ATTILA

SAFETY DATA SHEET

COMPOSITE MATERIAL - TERRAZZO

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1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Identifier

Product Name: COMPOSITE MATERIAL - TERRAZZO
Country of Origin: Italy, USA, Australia, Germany, Turkey
Synonyms: Composite terrazzo, precast terrazzo, terrazzo tiles, venetian terrazzo, polymer terrazzo

1.2 Uses and Uses Advised Against

Terrazzo is used for flooring, wall cladding, benchtops, stairs, and decorative surfaces in commercial and residential applications. Excellent for high-traffic areas due to durability. Suitable for both interior and exterior use depending on binder type. Not recommended for applications requiring flexibility or where thermal movement is significant 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 terrazzo product as supplied is classified as non-hazardous under normal conditions. However, dust created when the product is cut, ground, or polished may contain crystalline silica (typically 10-40% depending on aggregate composition) and cause mechanical irritation. Repeated exposure to respirable crystalline silica dust may cause lung fibrosis (silicosis). Cement-based terrazzo may also present alkaline hazards when wet.

Physical Hazards: Not classified as a Physical Hazard
Health Hazards: Carcinogenicity: Category 1A (when dust is generated); Skin Corrosion/Irritation: Category 2 (cement-based, when wet)
Environmental Hazards: Not classified as an Environmental Hazard

2.2 GHS Label Elements

Signal Word: DANGER
Hazard Statements: H350i May cause cancer by inhalation; H315 Causes skin irritation (cement-based varieties when wet)
Pictograms: [Health Hazard Symbol] [Exclamation Mark 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
- P302 + P352 IF ON SKIN: Wash with plenty of water

Storage Statements:

- P405 Store locked up

Disposal Statements:

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

2.3 Other Hazards

Cement-based terrazzo may cause skin irritation when wet. Heavy slabs present manual handling hazards. Polymer-based terrazzo is generally less hazardous than cement-based varieties.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances/Mixtures

Ingredient	CAS Number	EC Number	Content (w/w)
MARBLE/LIMESTONE AGGREGATE	471-34-1	207-439-9	30-70%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	10-40%
GRANITE AGGREGATE	Various	Various	0-30%
GLASS AGGREGATE	65997-17-3	266-046-0	0-20%
PORTLAND CEMENT	65997-15-1	266-043-4	15-25%
POLYMER BINDER (EPOXY/POLYESTER)	Various	Various	10-20%
SILICA (SiO_2) TOTAL	7631-86-9	231-545-4	20-50%
CALCIUM OXIDE (CaO)	1305-78-8	215-138-9	5-15%
ALUMINIUM OXIDE (Al_2O_3)	1344-28-1	215-691-6	2-8%
IRON OXIDES	1309-37-1	215-168-2	1-5%
PIGMENTS/COLORANTS	Various	Various	0-5%

Ingredient Notes: Composition varies significantly by manufacturer and product type. Cement-based terrazzo has different hazard profile than polymer-based varieties. Aggregate composition determines silica content.

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.

Skin Contact (Wet cement-based): Remove contaminated clothing immediately. Wash affected area thoroughly with soap and water for at least 15 minutes. Seek medical attention if irritation develops or persists.

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

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, grinding, or polishing operations and potential skin irritation from cement-based varieties when wet. Symptoms may include respiratory irritation, coughing, skin irritation, and potential long-term lung effects from silica exposure.

4.3 Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Inform medical personnel of potential silica dust exposure and cement/polymer 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 for cured terrazzo. Polymer-based varieties may produce toxic fumes when heated.

5.2 Special Hazards Arising from the Substance

Cured terrazzo is non-combustible. Polymer-based varieties may produce toxic fumes (carbon monoxide, carbon dioxide, various organic compounds) when heated to decomposition. Cement-based varieties may release carbon dioxide at high temperatures.

5.3 Advice for Firefighters

No special fire fighting procedures required for cured material. Wear standard firefighting protective equipment. Use self-contained breathing apparatus if polymer-based terrazzo is involved in fire.

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 variable silica content.

6.2 Environmental Precautions

Prevent material from entering drains, waterways, or soil. Cement-based terrazzo may alter local pH if large quantities enter water systems. Polymer-based varieties are environmentally inert when cured.

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 variable 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. Avoid skin contact with wet cement-based terrazzo.

7.2 Conditions for Safe Storage

Store in dry, well-ventilated areas. Protect from impact and extreme temperatures. Store slabs vertically in appropriate racking systems. Keep cement-based products dry to prevent alkaline reactions.

7.3 Specific End Uses

Commercial and residential flooring, wall cladding, countertops, stairs, decorative surfaces, and high-traffic architectural 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	-
Silica (total dust)	SWA [AUS]	10	-
Portland Cement	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 variable but potentially 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 and chemical-resistant gloves for handling; nitrile gloves for cement-based varieties
- **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	Composite material with decorative aggregate in matrix binder
Odour	Odourless when cured
Density	2.2-2.6 g/cm³
Hardness (Mohs)	4-7 (depending on aggregate)
Porosity	0.5-5%
pH	8-12 (cement-based); 7-8 (polymer-based)
Water Absorption	0.1-3%
Solubility	Insoluble in water when cured

Service Temperature	-40°C to +80°C (typical)
Thermal Conductivity	1.5-2.5 W/m·K
Compressive Strength	40-100 MPa
Flexural Strength	8-25 MPa
Thermal Expansion	8-12 × 10^{-6} /°C

10. STABILITY AND REACTIVITY

10.1 Reactivity

Cured terrazzo is generally stable. Cement-based varieties are alkaline and may react with acids. Polymer-based varieties are chemically inert when cured.

10.2 Chemical Stability

Stable under normal conditions when fully cured. Cement-based varieties may carbonate over time when exposed to CO_2.

10.3 Possibility of Hazardous Reactions

Acids (cement-based): May react with acids producing CO_2 gas and soluble salts.
Polymer degradation: Extended UV exposure may degrade polymer binders over time.

10.4 Conditions to Avoid

Minimize dust generation during processing. Avoid contact with acids for cement-based varieties. Avoid excessive UV exposure for polymer-based varieties.

10.5 Incompatible Materials

Strong acids (cement-based varieties), strong UV radiation (polymer-based varieties).

10.6 Hazardous Decomposition Products

Cement-based: Carbon dioxide at high temperatures. Polymer-based: Various organic compounds, carbon monoxide, carbon dioxide at high temperatures.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity: Low toxicity for cured material. Components have varying toxicity profiles.

Skin Contact: Cement-based varieties may cause skin irritation and alkaline burns when wet. Polymer-based varieties are generally non-irritating when cured.

Eye Contact: Dust may cause mechanical irritation. Cement dust may cause alkaline irritation.

Inhalation: Dust may cause respiratory tract irritation. Variable concern depending on silica content from aggregates.

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

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

Chronic Effects: Prolonged inhalation of respirable dust may cause silicosis. Risk varies with aggregate composition.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Cured terrazzo is not expected to be toxic to aquatic or terrestrial organisms.

12.2 Persistence and Degradability

Highly persistent in environment. Cement-based varieties may slowly carbonate. Polymer-based varieties may degrade under UV exposure over extended periods.

12.3 Bioaccumulative Potential

No bioaccumulation expected.

12.4 Mobility in Soil

Very low mobility due to low solubility and stability when cured.

12.5 Other Adverse Effects

No significant adverse environmental effects expected from cured material.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Reuse: Preferred option - can be reclaimed for aggregate or decorative applications.
Recycling: Can be crushed for construction aggregate, though polymer content may limit some applications.
Disposal: Non-hazardous waste when cured. Dispose at licensed construction and demolition waste facilities.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS DANGEROUS GOODS

No special transport requirements for cured terrazzo. Secure loads properly to prevent shifting during transport.

15. REGULATORY INFORMATION

15.1 Regulatory Status

AIIC: All components listed on Australian Inventory of Industrial Chemicals.
SUSMP: No poison schedule assigned for cured material.
Work Health and Safety: Comply with WHS regulations for respirable crystalline silica. Controls required based on aggregate composition.

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 cured terrazzo products from various global manufacturers. Composition varies significantly by manufacturer, aggregate type, and binder system. Always use appropriate dust control measures during fabrication.

Special Notes:

- Hazard profile varies significantly between cement-based and polymer-based varieties
- Silica content depends on aggregate composition (marble vs granite vs quartz)
- Cement-based varieties present alkaline hazards when wet
- Enhanced dust control required due to variable but potentially high silica content
- Wet cutting essential for all terrazzo types

Binder Type Considerations:

- **Cement-based:** Higher alkalinity, potential skin irritation, traditional terrazzo
- **Polymer-based:** Lower hazards when cured, better chemical resistance, modern systems
- **Hybrid systems:** Combination properties requiring evaluation of both binder types

Emergency Contact: 13 11 26 (Poisons Information Centre)