ATTILA

SAFETY DATA SHEET

NATURAL STONE - ONYX

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1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: NATURAL STONE - ONYX
Country of Origin: Iran, Pakistan, Afghanistan, Turkey, Mexico, Argentina, Egypt
Synonyms: Calcite onyx, aragonite onyx, banded calcite, translucent marble, Mexican onyx

1.2 Uses and Uses Advised Against

Natural onyx is used for decorative wall cladding, backlighting applications, vanity tops, artistic features, sculptures, and luxury interior applications. Excellent for backlit installations due to translucency. Not recommended for high-traffic flooring, exterior use, or kitchen countertops due to softness and acid sensitivity. Requires careful handling due to fragility.

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 onyx 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 <2% in onyx) 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

Onyx is highly acid-sensitive and may react vigorously with acids producing carbon dioxide gas. Material is brittle and may fracture unexpectedly during handling. Translucent properties may be damaged by improper handling or exposure to excessive heat.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances/Mixtures

Ingredient	CAS Number	EC Number	Content (w/w)
CALCIUM CARBONATE (CALCITE)	471-34-1	207-439-9	95-99%
CALCIUM CARBONATE (ARAGONITE)	471-34-1	207-439-9	0-95%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<2%
IRON OXIDES	1309-37-1	215-168-2	<1%
MANGANESE OXIDES	1317-35-7	215-264-4	<1%
TRACE MINERALS	Various	Various	<2%

Ingredient Notes: Composition varies by quarry location. Onyx is primarily calcium carbonate in crystalline form with very low silica content. Banding and coloration from trace mineral inclusions.

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 fragments): Control bleeding with direct pressure. Clean wound thoroughly and apply sterile dressing. Seek medical attention for deep cuts or if stone fragments 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 hazards include dust generation during cutting operations and potential cuts from brittle fractures. Symptoms may include respiratory irritation, coughing. Lower silica content reduces long-term health risks compared to other stones.

4.3 Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Inform medical personnel of potential calcium carbonate dust exposure and low silica content.

First Aid Facilities: Eye wash stations, emergency showers, and first aid supplies for cuts should be available in work areas.

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. When exposed to acids or high temperatures, may release carbon dioxide gas. No toxic gases produced under normal fire conditions. May crack or shatter due to thermal shock.

5.3 Advice for Firefighters

No special fire fighting procedures required. Wear standard firefighting protective equipment. Be aware of potential for thermal shock causing brittle fracture.

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. Handle fragments carefully due to sharp edges from brittle fracture.

6.2 Environmental Precautions

Prevent material from entering drains, waterways, or soil. Onyx is not environmentally hazardous but may alter local pH if large quantities enter water systems.

6.3 Methods of Cleaning Up

Large pieces: Collect manually with appropriate handling equipment and protective gloves. Use extreme care due to fragility.
Dust/Small pieces: Use HEPA vacuum or wet sweeping methods. Do not dry sweep. Handle sharp fragments carefully. 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 extreme care when handling due to brittle nature. Ensure adequate support for slabs. Use appropriate manual handling techniques. Ensure adequate ventilation when cutting or grinding. Use wet cutting methods where possible to minimize dust generation. Wear appropriate PPE during fabrication.

7.2 Conditions for Safe Storage

Store in dry, temperature-controlled areas to prevent thermal stress. Protect from impact, vibration, and direct sunlight which may cause thermal expansion issues. Store slabs vertically in padded racking systems with adequate support. Avoid temperature fluctuations.

7.3 Specific End Uses

Interior decorative applications, backlit wall features, vanity tops, artistic installations, sculptures, and luxury architectural elements. Not suitable for structural or high-stress applications.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Exposure Standards:

Ingredient	Reference	TWA (mg/m³)	STEL (mg/m³)
Quartz (respirable dust)	SWA [AUS]	0.05	-
Calcium Carbonate	SWA [AUS]	10	-

8.2 Exposure Controls

Engineering Controls: Use local exhaust ventilation during cutting/grinding operations. Wet cutting methods preferred. Ensure adequate general ventilation.

Personal Protective Equipment:

- **Respiratory:** P2 particulate respirator when dust generation is possible
- **Eye/Face:** Safety glasses with side shields; dust goggles during cutting operations
- **Hands:** Cut-resistant gloves for handling; chemical-resistant gloves if using sealers/treatments
- **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	Translucent to semi-translucent crystalline stone, various colors with banding
Odour	Odourless
Density	2.6-2.8 g/cm³
Hardness (Mohs)	2-3
Porosity	0.5-5%
pH	8-9 (alkaline)
Solubility	Soluble in acidic solutions
Melting Point	825°C (decomposes)
Thermal Conductivity	2.0-3.0 W/m·K
Compressive Strength	50-150 MPa
Light Transmission	5-25% (varies by thickness)
Thermal Expansion	6-10 × 10^{-6} /°C

10. STABILITY AND REACTIVITY

10.1 Reactivity

Generally stable but highly reactive with acids. Reacts with acids to produce carbon dioxide gas and soluble calcium salts.

10.2 Chemical Stability

Stable under normal conditions but sensitive to acid attack and thermal stress.

10.3 Possibility of Hazardous Reactions

Acids: Readily reacts with acids (HCl, H_2SO_4, citric acid, etc.) producing CO_2 gas and heat. Reaction can be vigorous and may cause structural damage to the stone.

10.4 Conditions to Avoid

Avoid contact with acids of any concentration. Minimize dust generation during processing. Avoid thermal shock and mechanical stress.

10.5 Incompatible Materials

All acids, acidic cleaners, vinegar, citrus-based cleaners, acidic sealers.

10.6 Hazardous Decomposition Products

Carbon dioxide and calcium oxide at high temperatures (>825°C).

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity: Low toxicity. Calcium carbonate is generally recognized as safe (GRAS).

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. Lower concern due to very low crystalline silica content.

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

Carcinogenicity: Very low crystalline silica content (<2%) reduces carcinogenic risk compared to other stones.

Chronic Effects: Minimal risk of silicosis due to low silica content, but prolonged dust exposure should still be avoided.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Not expected to be toxic to aquatic or terrestrial organisms.

12.2 Persistence and Degradability

Environmentally persistent but more readily weathered in acidic conditions than other stones.

12.3 Bioaccumulative Potential

No bioaccumulation expected.

12.4 Mobility in Soil

Moderate mobility in acidic conditions due to acid solubility.

12.5 Other Adverse Effects

May increase pH of water systems if large quantities are introduced.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Reuse: Preferred option - can be reclaimed for decorative applications or crushed for specialty aggregate.
Recycling: Can be processed for agricultural lime or specialized decorative applications.
Disposal: Non-hazardous waste. Dispose at licensed construction and demolition waste facilities.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS DANGEROUS GOODS

Special transport requirements: Requires careful packaging and handling due to fragility. Use cushioning materials and avoid vibration during transport.

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 (minimal risk due to low content).

16. OTHER INFORMATION

Revision Information

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