

NATURAL STONE - BLUESTONE

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1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: NATURAL STONE - BLUESTONE
Country of Origin: Australia (Victoria, South Australia), USA (Pennsylvania, New York), Europe (Belgium, Ireland)
Synonyms: Basalt, volcanic rock, trap rock, diabase (USA), Belgian blue (Europe)

1.2 Uses and Uses Advised Against

Natural bluestone can be used for paving, steps, wall cladding, landscaping, pool coping, flooring, and architectural features. Excellent for exterior applications due to high durability and weather resistance. Suitable for high-traffic areas. Not recommended for applications requiring high thermal resistance due to dark color heat absorption.

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 bluestone 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 15-35% in bluestone) and cause mechanical irritation. Repeated exposure to respirable crystalline silica dust may cause lung fibrosis (silicosis).

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

Bluestone is highly acid-resistant and chemically inert under normal conditions. Heavy slabs present manual handling hazards. Dark surfaces may become very hot in direct sunlight, presenting burn hazards.

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances/Mixtures**

Ingredient	CAS Number	EC Number	Content (w/w)
SILICA (SiO ₂)	7631-86-9	231-545-4	45-55%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	15-35%
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	8-15%
CALCIUM OXIDE (CaO)	1305-78-8	215-138-9	5-12%
MAGNESIUM OXIDE (MgO)	1309-48-4	215-171-9	3-8%
SODIUM OXIDE (Na ₂ O)	1313-59-3	215-204-7	2-5%
POTASSIUM OXIDE (K ₂ O)	12136-45-7	235-227-6	1-4%
OTHER MINERALS	-	-	<5%

Ingredient Notes: Composition varies by quarry location and geological formation. Australian bluestone (basalt) typically has lower silica content than sedimentary bluestone varieties.

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.

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. Higher silica content increases risk compared to marble.

4.3 Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Inform medical personnel of potential high silica dust exposure.

First Aid Facilities: Eye wash stations and emergency showers 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 retain heat for extended periods.

5.3 Advice for Firefighters

No special fire fighting procedures required. Wear standard firefighting protective equipment. Be aware that stone surfaces may remain hot after fire suppression.

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 higher silica content.

6.2 Environmental Precautions

Prevent material from entering drains, waterways, or soil. Bluestone 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 pieces.

Dust/Small pieces: Use HEPA vacuum or wet sweeping methods. Do not dry sweep. Enhanced dust control required due to higher 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 required due to higher silica content.

7.2 Conditions for Safe Storage

Store in dry, well-ventilated areas. Protect from impact. Store slabs vertically in appropriate racking systems. Ensure adequate support to prevent breakage. Protect from extreme temperature changes which may cause thermal stress.

7.3 Specific End Uses

Exterior paving, steps, pool coping, wall cladding, landscaping features, architectural elements, and high-traffic flooring 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 recommended due to high silica content.

Personal Protective Equipment:

- **Respiratory:** P2 particulate respirator minimum when dust generation is possible; P3 respirator 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/cleaners
- **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	Fine to medium-grained igneous rock, typically blue-grey to dark grey
Odour	Odourless
Density	2.8-3.1 g/cm ³
Hardness (Mohs)	6-7
Porosity	0.1-3%
pH	7-8 (neutral to slightly alkaline)
Solubility	Insoluble in water and most acids
Melting Point	1100-1250°C
Thermal Conductivity	1.5-2.5 W/m·K
Compressive Strength	150-400 MPa
Thermal Expansion	$7-9 \times 10^{-6} / ^\circ\text{C}$

10. STABILITY AND REACTIVITY**10.1 Reactivity**

Chemically inert under normal conditions. Highly resistant to acids and weathering.

10.2 Chemical Stability

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

10.3 Possibility of Hazardous Reactions

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

10.4 Conditions to Avoid

Minimize dust generation during processing. Avoid extreme thermal cycling which may cause thermal stress fractures.

10.5 Incompatible Materials

Hydrofluoric acid and HF-containing compounds.

10.6 Hazardous Decomposition Products

Silica vapors at extremely high temperatures (>1100°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. Higher concern due to significant crystalline silica content (15-35%).

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

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

Chronic Effects: Prolonged inhalation of respirable dust may cause silicosis. Higher risk than marble due to increased 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

No significant adverse environmental effects expected.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

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

Recycling: Can be crushed for high-quality road base, concrete aggregate, or railway ballast.

Disposal: Non-hazardous waste. Dispose at licensed construction and demolition waste facilities.

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 higher silica content.

16. OTHER INFORMATION

Revision Information

Date of Preparation: 18.07.25

Prepared by: Attila's Natural Stone and Tiles Pty Ltd

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Additional Information

This SDS applies to natural bluestone products from various global sources. Composition may vary significantly by geological origin (igneous basalt vs sedimentary bluestone). Always use enhanced dust control measures during fabrication due to higher crystalline silica content. Australian bluestone (basalt) typically has different properties than sedimentary bluestone varieties.

Special Note: Enhanced respiratory protection and dust control measures are required due to significantly higher crystalline silica content compared to marble and limestone products.

Emergency Contact: 13 11 26 (Poisons Information Centre)