Safety Data Sheet

Issue Date Dec 2019 **by Hunter Bay Silica**

Product Name Quartz Powder

Classified as Hazardous

1. Identification of The Material and Supplier

GHS Product Identifier: **SILICON DIOXIDE, CRYSTALLINE (QUARTZ)**
Other name(s): Quartz * Silica, crystalline (quartz) * Silicon dioxide, microcrystalline (quartz) * Silica flour *Silica sand * SIL 600

Recommended Use of the Chemical and Restrictions on Use
Electronic components; piezoelectric control in filters, oscillators, frequency standards, wave filters, radio and TV components; barrel-finishing abrasive, catalyst carrier, maceration agent and analytical reagent, functional filler in ceramics, adhesives, cleaning powders, paints and enamels.

Supplier: Hunter Bay Silica Pty Ltd
ABN: 63 611 890 254
Street Address: Level 27, Suite 2, 1 O'Connell Street Sydney NSW

Australia
Telephone Number: (02) 9241 7900

Emergency Telephone: 1 800 033 111 (ALL HOURS)
Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. Hazards Identification

GHS classification of the substance/mixture
Specific target organ toxicity - Repeated Exposure, Inhalation Category 1

Hazard Statement
H373 May cause damage to organs (Lungs) through prolonged or repeated exposure if inhaled.

SIGNAL WORD: DANGER
Pictogram Health hazard

Precautionary Statement - P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Prevention Precautionary Statement - P314 Get medical advice/attention if you feel unwell.

Response Precautionary Statement Disposal - P501 Dispose of contents/container to an approved waste disposal plant.

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3. Composition and Information on Ingredients

Chemical Characterisation Solid

Ingredients	Name	CAS	Proportion	Hazard Symbol	Risk Phrase
	Quartz (crystalline silica)	14808-60-7	99.98 %	H350 H372	

4. First-aid Measures

Inhalation

Remove from exposure, rest and keep warm. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention in severe cases, if symptoms develop, or if breathing is difficult

Ingestion

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek medical advice.

Skin

Wash affected area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse. Seek medical attention in severe cases, or if irritation develops.

Eye contact

If contact with the eye(s) occur, wash with copious amounts of water for approximately 15 minutes holding eyelids(s) open. Take care not to rinse contaminated water into the non-effected eye. If irritation develops seek medical attention.

First Aid Facilities

Maintain eyewash fountain and drench facilities in work area.

Advice to Doctor

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Other Information

For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products

Toxic and/or irritating dust, including silicon oxides. At higher temperatures, can change crystal structure to form tridymite or cristobalite, which have greater health hazards.

Specific Methods

Use extinguishing media most appropriate for the surrounding fire. No limitations to the type of extinguishing media.

Precautions in connection with Fire Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions
Evacuate the area of all non-essential personnel. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Personal Protection
Wear protective clothing specified for normal operations (see Section 8)

Clean-up Methods - Small Spillages
Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.

7. Handling and storage

Precautions for Safe Handling
Avoid ingestion or inhalation of dust and aerosols. Avoid contact with eyes, skin, or clothing. Minimize dust, accumulation and dispersion in the work atmosphere. Provide appropriate exhaust ventilation at places where dust is formed. Maintain and test ventilation and dust collection equipment. Use only with adequate ventilation and dust collection. Wear suitable protective clothing to prevent inhalation and eye exposure.

Conditions for safe storage, including any incompatibilities
Store in tightly closed, labelled, corrosion-resistant containers, in a cool, dry, well-ventilated area away from incompatible materials. Store away from bases, halogens and water.

Storage Temperatures
Store at room temperature (15 to 24 °C recommended).

8. Exposure controls/personal protection

Occupational Exposure Limit Values
Name STEL TWA
mg/m3 ppm m g/m3 ppm Footnote
Quartz (crystalline silica) 0.1

Other Exposure Information
A time weighted average (TWA) has been established for Quartz [Silica Crystalline] [14808-60-7] (Safe Work Australia) of 0.1 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

Appropriate engineering controls
In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.

Respiratory Protection
Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye Protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate.

Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Hand Protection
Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Vinyl gloves.

Personal Protective Equipment
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Body Protection
Clean clothing or protective clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hygiene Measures
Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using

9. Physical and chemical properties

Form	Solid
Appearance	White or off-white powder
Odour	Odourless
Melting Point	1610-2000°C
Solubility in Water	Immiscible or insoluble
Solubility in Organic Solvents	Soluble in concentrated hydrofluoric acid, formig silicon tetrafluoride gas; soluble in hot potassium hydroxide and hot sodium hydroxide; very slightly soluble in strong alkali; practically insoluble in acids; insoluble in ethanol
Specific gravity	2.65
Vapour Pressure	10mm HG @ 1732oC
Volatile Component	0%@ 21°C
Flammability	Non-combustible material
Molecular Weight	60.09
Particle Size	<800 microns

Other information	
Mohs Hardness:	7
Piezoelectric and pyroelectric	
Taste:	Tasteless
Refractive Index:	N20/D 1.554

10. Stability and reactivity

Chemical Stability

Stable under normal conditions of storage and handling.

Conditions to Avoid
Dust generation and incompatible materials.

Incompatible Materials
Strong alkalis, hydrofluoric acid, alkaline aqueous solutions, catechol, strong oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, vinyl acetate and magnesium.

Hazardous Decomposition Products
Toxic and/or irritating dust, including silicon oxides. At higher temperatures, can change crystal structure to form tridymite or cristobalite, which have greater health hazards.

Possibility of hazardous reactions
Quartz is attacked by hydrofluoric acid and produces a corrosive gas - silicon tetrafluoride. Slowly attacked by heating with concentrated phosphoric acid. Combines with strong alkalis under suitable conditions to form silicates. Silica is attacked by catechol. Melts to glass at ordinary temperatures. Reacts with strong oxidants causing fire and explosion hazard. Can cause violent reaction in contact with oxygen difluoride, with vinyl acetate and magnesium.

Hazardous Polymerisation
Will not occur.

11. Toxicological Information

Ingestion
Ingestion of this product may cause irritation of the digestive tract, causing nausea and vomiting.

Inhalation
Harmful if inhaled. May cause cancer by inhalation. May cause drying and respiratory tract irritation, with coughing. Affects respiration. Inhalation of silica dust may cause pulmonary disease (silicosis). Acute pneumoconiosis from overwhelming exposure to silica dust has occurred. May also affect liver.

Skin
Dust may cause mechanical skin irritation, resulting in redness and itching.

Eye
Dust is abrasive and may cause mechanical eye irritation, temporary discomfort to eyes, redness and pain. May cause physical damage, including corneal scarring.

Carcinogenicity
Silica [14808-60-7], crystalline (inhaled in the form of quartz or cristobalite from occupational sources) is evaluated in the IARC Monographs (Vol. 68; 1997) as Group 1: Carcinogenic to humans.

STOT-repeated exposure
H373 May cause damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
STOT-repeated exposure Chronic Effects
Repeated or prolonged inhalation, or exposure to dust may aggravate asthma and may lead to cancer and lung injury/fibrosis (silicosis, the formation of adhesions in the lungs progressing to the formation of a continuous mass of fibrous tissue, characterized by a dry cough, shortness of breath, emphysema, decreased chest expansion, reduced lung function, increased susceptibility to tuberculosis, in advanced stages, loss of appetite, pleuritic pain, and total incapacity to work and in severe cases, death due to cardiac failure or destruction of lung tissue). The onset of silicosis is usually slow and can develop to a more serious degree even after exposure has ceased, or when no symptoms or signs of ill-health have occurred and may also lead to other diseases including heart disease and scleroderma. May also affect blood. Prolonged or repeated contact with the skin in the absence of proper hygiene, may cause dryness and dermatitis.

Mutagenicity
Mutagenic effects have occurred in humans.
Micronucleus test, Human Lung, Dose/Duration: 40 µg/cm², Reference: MUREAV Mutation Research.

(Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 335,27,1995.
Mutagenic effects have been observed on tests with laboratory animals.
Micronucleus test, Rodent - hamster Lung, Dose/Duration: 160 µg/cm², Reference: MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 335,27,1995.

12. Ecological information

Ecological Information
No ecological problems are to be expected when the product is handled and used with due care and attention.

Ecotoxicity
Quantitative data on the ecological effect of this product are not available.

13. Disposal considerations

Disposal Considerations
Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information

Road and Rail Transport

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Marine Transport

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Air Transport

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

15. Regulatory information

Regulatory Information
Listed in the Australian Inventory of Chemical Substances (AICS).

Poisons Schedule
Not Scheduled

National International Regulatory Information
and or NICNAS: Crystalline silica: Human health tier II assessment

16. Other Information

Literary References

'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia.

Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.

Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.

Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide',

Standards Australia/Standards New Zealand, 2010.

Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.

Safe Work Australia, 'Hazardous Substances Information System, 2005'.

Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.

Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.

Contact Person

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