 to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

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CAS No	%[weight]	Name	
65997-15-1	30-60	portland cement	
14808-60-7	20-50	silica crystalline - quartz	
Not Available	<10	Ingredients determined not to be hazardous	
Legend:	 Classification by vendor; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L * EU IOELVs available 		

SECTION 4 First aid measures . ..

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Description of first aid measur	es		
 If this product comes in contact with the eyes: 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 li 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	If skin contact occurs: 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	 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	 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 that 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.
- 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

- 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

Fire Incompatibility None known.

Advice for firefighters				
 Fire Fighting 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	Under certain conditions the material may become combustible because of the ease of ignition which occurs after the material reaches a high specific area ratio (thin sections, fine particles, or molten states). However, the same material in massive solid form is comparatively difficult to ignite. Nearly all metals will burn in air under certain conditions. Some are oxidised rapidly in the presence of air or moisture, generating sufficient heat to reach their ignition temperatures. Decomposition may produce toxic fumes of: silicon dioxide (SiO2) metal oxides When aluminium oxide dust is dispersed in air, firefighters should wear protection against inhalation of dust particles, which can also contain hazardous substances from the fire absorbed on the alumina particles. May emit poisonous fumes. May emit corrosive fumes.			
HAZCHEM	Not Applicable			

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up waste regularly and abnormal spills immediately. Avoid breathing dust and contact with skin and eyes. Wear protective clothing, gloves, safety glasses and dust respirator. Use dry clean up procedures and avoid generating dust.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by all means available, spillage from entering drains or water courses.

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.

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	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	silica crystalline - quartz	Silica - Crystalline: Quartz (respirable dust)	0.05 mg/m3	Not Available	Not Available	Not Available

I.	Emergency Limits	

Ingredient	TEEL-1	TEEL-2		TEEL-3
silica crystalline - quartz	0.075 mg/m3	33 mg/m3		200 mg/m3
Ingredient	Original IDLH		Revised ID	LH
portland cement	5,000 mg/m3		Not Available	
silica crystalline - quartz	25 mg/m3 / 50 mg/m3		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 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 strateg "adds" and "removes" air in the work environment. 			
Individual protection measures, such as personal protective equipment				
Eye and face protection	 Safety glasses with side shields. Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] 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 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	 Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. Overalls. P.V.C apron. Barrier cream. Skin cleansing cream.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, 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)

If inhalation risk above the TLV exists, wear approved dust respirator.

Use respirators with protection factors appropriate for the exposure level.

- Up to 5 X TLV, use valveless mask type; up to 10 X TLV, use 1/2 mask dust respirator
- ▶ Up to 50 X TLV, use full face dust respirator or demand type C air supplied respirator
- ▶ Up to 500 X TLV, use powered air-purifying dust respirator or a Type C pressure demand supplied-air respirator
- Over 500 X TLV wear full-face self-contained breathing apparatus with positive pressure mode or a combination respirator with a Type C positive pressure supplied-air full-face respirator and an auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode
- · 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.
 Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

· Use approved positive flow mask if significant quantities of dust becomes airborne.

· Try to avoid creating dust conditions.

Where significant concentrations of the material are likely to enter the breathing zone, a Class P3 respirator may be required.

Class P3 particulate filters are used for protection against highly toxic or highly irritant particulates

Filtration rate: Filters at least 99.95% of airborne particles

Suitable for:

· Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.

Sub-micron thermally generated particles e.g. welding fumes, fertilizer and bushfire smoke.
Biologically active airborne particles under specified infection control applications e.g. viruses, bacteria, COVID-19, SARS

Highly toxic particles e.g. Organophosphate Insecticides, Radionuclides, Asbestos

Note: P3 Rating can only be achieved when used with a Full Face Respirator or Powered Air-Purifying Respirator (PAPR). If used with any other respirator, it will only provide filtration protection up to a P2 rating.

Information on basic physical and chemical properties

Appearance	White powder; partly soluble in water.		
Physical state	Divided Solid	Relative density (Water = 1)	1
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	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 Applicable	Taste	Not Available
Evaporation rate	Not Available	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	Partly miscible	pH as a solution (1%)	>11
Vapour density (Air = 1)	Not Available	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

U	
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. Inhalation may result in ulcers or sores of the lining of the nose (nasal mucosa), and 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. 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. Effects on lungs are significantly enhanced in the presence of respirable particles. Acute silicosis occurs under conditions of extremely high silica dust exposure particularly when the particle size of the dust is small. The disease is rapidly progressive and spreads widely through the lungs within months of the initial exposure and causing death within 1 to 2 years.
Ingestion	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 Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. 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.
Eye	If applied to the eyes, this material causes severe eye damage.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There is sufficient evidence to suggest that this material directly causes cancer in humans. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. 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. 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. 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 (CaSiO3). 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. Crystalline silicas activate the inflammatory response of white blood cells after they injure the lung epithelium. Chronic exposure to crystalline

	silicas reduces lung capacity and predisposes to chest infections. 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. 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. Chromium (III) is an essential trace mineral. Chronic exposure to chromium (III) irritates the airways, malnourishes the liver and kidneys, causes fluid in the lungs, and adverse effects on white blood cells, and also increases the risk of developing lung cancer. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.		
	ΤΟΧΙΟΙΤΥ	IRRITATION	
BT500	Not Available	Not Available	
	TOVICITY		
portland cement	Not Available	Not Available	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
silica crystalline - quartz	Oral (Rat) LD50: 500 mg/kg ^[2]	Not Available	
Legend:	 Value obtained from Europe ECHA Registered Sub specified data extracted from RTECS - Register of To. 	ostances - Acute toxicity 2. Value obta xic Effect of chemical Substances	ined from manufacturer's SDS. Unless otherwise
	The following information refers to contact allergens a	is a group and may not be specific to	this product.
PORTLAND CEMENT	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 um) 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. * Millions of particles per cubic foot (based on impinger samples counted by light field techniques). NOTE : the physical nature of quartz in the product determines whether it is likely to present a chronic health problem. To be a hazard the material must enter the breathing zone as respirable particles. 		
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: X – Data either r ✓ – Data availab	not available or does not fill the criteria for classification le to make classification

SECTION 12 Ecological information

Toxicity					
BT500	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
portland cement	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
silica crystalline - quartz	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from Ecotox databa - Bioconcentra	n 1. IUCLID Toxicity Data 2. Europe ECHA Register ase - Aquatic Toxicity Data 5. ECETOC Aquatic Haz ation Data 8. Vendor Data	ed Substances - Ecotoxicological Information - Ac ard Assessment Data 6. NITE (Japan) - Bioconce	quatic Toxicity 4. entration Data 7. I	US EPA, METI (Japan)

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients
Discoursulative notantial		
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	 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	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

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
portland cement	Not Available
silica crystalline - quartz	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
portland cement	Not Available
silica crystalline - quartz	Not Available

SECTION 15 Regulatory information

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

portland cement is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

silica crystalline - quartz is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	Chemical Footprint Project - Chemicals of High Concern List
Australia Model Work Health and Safety Regulations - Hazardous chemicals (other	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
than lead) requiring health monitoring	Monographs
Australian Inventory of Industrial Chemicals (AIIC)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
	Monographs - Group 1: Carcinogenic to humans

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (portland cement; silica crystalline - quartz)

National Inventory	Status
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (portland cement)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (portland cement)
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	19/06/2023
Initial Date	16/06/2023

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 ES: Exposure Standard 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 AIIC: Australian Inventory of Industrial Chemicals DSL: Domestic Substances List NDSL: Non-Domestic Substances List IECSC: Inventory of Existing Chemical Substance in China EINECS: European INventory of Existing Commercial chemical Substances ELINCS: European List of Notified Chemical Substances NLP: No-Longer Polymers ENCS: Existing and New Chemical Substances Inventory KECI: Korea Existing Chemicals Inventory NZIoC: New Zealand Inventory of Chemicals PICCS: Philippine Inventory of Chemicals and Chemical Substances TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas NCI: National Chemical Inventory FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances