



MATERIAL SAFETY DATA SHEET

General Purpose Cement Clinker

STATEMENT OF HAZARDOUS NATURE

This product is classified as hazardous according to criteria of Worksafe Australia

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IDENTIFICATION

Product name:	General Purpose Cement Clinker
Other names:	Portland Cement Clinker (CL)
UN number:	none allocated
Dangerous goods class and subsidiary risk:	none allocated
Hazchem code:	none allocated
Poisons schedule number:	none allocated
Use:	Portland Cement Clinker is used to manufacture Portland and Blended cements. These cements are used as binders in concrete, concrete masonry, mortar, grouts and concrete pipes. They are also used in the manufacture of fibre cement products and in soil stabilisation in construction and civil engineering projects.

Physical Description/Properties

Appearance:	Granular nodules ranging from 50mm diameter to a fine powder. Colour ranges from light to dark grey.
Boiling point / melting point:	melting point > 1200°C
Vapour pressure:	not applicable
Specific gravity:	3000 - 3200 kg/m ³
Flashpoint:	not applicable
Flammability limits:	not applicable
Solubility in water:	slight, reacts on mixing with water to form an inert complex silicate.

OTHER PROPERTIES:

Particle size:	<0.5% of particles are ≤ 7 µm ie in the respirable range
pH:	approximately 12

Ingredients

Chemical Name:	CAS number:	Proportion:
General Purpose Cement Clinker	65997-15-1	100%
hexavalent chromium (water soluble)	-	< 10 ppm

***NOTE:** Clinker may contain up to 1% crystalline silica (CAS no. 14808-60-7) depending on the proportion and crystalline silica content of the ingredients. All ingredients may contain crystalline silica.

HEALTH HAZARD INFORMATION**HEALTH EFFECTS**

Acute: (effects may occur immediately or shortly after a single exposure)

Swallowed:	May cause burning sensation and abdominal discomfort. Corrosive to mouth and throat.
Eyes:	Irritating and corrosive to eyes. May cause chemical conjunctivitis and redness and watering of eyes with damage to cornea.

Skin:	Irritating and drying to skin. May cause alkaline burn and irritant or allergic dermatitis, especially when in a wetted form. Water soluble hexavalent chromium may sensitise individuals.
Inhaled:	Irritating to nose, throat and respiratory system causing coughing and sneezing.

Chronic: (effects may occur after repeated or prolonged exposure)

Inhaled:	Repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung) and lung cancer. It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs). Studies have shown that smoking increases the risk of bronchitis, silicosis and lung cancer in persons exposed to crystalline silica.
Skin:	Repeated skin contact with wet clinker has been associated with both irritant dermatitis and allergic (contact) dermatitis. The latter is due to the presence of traces of water soluble hexavalent chromium in clinker.

FIRST AID

Swallowed:	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
Eyes:	Flush thoroughly with flowing water for at least 15 minutes. Seek medical attention if symptoms persist.
Skin:	Wash thoroughly with water. A shower may be required.
Inhaled:	Remove from dusty area to fresh air. If symptoms persist, seek medical attention.
First Aid Facilities:	Eye wash station.
Advice to Doctor:	Treat symptomatically.

PRECAUTIONS FOR USE

Exposure standards Worksafe Australia Exposure Standard:

Crystalline silica (quartz): 0.2 mg/m³ TWA (time-weighted average) as respirable dust (≤ 7µm particle size)

Dust (NOS - not otherwise specified): 10 mg/m³ TWA as inspirable dust

However, where a State or Territory prescribes a lower exposure standard, the lower exposure standard applies.

Manufacturers' recommendations

Keep exposure to dust as low as practicable.

If inspirable dust levels are kept below 2 mg/m³, health problems such as skin, eye and respiratory irritation will be minimised. Because of the standard handling methods for clinker appropriate dust filtering masks should always be worn.

Respirable crystalline silica (quartz) exposure levels should be kept below 0.1 mg/m³ TWA.

Avoid repeated skin contact with wet clinker and dry and wet cement.

Engineering controls

Avoid generating dust. All work with clinker should be carried out in such a way as to minimise exposure to dust and repeated skin contact. Where dust could be generated whilst handling clinker, use local mechanical ventilation or extraction for areas where dust could escape into the work environment.

Work areas should be cleaned regularly by wet sweeping or vacuuming. If generating dust cannot be avoided, see personal protection recommendations below.

Personal protection

Skin: Wear loose comfortable protective clothing and impervious boots.
Apply barrier cream to hands or wear gloves (AS 2161).
Wash thoroughly after handling.
Wash work clothes regularly.

Eyes: Safety spectacles with side shields or safety goggles (dust resistant AS/NZS 1336) should be worn if dust is likely to be generated.

Respiratory: If dust is generated wear a class P1 or P2 particulate respirator (AS/NZS 1715 & 1716). Use only respirators that bear the Australian Standards mark and are fitted correctly. Note that persons with facial hair will have difficulty in obtaining a satisfactory face seal. For alternatives see *AS/NZS 1715: Selection and use of respiratory protective devices*.

Flammability: Not flammable. Does not support combustion of other materials.

SAFE HANDLING INFORMATION

Storage and transport

Transportation is by rail, road or ship in bulk form.
Keep in moisture-proof storage to prevent hardening.

Spills and disposal

Follow safety requirements for personal protection under "Precautions for Use" on skin, eye and respiratory protection and sweep, vacuum or shovel whilst trying to minimise dust generation.
Collect in containers and dispose of as trade waste in accordance with local authority

guidelines.
Keep out of sewer and stormwater drains.

Fire/explosion hazard

Not flammable. Does not cause dust explosions.

OTHER INFORMATION

In June 1997 Crystalline silica was evaluated by the International Agency for Research on Cancer (IARC): "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)".

Smoking: Cigarette smoking increases the risk of occupational respiratory diseases. It is recommended that all storage and work areas should be smoke-free zones.

CONTACT POINT

For further information on this product, contact:

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Advice Note:

The information in this document is believed to be accurate. Please check the currency of this MSDS by contacting **(08) 9411 1111**.

The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Users should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.
