



Material Safety Data Sheet

1 of 6

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Silica Sand
Applicable in: Australia
Other Names: n/a
Recommended Use: Glass Production, Sodium Silicate Manufacture, Foundry Sand, Grout and Adhesive Products

Company Name: Rocla Pty Limited - A.C.N. 000 032 191
Issued by: Rocla Quarry Products
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General Information: Phone: (08) 9475 2500

This Material Safety Data Sheet (MSDS) is issued by the Supplier in accordance with the Code and guidelines from the Australian Safety and Compensation Council (ASCC, formerly National Occupational Health & Safety Commission – NOHSC). The information in it must not be altered, deleted or added to. The Supplier will not accept any responsibility for any changes made to its MSDS by any other person or organisation. The Supplier will issue a new MSDS when there is a change in the product specifications and / or ASCC standards, guidelines or regulations.

SECTION 2: HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE: classified as **Hazardous** according to the criteria of the Australian Safety and Compensation Commission ASCC (formerly NOHSC) Approved Criteria for Classifying Hazardous Substances [NOHSC:1008] 3rd Edition).

The solid product as supplied is classified as non-Hazardous. Dust created when the product is cut, abraded, or crushed contains crystalline silica some of which will be respirable (particles small enough to go into the deep parts of the lung when breathed in). The fine dust in/on the supplied product may be respirable crystalline silica.

Occupational Health and Safety Regulations in Western Australia prohibit the use of crystalline silica as an abrasive blasting medium.

Risk Phrase(s):
R48/20: Danger of serious damage to health by prolonged exposure through inhalation.

Safety Phrase(s):
S22: Do not breathe dust

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

| <u>Chemical substance/entity</u> | <u>Proportion</u> | <u>CAS Number</u> |
|----------------------------------|-------------------|-------------------|
| Crystalline Silica (Quartz) | >98% | 14808-60-7 |
| Mineral & organic impurities | <2% | |



Material Safety Data Sheet

2 of 6

SECTION 4: FIRST AID MEASURES

The following applies to dust from this product:

- Swallowed:** Rinse mouth and lips with water. Do not induce vomiting. If symptoms persist, seek medical attention.
- Eyes:** Flush thoroughly with flowing water, while holding eyelids open, for 15 minutes to remove all traces. Do not attempt to remove solid particles embedded in the eye. If symptoms such as irritation or redness persist, seek medical attention.
- Skin:** Remove heavily contaminated clothing. Wash off skin thoroughly with water. Use a mild soap if available. Shower if necessary. Seek medical attention for persistent redness, irritation or burning of the skin.
- Inhaled:** Remove to fresh air, away from dusty area. If symptoms persist, seek medical attention.
- Advice to Doctor:** Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

- Flammability** Silica sand is non flammable
- Suitable extinguishing media:** Not applicable
- Hazards from combustion products:** None.
- Special protective precautions and equipment for fire fighters:** None
- Hazchem Code:** None

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Spills:** Dust is best cleaned up by vacuum device to avoid making dust airborne. Wetting down before sweeping up dust may be a useful control measure. Recommendations on Exposure Controls / Personal Protection (see Section 8 below) should be followed during spill clean-up if conditions are dusty.

SECTION 7: HANDLING AND STORAGE

- Storage:** Avoid breathing dust. Respirable dusts can be generated during processing, handling and storage. When stockpiling and handling large quantities of silica sand, care should be taken to avoid having the faces of the stockpile steeper than the natural angle of repose of the material. Steep faces can fall without warning and trap persons resulting in injury and possibly suffocation.
- Incompatibilities:** None

Material Safety Data Sheet

3 of 6

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

The following applies to dust from this product:

Exposure Standards: National Occupational Exposure Standard (NES) Australian Safety and Compensation Commission ASCC (formerly NOHSC)

Exposure to dust should be kept as low as practicable, and below the following NES.

Crystalline silica (quartz): 0.1 mg/m³ TWA (time weighted average) as respirable dust.

(≤7 microns particle equivalent aerodynamic diameter).

Total dust (of any type, or particle size): 10 mg/m³ TWA

Engineering Controls: Keep exposures to dust as low as practicable, with the aim of maintaining respirable crystalline silica dust levels to below 0.05 mg/m³ TWA (time weighted average).

Ventilation: Work in the open air and the opening of external openings (such as doors and windows in buildings) generally provides adequate ventilation. Local mechanical ventilation or extraction may be required in areas where dust could escape into the working environment. Local dust extraction and collection may be used, if necessary, to control airborne dust levels. If generated dust cannot be avoided follow personal protection recommendations. Where possible vacuum or wash down all gear, equipment or mobile plant prior to maintenance and repair work. If compressed air cleaning cannot be avoided, wear eye and respiratory protection, and clothing as listed below.

Personal Protection

Skin Protection: Wear loose comfortable clothing and gloves (standard duty leather or equivalent AS2161). Wash work clothes regularly. Wash hands before eating, or smoking.

Eye Protection: Safety glasses with side shields or safety goggles (AS/NZ 1336) or a face shield should be worn.

Respiratory Protection: None required if engineering and handling controls are adequate to minimize dust generation and dust exposure. Where engineering and handling controls are not enough to minimize exposure to total dust and to respirable crystalline silica, personal respiratory protection may be required.

The type of respiratory protection required depends primarily on the concentration of the respirable crystalline silica dust in the air, and the frequency and length of exposure time. Amount of exertion required during the work, and personal comfort are other considerations in choice of respirator. A suitable P1 or P2 particulate respirator chosen and used in accordance with AS/NZS 1715 and AS/NZS 1716 may be sufficient for many situations, but where high levels of dust are encountered, more efficient cartridge-type or powered respirators or supplied air-helmets or suits may be necessary.

Use only respirators that bear the Australian Standards mark and are fitted and maintained correctly.

Material Safety Data Sheet

4 of 6

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| Appearance: | White, granular with mixture of coarse and fine solid particles |
| Odour: | None |
| Ph at stated concentration: | Approximately neutral depending on nature of raw materials |
| Vapor Pressure & Density: | Not Applicable |
| Boiling Point /range (° C): | Not Applicable |
| Freezing / Melting Point (° C): | Not Applicable |
| Solubility in water or other: | Insoluble |
| Specific Gravity (H2O=1): | 2.0-3.2 |
| Evaporation Rate: | Not Applicable |
| Flammability Limits: | Not Applicable |
| Flash Point: | Not Applicable |
| Ignition Temp: | Not Applicable |
| Explosive Properties: | Not Applicable |

SECTION 10: STABILITY AND REACTIVITY

| | |
|--|-----------------|
| Chemical Stability: | Stable |
| Incompatible Materials: | None |
| Conditions to avoid: | Dust generation |
| Hazardous Decomposition products: | None |
| Hazardous Polymerisation: | None |

SECTION 11: TOXICOLOGICAL INFORMATION

Typically, sand has no specific toxicology data available as it is of very low acute toxicity to plants, animals and humans.

Health Effects

Acute (Short Term)

| | |
|-------------------|--|
| Swallowed: | Unlikely under normal industrial use, mildly abrasive to mouth and throat if swallowed. |
| Eyes: | Dust is irritating to the eyes. Exposure to dust may aggravate pre-existing eye conditions. Particles impacting on the eye may cause eye injury. |
| Skin: | Dust may be mildly irritating and drying to the skin or abrasive due to its physical characteristics. |
| Inhaled: | Dust is mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. |

Material Safety Data Sheet

5 of 6

Chronic (Long Term)

- Eyes:** Dust may cause irritation and inflammation of the eyes and aggravate pre-existing eye conditions.
- Skin:** Repeated heavy contact with the dust may cause drying of the skin and can result in skin rash (dermatitis) typically affecting the hands. Over time this may become chronic and can also become infected.
- Inhaled:** Repeated exposure to the dust may result in increased nasal and respiratory secretions and coughing. Inflammation of lining tissue of the respiratory system may follow repeated exposure to high levels of dust with increased risk of bronchitis and pneumonia. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated.
- The product contains a proportion of respirable free crystalline silica in the quartz component. Long term occupational over-exposure or prolonged breathing-in (or inhalation) of crystalline silica dust at levels above the NES carries the risk of causing serious and irreversible lung disease, including bronchitis, and silicosis (scarring of the lung), including acute and/or accelerated silicosis. It may also increase the risk of other irreversible and serious disorders including scleroderma (a disease affecting the skin, joints, blood vessels and internal organs) and other auto-immune disorders. Inhalation of dust, including crystalline silica dust, is considered by medical authorities to increase the risk of lung disease due to tobacco smoking. Crystalline silica (inhaled in the form of quartz or cristobalite from occupational sources) has been classified by The International Agency for Research on Cancer (IARC) as carcinogenic to humans (Group 1). However the research on this is inconclusive and ASCC/NOHSC has not classified crystalline silica as a carcinogen. Current research indicates no excess risk of lung cancer or other cancers from using these products.

SECTION 12: ECOLOGICAL INFORMATION

- Ecotoxicity:** Sand forms a mildly alkaline or neutral slurry when mixed with water; is non-toxic to aquatic and terrestrial organisms; and is not biodegradable.
- Persistence and Degradability:** Product is persistent and would have a low degradability
- Mobility:** A low mobility would be expected in a landfill situation.

SECTION 13: DISPOSAL INFORMATION

Silica Sand can be treated as a common waste for disposal or dumped into a landfill site in accordance with local authority guidelines. Recycling into construction activities is usually a practicable alternative. Measures should be taken to prevent dust generation during disposal and exposure and personal precautions should be observed (see Section 8 above).



Material Safety Data Sheet

6 of 6

SECTION 14: TRANSPORT INFORMATION

Transport Requirements:

| | |
|------------------------------|-----------------|
| UN Number: | None Allocated |
| Class: | None Allocated |
| Subsidiary Risk 1: | None Allocated |
| Packaging Group: | None Allocated |
| Hazchem code: | None Allocated |
| DG Class: | None Allocated |
| EPG: | None |
| Incompatibilities: | None |
| Proper Shipping Name: | None Allocated. |
| Marine Pollutant: | No |

SECTION 15: REGULATORY INFORMATION

Poisons Schedule: Not scheduled

Crystalline silica in the form of respirable dust is classified as Hazardous according to the Australian Safety and Compensation Commission ASCC (formerly NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC:1008] 3rd Edition.

Sand and crystalline silica itself is classified as non- Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Exposures by inhalation to high levels of dust may be regulated under the Hazardous Substances Regulations (State and Territory) as they are applicable to Respirable Crystalline Silica, requiring exposure assessment, and control of inhalation exposure below the NES.

Persons who have potential for exposure to respirable crystalline silica dust above the NES may be required by Regulations to have periodic health surveillance including Chest X-ray (see relevant State Government Regulations and ASCC/NOHSC documentation).



Quarry Products

Material Safety Data Sheet

7 of 6

SECTION 16: OTHER INFORMATION

Emergency Contact

Details: Poisons Information Centre 13 11 26

Additional Information:

Australian Standards References:

- AS/NZS 1336 Recommended Practices for Occupational Eye Protection
- AS/NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices
- AS/NZS 1716 Respiratory Protective Devices
- AS 2161 Industrial Safety Gloves and Mittens (excluding electrical and medical gloves)

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]. April 2003, National Occupation Health & Safety Commission.

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