



MATERIAL SAFETY DATA SHEET

Section One Identification of the material and supplier

Product Name: Quartz, Silica, crystalline quartz, Silicon dioxide, Silica Sand

Other names: Gravel, fill, road base, ballast, sand

Supplier: Walker Quarries Pty Ltd
ABN 003 069 891

Street Address: Wallerawang Quarry
963 Great Western Highway
Wallerawang NSW 2790

Telephone No: 02-6324 4066
0418 958 779 (Wayne Chapman – Quarry Manager)

Section Two Hazards Identification

Non-Dangerous Goods, this material is not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail and Safe Work Australia.

Dust generated during the production, and other operational processes is deemed as being Hazardous due to the presence of Fine Crystalline Silica Dust particles which is classified as a known human carcinogen. Inhalation (chronic) exposure to free airborne silica may cause delayed lung injuries which includes silicosis which is classified as a disabling and potentially fatal lung disease. Fine Crystalline Dust can cause or aggravate other known lung diseases and or conditions.

Hazard Statements

- The solid product as supplied is classified as non-hazardous
- Do not breathe dust/fumes/vapors/spray (Harmful by Inhalation)
- Potentially harmful if swallowed in large quantities
- Danger of serious damage to health by prolonged exposure through inhalation
- Wash hands thoroughly after handling
- If exposed or concerned – get medical advice/attention
- Poisons Schedule – none allocated (Substance No: 33135601)



- Use personal protective equipment as required

Section Three Composition / Information on Ingredients

Crystalline Silica (Quartz) **CAS No: 14808-60-7** **>91%**

Quartz	>91%
Zircon & Leucoxene	<1%
Secondary Iron Oxide	<1%
Sericite	<7%
Chlorite & Kaolinite	<2%

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Section Four First Aid Measures

For advice, contact Poisons Information Centre (Australia 13 11 26)

Inhalation:

Remove victim from area of exposure to fresh air - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if side effects present.

Skin Contact:

If skin contact occurs, remove contaminated clothing and wash skin with running water. Use mild soap if available. For persistent irritation or burning of the skin, seek medical advice.

Eye Contact:

If in eyes, wash out immediately with water for 15 minutes to remove traces of dust. Do not attempt to remove foreign particles from the eyes without medical advice. In all cases of eye contamination, it is a sensible precaution to seek medical advice.

Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical help if systems persist.

First Aid Facilities:

Eye wash and normal washroom facilities

Section 5 Fire Fighting Measures

Flammability	Not flammable
Hazards from combustion products	None
Suitable extinguishing media	Not Applicable
Equipment for fire fighters	None
Hazchem Code	None allocated

Section 6 Accidental Release Measures

Normal Site Emergency Procedures during spillages. Use correct RPE during spill clean-up if conditions are dusty. Use vacuum device to avoid making dust airborne.

If contamination of waterways has occurred, advise Sydney Catchment Authority & Environmental Protection Agency (EPA) on 1800 061 069.

Section 7 Handling & Storage

Storage Precautions	No special storage requirements
Transport	Not classified as a Dangerous Good, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Section 8 Exposure Controls / Personal Protection

The following applies to dust from this product:

Exposure Limits:

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): 0.05 mg/m³ TWA (time – weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week) as respirable dust



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

Engineering Controls:

- All work should be carried out in such a way as to minimize dust generation, and exposure to dust.
- Mechanical ventilation: Dust extraction and collection may be used, if necessary, to control airborne dust levels
- Work areas should be cleaned regularly
- Dust suppression system utilized – fog, mist or water

Personal Protective Equipment

Skin:

- Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet
- Remove all contaminated clothing. Wash gently and thoroughly with tepid water and non-abrasive soap. If irritation develops and persists seek medical attention

Eyes

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

Respiratory:

- 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
- For dust levels approaching or exceeding the NES (see above) a more effective particulate respirator providing a greater protection factor should be worn. Procedures for effective use of respirators should be applied and supervised.
- Do not contaminate the home environment with dusty work clothes and shoes. Do not shake out work clothes before laundering

Section 9 Physical & Chemical Properties

Physical state/size:	Rock granules – various sizes (including dust) – a proportion of the dust may be respirable (below 10 microns) and if inhaled may cause a risk to human circulation.
Colour:	Creamy White to Off-white/grey
Odour:	None
Molecular Formula:	SiO ₂
Solubility:	Insoluble in water.
Specific Gravity:	2.64 - 2.66 @ 20°C
Relative Vapor Density (air=1):	Not applicable
Vapor Pressure (20 °C):	Not applicable
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Melting Point/Range (°C):	1700
Product Name:	SILICON DIOXIDE, CRYSTALLINE (QUARTZ)

Section 10 Stability & Reactivity

Chemical Stability:	Chemically Stable
Condition to avoid:	Dust generation.
Incompatible materials:	None
Hazardous Decomposition:	None
pH	4.0 – 5.0
Hazardous Reactions:	Hydrofluoric acid

Crystalline silica is stable, compatible with other materials, does not polymerize, and will not decompose into hazardous by-products

Section 11 Toxicological Information

No adverse health effects are expected. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing may result in nausea, vomiting, and abdominal pain.
Eye contact:	May be an eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.
Skin contact:	Repeated or prolonged skin contact may lead to irritation.



Inhalation: Breathing in dust may result in respiratory irritation.

Acute toxicity: The toxicity of crystalline silica is directly proportional to the ability of any particle to reach the lower respiratory tract. Quartz particles with an aerodynamic diameter below 10um are likely to be most harmful to humans, as they reach the lower respiratory tract and are less readily removed by the lungs.

Increases in lung cancer have been attributed to the inhalation of crystalline silica in a number of industries, including: ore mining; quarrying and granite works; ceramics pottery, refractory brick and diatomaceous earth industries; and in foundry workers.

The International Agency for Research on Cancer has classified crystalline silica as a Group 1 Carcinogen - Carcinogenic to Humans, based on sufficient evidence in humans and animals. Increasing in vitro and in vivo evidence suggests that lung carcinomas in rats are a result of marked and persistent inflammation and epithelial proliferation.

Crystalline silica also causes a range of non-neoplastic pulmonary effects, including: inflammation, silicosis, lymph node fibrosis, airways disease, emphysema and increased permeability of the airspace epithelium.

Chronic effects: Epidemiological studies in humans have revealed that crystalline silica may cause lung cancer, silicosis, lymph node fibrosis, airways disease, emphysema and lung inflammation.

Note: Inhalation of airborne particles from other sources in the work environment, including those from cigarette smoke, may increase the risk of respiratory diseases. It is recommended that all storage and work areas should be smoke-free zones and that other airborne contaminants should be kept to a minimum

Section 12 Ecological Information

Crystalline silica is non-toxic to aquatic and terrestrial organisms, it is not biodegradable, and it is insoluble and is expected to have low mobility in landfill.

Section 13 Disposal Considerations

- Crystalline silica itself in all common forms can be treated as a common waste for disposal or dumped into a landfill site in accordance with local authority guidelines.
- Measures should be taken to prevent dust generation during disposal and exposure and personal precautions should be observed (see above).
- Wear sufficient respiratory protection. Dampen spilled material with water to avoid airborne dust.



- May be disposed in local landfill.

Section 14 Transport Information

Road & Rail Transport – Non-Dangerous Goods

Marine Transport – Non-Dangerous Goods

Air Transport – Non-Dangerous Goods

Section 15 Regulatory Information

- 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
- 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 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)
- Work Health and Safety Regulation 2017 – Schedule 14 (WHS Regulation).

Section 16 Other Information

Notice: Walker Quarries believe the information contained in this Material Safety Data Sheet is accurate and is given in good faith, but no warranty expressed or implied is made.

The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Users are advised to make their own independent determination of suitability and completeness of information at their own risk, in relation to the particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond Walker Quarries' control, no responsibility can be accepted by Walker Quarries for any loss or damage cause by any person acting or refraining from action as a result of any information contained in this Material Safety Data Sheet.



Where the information provided herein disclosed a potential hazard or hazardous ingredient, adequate warning should be provided to employees and users and appropriate precautions taken. Chain of Responsibility Obligations is therefore transferred to customers upon receiving quarry material and are therefore obliged to follow the correct safety procedures