

Safety Data Sheet

WESTOX

BUILDING PRODUCTS

WESTOX PLASTALITE BAGGING MIX

Date of Issue 01 Sept 2014
Date of Revision 13 Sept 2018


1 - IDENTIFICATION

| | | |
|-------------------------|--|--------------|
| Product Name | WESTOX PLASTALITE BAGGING MIX | |
| Recommended Use | Cement bagging finish. | |
| Company Details | Westlegate Pty Ltd | |
| Address | 16 Frost Road Campbelltown NSW 2560 Australia | |
| Phone | 61 2 4628 5010 | |
| Fax | 61 2 4628 5020 | |
| Email | info@westox.com | |
| Website | www.westox.com | |
| Emergency Contact Point | Australian Poisons Information Centre | |
| | 24 Hour Service | 13 11 26 |
| | Police, Fire Brigade or Ambulance | 000 |
| | New Zealand Poisons Information Centre | |
| | 24 Hour Service | 0800 764 766 |
| | NZ Emergency Services | 111 |

2 - HAZARD(S) IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO WORK SAFE AUSTRALIA CRITERIA

Globally Harmonised System

| | |
|--------------------------|--|
| Hazard Classification | Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of chemicals (GHS). |
| Hazard Categories | Skin Corrosion/ Irritation - Category 2 Serious Eye Damage Category 1 Skin Sensitizer - Category 1 Germ Cell Mutagenicity - Category 2 Specific Target Organ Toxicity - Single Exposure - Category 3 (respiratory tract irritation) Specific Target Organ Toxicity - Repeated Exposure - Category 2 |
| Pictograms |  |
| Signal Word | DANGER |
| Hazard Statements | H315: Causes skin irritation H318: Causes serious eye damage H317: May cause an allergic skin reaction H341: Suspected of causing genetic defects H335: May cause respiratory irritation H373: May cause damage to organs through prolonged or repeated exposure |
| Precautionary Statements | P01: Obtain special instructions before use 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 P281: Use personal protective equipment as required P272: Contaminated work clothing should not be allowed out of the workplace P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing P308+P313: IF exposed or concerned: Get medical advice/attention 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 P333+P313: If skin irritation or rash occurs: Get medical advice/attention |

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P405: Store locked up
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container in accordance with local regulations

Dangerous Goods Classification Not dangerous goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code).

3 - COMPOSITION AND INFORMATION ON INGREDIENTS

| Name | CAS Number | Content % |
|-----------------|------------|-----------|
| Graded Sand | 14808-60-7 | >60 |
| Portland Cement | 65997-15-1 | 1-10 |
| Hydrated Lime | 1305-62-0 | 1-10 |

4 - FIRST AID MEASURES

| | |
|---------------------|---|
| Eye Contact | If this product comes in contact with 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 the 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 | 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 | Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor |

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. |
| Fire Incompatibility | Avoid contamination with oxidising agents i.e. nitrates, oxidising agents, chlorine bleaches, pool chlorine etc as ignition may result. |
| Fire Fighting | Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective 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. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use. |
| Fire/ Explosion Hazard | Non combustible. No considered a significant fire risk, however containers may burn. Combustion products include; carbon monoxide (CO), carbon dioxide (CO ₂), silicon dioxide (SiO ₂), metal oxides and other pyrolysis products typical of burning organic material. 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 flames. |
| Hazchem | Not applicable |

6 - ACCIDENTAL RELEASE MEASURES

| | |
|---------------------|--|
| Major Spills | Clean up all 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. Sweep up, shovel or vacuum up (consider explosion proof machines designed to be grounded during storage and use). Place spilled material in clean, dry, sealable, labelled container. |
| Minor Spills | Moderate hazard. CAUTION: Avoid personnel in area. Alert Emergency Services and tell them location and nature of hazard. Control personal contact by wearing protective clothing. Prevent, by any means available, spillage from entering drains or water courses. Recover product wherever possible. IF DRY: use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. WET: vacuum/ shovel up and place in labelled containers for disposal. ALWAYS: Wash down area with large amounts of water and prevent runoff into drains. If contamination of drains or waterways occurs, advise Emergency Services. |

7 - HANDLING AND STORAGE

Precautions for 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. **DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils.** Avoid contact with incompatible materials. **When handling DO NOT eat, drink or smoke.** Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. Organic powders when finely divided over a range of concentrations regardless of

particulate size or shape and suspended in air or some other oxidising 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. Established good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a 'secondary' explosion. According to NFPA Standard 654, dust layers 1/32 in. (0.8mm) thick can be sufficient to warrant immediate cleaning of the area. Do not use air hoses for cleaning. Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used. Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance. Do not empty directly into flammable solvents or in the presence of flammable vapours. The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges. Empty containers may contain residual dust which has the potential to accumulate following setting. Such dusts may explode in the presence of an appropriate ignition source. **Do NOT cut, drill, grind or weld such containers.** In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

Conditions for Safe Storage

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. Protect containers against physical damage and check regularly for leaks. Observe manufacturers storage and handling recommendations contained within this SDS. For major quantities; consider storage in banded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams). Ensure that accidental discharge to air or water is the subject of the contingency disaster management plan; this may require consultation with local authorities.

Suitable container Multi-ply paper bag with sealed liner or heavy gauge plastic bag. NOTE: bags should be stacked, blocked, interlocked, and limited in height so they are stable and secure against sliding or collapse. Check that 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.

8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

General

Occupational Exposure Limits (OEL)

| Ingredient | Material name | TWA (mg/m3) |
|-----------------|--------------------------|-------------|
| Graded Sand | Quartz (respirable dust) | 0.1mg/m3 |
| Graded Sand | Silica - crystalline | N/A |
| Graded Sand | Quartz (respirable dust) | 0.1mg/m3 |
| Portland Cement | Portland cement | 10mg/m3 |
| Hydrated Lime | Calcium hydroxide | 5mg/m3 |

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 | 200mg/m3 |
| Hydrated Lime | Calcium hydroxide | 1 mg/m3 | 240 mg/m3 | 1,500 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|-----------------|---------------|--------------|
| Graded Sand | N/A | N/A |
| Portland Cement | 5000 mg/m3 | N/A |
| Hydrated Lime | N/A | N/A |

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. Ventilation can remove or dilute and air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powered by mutual friction.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.

Such protection might consist of:

- Particulate dust respirators, if necessary, combined with an absorption cartridge;
- Filter respirators with absorption cartridge or canister of the right type;
- Fresh-air hoods or masks

Air contaminants generated in the workplace process varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

| Type of Contaminant | Air Speed |
|--|---------------------------|
| Direct spray, spray painting in shallow booths, drum filling, conveyor loading, crusher dusts, gas | 1-2.5 m/s (200-500 f/min) |

discharge (active generation into zone of rapid air motion)

Grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)

2.5-10 m/s (500-2000 f/min)

Within each range the appropriate value depends on:

Lower end of range

1. Room air currents minimal or favourable to capture
2. Contaminants of low toxicity or of nuisance value only
3. Intermittent, low production
4. Large hood or large air mass in motion

Upper end of range

1. Disturbing room air currents
2. Contaminant of high toxicity
3. High production, heavy use
4. Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal Protective Equipment

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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly.

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. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage.

Important factors in the selection of gloves include; frequency and duration of contact
chemical residue of glove material,
glove thickness and dexterity.

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

| |
|---|
| Excellent when breakthrough time > 480min |
| Good when breakthrough time > 20min |
| Fair when breakthrough time > 20min |
| Poor when breakthrough time > 20min |
| Poor when glove material degrades |

For general applications, gloves with a thickness typically greater than 0.35mm are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example; Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. Thicker gloves (up to 3mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommend.

Experience indicates that the following polymers are suitable as glove materials for the protection against undissolved, dry solids, where abrasive particles are not present.
- polychloroprene, nitrile rubber, butyl rubber, fluoroacoutchouc, polyvinyl chloride
Gloves should be examined for wear/ or degradation constantly.

Body/ other protection

Overalls, P.V.C apron, barrier cream, skin cleansing cream, eyewash unit.

Glove selection index Glove selection is based on a modified presentation of the "Forsberg Clothing Performance Index". The effects(s) of the following substances(s) are taken into account in the computer generated selection:

| Material | CPI |
|----------------|-----|
| BUTYL | A |
| NEOPRENE | A |
| VITON | A |
| NATURAL RUBBER | C |
| PVA | C |

*CPI - Chemwatch performance index

A - best selection, B - satisfactory; may degrade after 4 hours continuous immersion, C - Poor to dangerous choice for other short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation.

*Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory Protection

Particulate (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 gases, 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 judgement that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the workers 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.

9 - PHYSICAL AND CHEMICAL PROPERTIES

General Information

| | |
|-------------------|--|
| Appearance | Powder. Available in various colours. Material is alkaline when mixed with water |
| Odour | None |
| Colour | Available in various colours. |
| Solubility | Slightly soluble in water |

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 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

11 - TOXICOLOGICAL INFORMATION

Inhaled

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.

Ingestion

The material has **NOT** been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastrointestinal tract

Skin Contact

This material can cause inflammation of the skin on contact in some persons. Though considered non-harmful, slight irritation may result from contact because of the abrasive nature of the aluminium oxide particles. Thus it may cause itching and skin reaction and inflammation. Four students received severe hand burns whilst making moulds of their hands with dental plaster substituted for Plaster of Paris. The dental plaster known as "Stone" was a special form of calcium sulfate hemihydrate containing alpha-hemihydrate crystals that provide high compression strength to the moulds. Beta-hemihydrate (normal Plaster of Paris) does not cause skin burns in similar circumstances. 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. Open cuts, abraded or irritated skin should not be exposed to this material. Solution of material in moisture on the skin, or perspiration, may increase irritant effects. 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. Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Harmful: danger of serious damage to health by prolonged exposure through inhalation. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. 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 (CaSiO_3). In some cases, small amounts of iron (Fe), and manganese (Mn), and lesser amounts of magnesium (Mg) substitute for calcium (Ca) in the mineral formulae (e.g., rhodonite). In an inhalation study in rats no increase in tumour incidence was observed but the number of fibres with lengths exceeding 5 μm and a diameter of less than 3 μm was relatively low. Four grades of wollastonite of different fibre size were tested for carcinogenicity in one experiment in rats by intrapleural implantation. There was no information on the purity of the four samples used. A slight increase in the incidence of pleural sarcomas was observed with three grades, all of which contained fibres greater than 4 μm in length and less than 0.5 μm in diameter. In two studies by intraperitoneal injection in rats using wollastonite with median fibre lengths of 8.1 μm and 5.6 μm respectively, no intra-abdominal tumours were found. Evidence from wollastonite miners suggests that occupational exposure can cause impaired respiratory function and pneumoconiosis. However animal studies have demonstrated that wollastonite fibres have low biopersistence and induce a transient inflammatory response compared to various forms of asbestos. A two-year inhalation study in rats at one dose showed no significant inflammation or fibrosis. 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. Cement eczema may be due to chromium in feed stocks or contamination from materials of construction used in processing the cement. Sensitisation to chromium may be the leading cause of nickel and cobalt sensitivity and the high alkalinity of cement is an important factor in cement dermatoses [ILO]. Repeated, prolonged severe inhalation exposure may cause pulmonary oedema and rarely, pulmonary fibrosis. Workers may also suffer from dust-induced bronchitis with chronic bronchitis reported in 17% of a group occupationally exposed to high dust levels. Respiratory symptoms and ventilatory function were studied in a group of 591 male Portland cement workers employed in four Taiwanese cement plants, with at least 5 years of exposure (1). This group had a significantly lowered mean forced vital capacity (FCV), forced expiratory volume at 1 s (FEV1) and forced expiratory flows after exhalation of 50% and 75% of the vital capacity (FEF50, FEF75). The data suggests that occupational exposure to Portland cement dust may lead to a higher incidence of chronic respiratory symptoms and a reduction of ventilatory capacity. Chun-Yuh et al; Journal of Toxicology and Environmental Health 49: 581-588, 1996 Levels above 10 micrograms per cubic metre of suspended inorganic sulfates in the air may cause an excess risk of asthmatic attacks in susceptible people.

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. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

HYDRATED LIME

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function. The material may cause severe 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. Repeated exposures may produce severe ulceration. hydrated lime, as calcium hydroxide

GRADED SAND & PORTLAND CEMENT & HYDRATED LIME

No significant acute toxicological data identified in literature search.

PORTLAND CEMENT & HYDRATED LIME

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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the

concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

12 - ECOLOGICAL INFORMATION

Toxicity

| | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|-----------------|----------|--------------------|-----------|----------|--------|
| 6-1-1 Mortar | N/A | N/A | N/A | N/A | N/A |
| Graded Sand | N/A | N/A | N/A | N/A | N/A |
| Portland Cement | N/A | N/A | N/A | N/A | N/A |
| Hydrated Lime | LC50 | 96 | Fish | 160mg/L | 4 |
| | NOEC | 48 | Crustacea | 33.3mg/L | 2 |

Environmental Fate **DO NOT discharge into sewer or waterways**

Bioaccumulation Potential No Data Available

13 - DISPOSAL CONSIDERATIONS

General Information

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise, if container cannot 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. 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. A Hierarchy of Controls seems to be common - the user should investigate: Reduction, Reuse, Recycling, Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted. **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.

14 - TRANSPORT INFORMATION

Not defined as Dangerous Goods by the Australian Code for the Transport of Dangerous Goods by Road & Rail; by the IATA Air Transport Dangerous Goods Regulations; or by the IMDG (International Maritime Dangerous Goods) Code.

15 - REGULATORY INFORMATION

Poisons Schedule (Aust) Not applicable

16 - OTHER RELEVANT INFORMATION

Date of Issue 01 Sept 2014
Date of Revision 13 Sept 2018