

UNCONTROLLED

MASTERSHIELD SILICA SAND

ChemWatch Material Safety Data Sheet
Issue Date: Mon 29-Oct-2001

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

MASTERSHIELD SILICA SAND

SYNONYMS

silica sand graded
washed graded sand
crystalline silica sand graded
Cobblestone Paving

silicon dioxide sand graded
quartz sand graded
SiO₂

PRODUCT USE

Used as an inert filler.

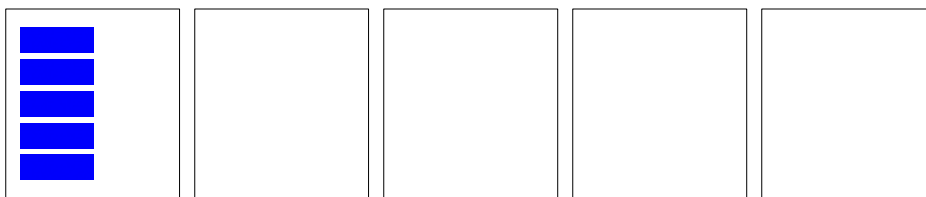
SUPPLIER

Company: Cobblestone Paving Australia P/L
Address:
PO Box 2057
Burleigh Mdc, Gold Coast
QLD, 4220
AUS

Company: Cobblestone Paving Australia P/L
Address:
45 Alex Fisher Drive
Burleigh Gardens
QLD, 4220
AUS
Telephone: +61 7 5593 7766
Fax: 07 5593 7777

HAZARD RATINGS

Flammability:
Toxicity:
Body Contact:
Reactivity:
Chronic:



SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

According to the Criteria of NOHSC, and the ADG Code.

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Section 2 - HAZARDS IDENTIFICATION ...



POISONS SCHEDULE

None

RISK

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Inhalation may produce health damage*.

May produce discomfort of the eyes*.

* (limited evidence)

SAFETY

Do not breathe dust.

Wear eye/face protection.

Use only in well ventilated areas.

Keep container in a well ventilated place.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If you feel unwell contact Doctor or Poisons Information Centre. (Show the label if possible).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
graded sand	14808-60-7	>60
sand is silicon dioxide - silica crystalline - quartz	14808-60-7	
Gap sized to remove over/ under size fractions.		

Section 4 - FIRST AID MEASURES

SWALLOWED

Overexposure is unlikely in this form and quantity.

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by

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Section 4 - FIRST AID MEASURES ...

skilled personnel.

SKIN

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Non combustible.

- There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

Use fire fighting procedures suitable for surrounding area.

Product is not combustible. No special firefighting procedures required.

FIRE/EXPLOSION HAZARD

- Non combustible.
- Not considered a significant fire risk, however containers may burn.

FIRE INCOMPATIBILITY

No known incompatibility with normal range of industrial materials

HAZCHEM

None

Personal Protective Equipment

Glasses:
Chemical goggles.

Gloves:
PVC chemical resistant type.
Cotton.

Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

continued...

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Section 6 - ACCIDENTAL RELEASE MEASURES ...

MINOR SPILLS

Clean up all spills immediately.

Use dry clean up procedures and avoid generating dust.

If exposure to workplace dust is not controlled, respiratory protection is required; wear SAA approved dust respirator.

Vacuum up or sweep up. Place in suitable containers for disposal.

MAJOR SPILLS

Minor hazard .

- Clear area of personnel and move upwind.
- If inhalation risk of exposure exists, wear SAA approved dust respirator.
- Collect recoverable product into labelled containers for recycling.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

other than mild, transient adverse effects without perceiving a clearly defined odour is:

American Industrial Hygiene Association (AIHA)

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing dust.

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- 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.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Multi ply paper bag with sealed plastic liner or heavy gauge plastic bag

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by

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Section 7 - HANDLING AND STORAGE ...

manufacturer.

STORAGE INCOMPATIBILITY

No known incompatibility with normal range of industrial materials

STORAGE REQUIREMENTS

- Keep dry.
- Store under cover.
- Protect containers against physical damage.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

#3300

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :0.05 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%)

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
silica crystalline - quartz	0.0500	0.1

INGREDIENT DATA

GRADED SAND:

NOTE: This product contains negligible amount of respirable dust.

SILICA CRYSTALLINE - QUARTZ:

TLV TWA: 0.05 mg/m³ (R) Quartz A2 [ACGIH]

PEL: (Quartz (Respirable)) [OSHA Z3]250 / (%SiO₂+5) mppcf

Footnote (b): The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

PEL: (Quartz (Respirable)) [OSHA Z3]10 / (%SiO₂+2) mg/m³

Footnote (e): Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics.

Aerodynamic diameter (unit density sphere)	Percent passing selector
2.0	90
2.5	75
3.5	50

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

5.0
10

25
0

The measurements under this note refer to the uses of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figures corresponding to that of 2.4 mg/m³ in the table for coal dust, is 4.5 mg/m³.

PEL: (Quartz (Total Dust)) [OSHA Z3]30 / (%SiO₂) + 2 mg/m³

TLV TWA: 0.05 mg/m³ (respirable dust) A2

The concentration of respirable dust for application of this limit is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative lognormal function with a median aerodynamic diameter of 4.0 µm (+-) 0.3 µm and with a geometric standard deviation of 1.5 µm (+-) 0.1 µm, i.e. generally less than 5 µm.

WARNING: For inhalation exposure ONLY:

This substance has been classified by the ACGIH as A2 Suspected Human Carcinogen.

ES TWA: 0.2 mg/m³

MEL TWA: 0.3 mg/m³ (respirable dust)

Because the margin of safety of the quartz TLV is not known with certainty and given the associated link between silicosis and lung cancer it is recommended that quartz concentrations be maintained as far below the TLV as prudent practices will allow.

PERSONAL PROTECTION



EYE

- Safety glasses with side shields; or as required,
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

PVC gloves or Cotton gloves.
Safety footwear

OTHER

- Overalls.
- Eyewash unit.

ENGINEERING CONTROLS

Use in a well-ventilated area.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- 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:

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

- (a): particle dust respirators, if necessary, combined with an absorption cartridge;
- (b): filter respirators with absorption cartridge or canister of the right type;
- (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

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

Type of Contaminant:	Air Speed:
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
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 the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Odourless white or off-white crystalline powder. Insoluble in water. Very slightly soluble in strong alkali. Soluble in concentrated hydrofluoric acid.
Graded sand is classified to mesh sizes so that particles are predominantly

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ...

non-respirable size, i.e. greater than 10 microns, however traces of particles of respirable size may be present.

PHYSICAL PROPERTIES

Solid.
Does not mix with water.
Sinks in water.

Molecular Weight: Not available
Melting Range (°C): 1650 approx.
Solubility in water (g/L): Insoluble
pH (1% solution): Not applicable
Volatile Component (%vol): Non-volatile
Relative Vapour Density (air=1): Not applicable
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Divided solid

Boiling Range (°C): 2230
Specific Gravity (water=1): 2.64-2.66
pH (as supplied): Not applicable
Vapour Pressure (kPa): Negligible
Evaporation Rate: Negligible
Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS SWALLOWED

Considered an unlikely route of entry in commercial/industrial environments. Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract and may cause a physical obstruction if swallowed in quantity

EYE

Generated dust may be highly discomforting and abrasive to the eyes

SKIN

The material may be mildly discomforting and abrasive to the skin and may cause drying of the skin if contact is prolonged

INHALED

Particulate/dust is regarded as discomforting to the upper respiratory tract if inhaled

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by skin contact with the material and inhalation of generated dust As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

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Section 11 - TOXICOLOGICAL INFORMATION ...

Mastershield Silica Sand

None assigned. Refer to individual constituents.
unless otherwise specified data extracted from RTECS - Register of Toxic Effects
of Chemical Substances

GRADED SAND:

No data of toxicological significance identified in literature search.

SILICA CRYSTALLINE - QUARTZ:

TOXICITY

Inhalation (human)LCLo:0.3 mg/m³/10Y

Inhalation (human)TCLo:16 mppcf*/8H/17.9Y

- Intermittent; focal fibrosis, (

50 mg/m³/6H/71W

* Millions of particles per cubic foot (based on impinger
samples counted

by light field techniques).

WARNING: For inhalation exposure ONLY: This substance has been classified by the
IARC as Group 1: CARCINOGENIC TO HUMANS

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.

IRRITATION

Nil reported

(pneumoconiosis), cough, dyspnoea

- Intermittent; liver - tumours.

Section 12 - ECOLOGICAL INFORMATION

No data for Mastershield Silica Sand.

Refer to data for ingredients, which follows:

GRADED SAND:

No data for graded sand.

SILICA CRYSTALLINE - QUARTZ:

No data for silica crystalline - quartz.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

Shipping Name:

NONE

Dangerous Goods Class: None

UN/NA Number: None

ADR Number:

Packing Group: None

Labels Required:

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Section 14 - TRANSPORTATION INFORMATION ...

Additional Shipping Information:
International Transport Regulations:
IMO: None

HAZCHEM

None

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

No data available for silica crystalline - quartz (CAS: 14808-60-7).

Section 16 - OTHER INFORMATION

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