

## MATERIAL SAFETY DATA SHEET

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### 1. IDENTIFICATION OF PRODUCT AND COMPANY

Product: Ronabond Geo Sheet  
Encapsulated Bentonite Geotextile Sheeting

Company: Ronacrete (Far East) Ltd., 16/F, No. 3 Lockhart Rd,  
Wanchai, Hong Kong SAR

Tel/Fax: +852 2865 5872 / +852 2865 5568

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### 2. COMPOSITION / INFORMATION ON INGREDIENTS

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

#### Composition comments

This product contains naturally occurring crystalline silica (not listed in Annex I of Directive 67/548/EEC) in quantities less than 6%. Occupational Exposure Limits for impurities are listed in Section 8.

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### 3. HAZARDS IDENTIFICATION

#### Emergency overview

This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica.

#### Potential health effects

Routes of exposure Inhalation.

Eye contact - Eyes : Dust or powder may irritate eye tissue.

Skin : Non-irritating to the skin.

Inhalation : Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet.

Ingestion : No hazard in normal industrial use. No significant adverse effects are expected upon ingestion of the product.

#### Target organs - Lungs

Chronic effects : Over exposure to dust may result in pneumoconiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

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### 4. FIRST AID MEASURES

First aid procedures

Eye contact : Flush eyes immediately with large amounts of water. Get medical attention if irritation develops or persists.

Skin contact : No special measures required. Get medical attention if irritation develops or persists.

Inhalation : If symptoms are experienced, remove source of contamination or move victim to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.

Ingestion : No special measures required. If ingestion of a large amount does occur, seek medical attention. Notes to physician Provide general supportive measures and treat symptomatically.

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### 5. FIRE FIGHTING MEASURES

Flammable properties : The product is not flammable.

Extinguishing media : Use any media suitable for the surrounding fires. Dry chemical, CO<sub>2</sub>, water spray or regular foam. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear a dust mask if dust is generated above exposure limits.

Environmental precautions : No special environmental precautions required.

Methods for containment : None necessary.

Methods for cleaning up : Avoid the generation of dusts during clean-up. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

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### 7. HANDLING AND STORAGE

Handling

Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage

Guard against dust accumulation of this material. No special storage conditions required. No special restrictions on storage with other products.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

US. ACGIH Threshold Limit Values

INERT OR NUISANCE DUSTS (SEQ250)	3.0000 mg/m <sup>3</sup> Respirable particles.
	10.0000 mg/m <sup>3</sup> Inhalable particles.
QUARTZ (14808-60-7)	0.0250 mg/m <sup>3</sup> Respirable fraction.

Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled below the given limits.

Personal protective equipment

Eye / face protection : Wear dust goggles.

Skin protection : No special protective equipment required.

Respiratory protection : Use a particulate filter respirator for particulate concentrations exceeding the given Limit.

General hygiene considerations : Eye wash fountain is recommended. Use good industrial hygiene practices in handling this material.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : The product consists of bentonite granules between geotextile layers

Physical state : Solid.

Odor : None.

pH : Not available.

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### 10. CHEMICAL STABILITY AND REACTIVITY INFORMATION

Chemical stability : Stable at normal conditions.

Conditions to avoid : None known.

Incompatible materials : None known.

Hazardous decomposition products : None known.

Possibility of hazardous reactions : Will not occur.

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### 11. TOXICOLOGICAL INFORMATION

Constituents Test Results

QUARTZ (14808-60-7)	Acute Oral LD50 Rat: 500 mg/kg
Sensitization	No sensitization responses were observed

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### Chronic effects

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003)

According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Carcinogenicity ACGIH Carcinogens QUARTZ (CAS 14808-60-7) A2 Suspected human carcinogen. IARC Monographs. Overall Evaluation of Carcinogenicity QUARTZ (CAS 14808-60-7) 1 Carcinogenic to humans. US NTP Report on Carcinogens: Known carcinogen QUARTZ (CAS 14808-60-7) Known carcinogen.

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## 12. ECOLOGICAL INFORMATION

### Product Test Results

LC50 Fish: 10364.7 mg/l 96.00 hours estimated

Ecotoxicity	This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental effects	Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.
Persistence and degradability	Not available.

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## 13. DISPOSAL CONSIDERATIONS

Disposal instructions Dispose in accordance with all applicable regulations. Material should be recycled if possible.

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## 14. TRANSPORT INFORMATION

Not regulated as dangerous goods.

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## 15. REGULATORY INFORMATION

Classification and User Label Information This product is not classified as dangerous according to EC criteria.

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## 16. OTHER INFORMATION

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