

NATURAL STONE - GRANITE

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1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**1.1 Product Identifier**

Product Name: NATURAL STONE - GRANITE
Country of Origin: Brazil, India, China, Norway, South Africa, Canada, USA
Synonyms: Igneous rock, plutonic rock, crystalline granite, dimensional granite

1.2 Uses and Uses Advised Against

Natural granite is used for benchtops, flooring, wall cladding, monuments, sculptures, exterior facades, and high-durability applications. Excellent for kitchen countertops due to heat and scratch resistance. Suitable for both interior and exterior use. Not recommended for applications requiring thermal shock resistance without proper expansion joints.

1.3 Emergency Telephone Numbers

Emergency: 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture****CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA**

The solid granite product as supplied is classified as non-hazardous under normal conditions. However, dust created when the product is cut, ground, or machined may contain crystalline silica (typically 20-50% in granite) and cause mechanical irritation. Repeated exposure to respirable crystalline silica dust may cause lung fibrosis (silicosis). Some granite varieties may contain trace amounts of naturally occurring radioactive elements.

Physical Hazards: Not classified as a Physical Hazard
Health Hazards: Carcinogenicity: Category 1A (when dust is generated)
Environmental Hazards: Not classified as an Environmental Hazard

2.2 GHS Label Elements

Signal Word: DANGER

Hazard Statements: H350i May cause cancer by inhalation

Pictograms: [Health Hazard Symbol]

Prevention Statements:

- P201 Obtain special instructions before use
- P202 Do not handle until all safety precautions have been read and understood
- P280 Wear protective gloves/protective clothing/eye protection/face protection

Response Statements:

- P308 + P313 IF exposed or concerned: Get medical advice/attention

Storage Statements:

- P405 Store locked up

Disposal Statements:

- P501 Dispose of contents/container in accordance with relevant regulations

2.3 Other Hazards

Granite is chemically inert and highly resistant to acids and weathering. Heavy slabs present significant manual handling hazards. Some granite varieties may emit low levels of radon gas. Sharp edges may cause cuts during handling.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances/Mixtures

Ingredient	CAS Number	EC Number	Content (w/w)
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	20-50%
SILICA (SiO ₂)	7631-86-9	231-545-4	65-75%
FELDSPAR (K-FELDSPAR, PLAGIOCLASE)	68476-25-5	270-666-7	20-35%
MICA (BIOTITE, MUSCOVITE)	12001-26-2	310-127-6	5-15%
ALUMINIUM OXIDE (Al ₂ O ₃)	1344-28-1	215-691-6	12-18%
IRON OXIDES (Fe ₂ O ₃ , FeO)	1309-37-1	215-168-2	2-8%
CALCIUM OXIDE (CaO)	1305-78-8	215-138-9	1-5%
MAGNESIUM OXIDE (MgO)	1309-48-4	215-171-9	0-3%
SODIUM OXIDE (Na ₂ O)	1313-59-3	215-204-7	2-5%
POTASSIUM OXIDE (K ₂ O)	12136-45-7	235-227-6	3-8%
TRACE RADIOACTIVE ELEMENTS	Various	Various	<0.01%

Ingredient Notes: Composition varies significantly by quarry location and granite type. High crystalline silica content creates significant health risks during fabrication.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Eye (Dust exposure): Flush gently with running water for at least 15 minutes, irrigating under eyelids. Remove contact lenses if present and easily removable. Seek medical attention if irritation persists.

Cuts (Sharp edges): Control bleeding with direct pressure. Clean wound thoroughly and apply sterile dressing. Seek medical attention for deep cuts or if stone particles remain in wound.

Inhalation (Dust exposure): Remove from contaminated area to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.

Skin (Dust exposure): Remove contaminated clothing. Wash skin thoroughly with soap and water. Seek medical attention if irritation develops or persists.

Ingestion: Due to product form and application, ingestion is considered unlikely. If ingested, do not induce vomiting. Rinse mouth with water and seek medical advice.

4.2 Most Important Symptoms and Effects

Primary hazard is from dust generation during cutting, grinding, or polishing operations. Symptoms may include respiratory irritation, coughing, and potential long-term lung effects from silica exposure. Very high silica content creates significant health risk.

4.3 Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Inform medical personnel of potential high crystalline silica dust exposure and granite composition.

First Aid Facilities: Eye wash stations, emergency showers, and first aid supplies should be available in work areas where dust generation is possible.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Suitable: Use extinguishing media appropriate for surrounding fire.

Unsuitable: None known.

5.2 Special Hazards Arising from the Substance

Non-combustible. Chemically inert under fire conditions. No toxic gases produced under normal fire conditions. May crack due to thermal expansion at high temperatures.

5.3 Advice for Firefighters

No special fire fighting procedures required. Wear standard firefighting protective equipment. Be aware that granite surfaces may retain heat for extended periods.

5.4 Hazchem Code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate PPE as outlined in Section 8. Ensure adequate ventilation. Avoid generating dust clouds. Use enhanced respiratory protection due to very high silica content.

6.2 Environmental Precautions

Prevent material from entering drains, waterways, or soil. Granite is not environmentally hazardous and is chemically inert.

6.3 Methods of Cleaning Up

Large pieces: Collect manually with appropriate lifting equipment. Use mechanical aids for heavy slabs.

Dust/Small pieces: Use HEPA vacuum or wet sweeping methods. Do not dry sweep. Enhanced dust control essential due to very high silica content. Dispose of waste according to local regulations.

6.4 Reference to Other Sections

See Sections 8 and 13 for exposure controls and disposal requirements.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Use appropriate manual handling techniques for heavy slabs. Ensure adequate ventilation when cutting or grinding. Wet cutting methods essential to minimize dust generation. Wear appropriate PPE during fabrication. Enhanced dust control critical due to very high silica content.

7.2 Conditions for Safe Storage

Store in dry, well-ventilated areas. Protect from impact. Store slabs vertically in appropriate racking systems with adequate support. Ensure proper ventilation in storage areas due to potential radon emission from some varieties.

7.3 Specific End Uses

Kitchen and bathroom countertops, flooring, wall cladding, exterior facades, monuments, sculptures, and high-durability architectural applications.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Exposure Standards:

Ingredient	Reference	TWA (mg/m ³)	STEL (mg/m ³)
Quartz (respirable dust)	SWA [AUS]	0.05	-
Silica (total dust)	SWA [AUS]	10	-

8.2 Exposure Controls

Engineering Controls: Mandatory local exhaust ventilation during cutting/grinding operations. Wet cutting methods required. Ensure adequate general ventilation. Enhanced dust control systems essential due to very high silica content.

Personal Protective Equipment:

- **Respiratory:** P2 particulate respirator minimum when dust generation is possible; P3 respirator strongly recommended for extended operations
- **Eye/Face:** Safety glasses with side shields; dust goggles during cutting operations
- **Hands:** Cut-resistant gloves for handling; chemical-resistant gloves if using sealers/polishing compounds
- **Body:** Long-sleeved shirts and long pants; protective coveralls during dusty operations
- **Feet:** Safety boots with slip-resistant soles

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Property	Value
Appearance	Coarse-grained crystalline igneous rock, various colors and patterns
Odour	Odourless
Density	2.6-2.8 g/cm ³
Hardness (Mohs)	6-7
Porosity	0.2-4%
pH	6-7 (neutral)
Solubility	Insoluble in water and most acids
Melting Point	1215-1260°C
Thermal Conductivity	2.5-4.0 W/m·K
Compressive Strength	100-300 MPa
Flexural Strength	10-30 MPa
Thermal Expansion	6-8 × 10 ⁻⁶ /°C
Radioactivity	<100 Bq/kg (typical)

10. STABILITY AND REACTIVITY

10.1 Reactivity

Chemically inert under normal conditions. Highly resistant to acids and chemical attack.

10.2 Chemical Stability

Very stable under normal conditions. Excellent resistance to weathering and chemical degradation.

10.3 Possibility of Hazardous Reactions

Hydrofluoric Acid: May react slowly with concentrated HF. No other significant chemical reactions under normal conditions.

10.4 Conditions to Avoid

Minimize dust generation during processing. Avoid extreme thermal shock which may cause cracking.

10.5 Incompatible Materials

Hydrofluoric acid and HF-containing compounds.

10.6 Hazardous Decomposition Products

Silica vapors at extremely high temperatures ($>1200^{\circ}\text{C}$).

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity: Low toxicity for solid material. Silicate minerals have low acute toxicity.

Skin Contact: May cause mechanical irritation from dust. Not a skin sensitizer.

Eye Contact: Dust may cause mechanical irritation. Not corrosive.

Inhalation: Dust may cause respiratory tract irritation. Very high concern due to significant crystalline silica content (20-50%).

Ingestion: Large amounts may cause gastrointestinal discomfort. Not expected to be toxic.

Carcinogenicity: Crystalline silica component is classified as Group 1 carcinogen by IARC.

Radioactivity: Some granite varieties may contain trace amounts of naturally occurring radioactive elements (uranium, thorium, radium). Exposure levels are typically low but should be considered for indoor applications.

Chronic Effects: Prolonged inhalation of respirable dust may cause silicosis. Very high risk due to elevated silica content.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Not expected to be toxic to aquatic or terrestrial organisms.

12.2 Persistence and Degradability

Highly persistent in environment. Extremely resistant to weathering.

12.3 Bioaccumulative Potential

No bioaccumulation expected.

12.4 Mobility in Soil

Very low mobility due to insolubility and stability.

12.5 Other Adverse Effects

Trace radioactive elements may contribute minimal radiation to environment. No significant adverse effects expected.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Reuse: Preferred option - excellent for reclamation in construction, landscaping, or architectural applications.

Recycling: Can be crushed for high-quality aggregate, road base, or construction fill.

Disposal: Non-hazardous waste. Dispose at licensed construction and demolition waste facilities. Consider radioactivity testing for large quantities.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS DANGEROUS GOODS

No special transport requirements. Secure loads properly to prevent shifting during transport. Consider weight distribution due to high density.

15. REGULATORY INFORMATION

15.1 Regulatory Status

AIIC: All components listed on Australian Inventory of Industrial Chemicals.

SUSMP: No poison schedule assigned.

Work Health and Safety: Comply with WHS regulations for respirable crystalline silica. Enhanced controls required due to very high silica content.

Radiation Safety: Some varieties may require consideration under radiation safety guidelines for indoor use.

16. OTHER INFORMATION**Revision Information****Date of Preparation:** 18.07.25**Prepared by:** Attila's Natural Stone and Tiles Pty Ltd**Revision:** 1**Additional Information**

This SDS applies to natural granite products from various global sources. Composition varies significantly by quarry location and granite type. Always use enhanced dust control measures during fabrication due to very high crystalline silica content.

Special Notes:

- Some varieties may emit low levels of radon gas - ensure adequate ventilation
- Wet cutting essential - never dry cut granite
- Consider radioactivity testing for specific applications or large installations
- Among the highest health risks for silica exposure of all natural stones

Emergency Contact: 13 11 26 (Poisons Information Centre)