

# Material Safety Data Sheet

U.S. Department of Labor

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

Occupational Safety and Health Administration  
Adapted from FORM 174, Sept. 1985 (Non-Mandatory Form)

IDENTITY (As Used on Label and List) <b>Floor Tile (Series - Forest Park)</b>	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
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## Section I - Manufacturer & Distributor Information

Manufacturer's Name <b>Ceramiche Atlas Concorde</b>	Emergency Telephone Number <b>0113939536843094</b>
Address (Number, Street, City, State, Country and Postal Code) <b>Via Canaletto 141 Spezzano Di Fiorano Modena 41049 Italy</b>	Telephone Number For Information <b>0113939536843094</b>
	Date Prepared <b>7/11/2013</b>
	Signature Of Preparer (Optional)
Distributor's Name <b>Dal-Tile Company</b>	Distributor's Telephone Number <b>(800) 933-8453</b>

## Section II - Hazard Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	CAS Number	Concentration (%)	OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)	Other Limits Recommended
1 <b>Crystalline Silica (Quartz)</b>	<b>7631-86-9</b>	<b>&lt; .5%</b>	<b>10%/SiO<sub>2</sub> +2</b>	<b>0.05</b>	
2 <b>Amorphous Silica (fused)</b>	<b>60676-86-0</b>	<b>62-71</b>	<b>80%/SiO<sub>2</sub></b>	<b>0.1</b>	

## Section III - Physical/Chemical Characteristics

Boiling Point (Specify °F or °C)	<b>not applicable</b>	Specific Gravity (H <sub>2</sub> O = 1)	<b>1.75 - 2.93</b>
Vapor Pressure (mm Hg.)	<b>not applicable</b>	Melting Point	<b>&gt; 2000 °F</b>
Vapor Density (AIR = 1)	<b>not applicable</b>	Evaporation Rate (Butyl Acetate = 1)	<b>not applicable</b>
Solubility In Water <b>Insoluble</b>	Appearance And Odor <b>Brittle solid; color may vary and Odorless</b>		

## Section IV - Fire and Explosion Hazard Data

Flash Point (Include Method Used To Determine) <b>not applicable</b>	Flammable Limits	LEL <b>not applicable</b>	UEL <b>not applicable</b>
Extinguishing Media <b>None required. Non-flammable.</b>			
Special Fire Fighting Procedures <b>None required.</b>			
Unusual Fire And Explosion Hazards <b>None required.</b>			

O+D15

**Section V - Reactivity Data**

Unstable	<b>not applicable</b>	Conditions To Avoid
Stable	<b>Stable in current form.</b>	<b>Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)</b>
Incompatibility ( <i>Materials To Avoid</i> ) <b>Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)</b>		
Hazardous Decomposition Or Byproducts <b>Under normal conditions these products do not release hazardous materials after installation.</b>		
Hazardous Polymerization May Occur	<b>not applicable</b>	Conditions To Avoid
Hazardous Polymerization Will Not Occur	<b>Will not occur</b>	<b>Not applicable</b>

**Section VI - Health Hazard Data**

Route(s) Of Entry:	Inhalation <b><u>Yes</u></b>	Skin? <b><u>Yes</u></b>	Ingestion? <b><u>No</u></b>
Health Hazards (Acute and Chronic) <b>Acute - Excessive exposure to tile dust can cause eye, skin, and lung irritation from mechanical abrasion. Ingestion is not applicable for intact tile.</b>			
<b>Chronic - Not applicable for intact tiles. Excessive exposure to tile dust can cause discomfort and mechanical irritation. Long term exposure to silica dusts can lead to silicosis.</b>			
<b>Carcinogenicity - Respirable crystalline silica (quartz) is classified by International Agency for Research on Cancer (IARC) as a human carcinogen. Intact tile is not believed to be hazardous and limited potential of exposure exists for crystalline silica (quartz) during installation, disposal, and/or if damaged. Crystalline silica is described in ACGIH and NIOSH as being identified in other sources as a suspected human carcinogen; however, fused silica is reported only by ACGIH as a suspected human carcinogen.</b>			
Carcinogenicity:	NTP? <b><u>Yes</u></b>	IARC Monographs? <b><u>Yes</u></b>	OSHA Regulated? <b><u>Yes</u></b>
Signs And Symptoms Of Exposure <b>Excessive exposure to tile dust can cause eye, skin, and lung irritation from mechanical abrasion. Long term exposure to silca dusts can lead to silicosis.</b>			
Medical Conditions Generally Aggravated By Exposure <b>Existing lung disease my be aggravated after exposure to tile dusts.</b>			
Emergency And First Aid Procedures <b>Skin: Wash dust off any affected area with soap and water.</b> <b>Inhalation: Remove the victim to fresh air if exposed to large amounts of tile cutting dust. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call for prompt medical attention.</b> <b>Ingestion: Not applicable for intact tiles.</b> <b>* Have emergency eyewash station available in area where tiles are cut.</b>			

**Section VII - Precautions for Safe Handling and Use**

Steps To Be Taken In Case Material Is Released Or Spilled <b>Employ closed system and/or local exhaust ventilation. Use wet methods if needed to reduce generation of dust. Use respiratory protection in the absence of engineering controls.</b>
Waste Disposal Method <b>Waste should be disposed of in a landfill certified to accept such materials in accordance with federal, state, and local regulations.</b>
Precautions To Be Taken In Handling And Storing <b>Shelf life is unlimited. Do not store near acids. If tiles contact some acids, there is limited potential for leaching heavy metals.</b>
Other Precautions <b>Broken tile could be sharp; therefore, appropriate gloves should be worn if working with broken product.</b>

## Section VIII - Control Measures

Respiratory Protection (Specify Type) <b>Use of a properly fitted NIOSH/MSHA approved particulate respirator is recommended when cutting tiles.</b>
Ventilation: <b>Use adequate ventilation to keep exposure to dust below recommended exposure levels. Avoid inhaling dust. The highest probability of silica exposure occurs during dry cutting. Wet cutting methods are recommended.</b>
Eye Protection: <b>Use dust-proof goggles or safety glasses with side shields. Contact lenses may absorb irritants. Do not wear contact lenses in work areas.</b>
Skin Protection: <b>Cotton or leather work gloves should be worn when cutting this product to minimize skin exposure. Wash hands prior to eating, drinking, or smoking, and at the end of the work shift, after cutting operations are conducted.</b>
Other Protective Clothing or Equipment: <b>Note: Personal protection information listed above is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.</b>

## Section VIII - Regulatory Section

<a href="#">Title 22 Division 2, California Code of Regulation Chapter 3</a> (Proposition 65) <b>This product contains a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.</b>
SARA Reporting <b>This tile contains &lt; 0.1 percent by weight each of the following elements which are SARA 313 Recordable: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Mercury, Manganese, Nickel, Lead, Silver, Thallium, Vanadium, and Zinc.</b>
Department of Transportation (DOT) Regulations <b>Tile is not regulated by DOT.</b>
Toxic Substance Control Act (TSCA) <b>This product and/or its components have been introduced into U.S. commerce and is listed in the Toxic Substance Control Act (TSCA) Inventory of Chemicals in Commerce. Hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR Section 721 and 723.250.</b>
Other information  National Fire Protection Act Hazard Rating: <b>Health: 0</b> <b>Fire: 0</b> <b>Reactivity: 0</b> Hazardous Material Information System Rating <b>Health: 0</b> <b>Fire: 0</b> <b>Reactivity: 0</b>



CENTRO DI RICERCA E SPERIMENTAZIONE  
PER L'INDUSTRIA CERAMICA

## ***Notes on Silica and Respirable Crystalline Silica for the Ceramic Sector***

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### **Introduction**

Silica is the common name for silicon dioxide ( $\text{SiO}_2$ ), made of silicon (Si) and oxygen (O), the two most abundant elements in the Earth's crust.

Silica may be found in nature under crystalline and/or amorphous state. In the crystalline state, the atoms are organised as well-defined ordered structures (quartz, cristobalite, and tridymite), while these structures are not found in amorphous silica (colloidal silica, silica gel, and opal).

### **Respirable Crystalline Silica (RCS)**

The most common form of crystalline silica is quartz, the second most abundant mineral in nature, after feldspars. Crystalline silica is present in nature under different grain size distributions and it is one of the main constituents of natural sands (e.g. desert sands, beach sands, etc.).

The smallest crystalline silica particles can penetrate into our respiratory system by inhalation and their ability to penetrate varies with particle size (the finest particles penetrating most). The finest fraction of inhalable crystalline silica (according to EN 481:1993<sup>1</sup>, with a median diameter of 4,25  $\mu\text{m}$  and a maximum dimension less than 10  $\mu\text{m}$ ) is defined as *Respirable Crystalline Silica* and it is made of particles remaining airborne for a long time and able to penetrate into the lung alveoli, where they lodge, this being where exchange of oxygen and carbon dioxide in the blood takes place.<sup>2</sup>

### **Industrial uses of quartz**

The first uses of quartz (crystalline silica) date back thousands of years ago. Since then, quartz has become a key raw material in global industrial development, particularly in the glass, foundry casting, and ceramic industries. Quartz is used as a filler for paints, plastic and rubber. As sand (with particles dimensions in the range of 0.063÷2 mm), it is used in water filtration and agriculture, among other uses. Quartz is also used in IT and many high-tech applications, such as optical fibre for data transmission, precision foundry casting and metallurgy industry as a raw material for fabricating metallic silicon and ferrosilicon alloys. In short, quartz is used in hundreds of industrial applications in everyday life.<sup>3</sup>

### **Ceramic tiles**

Ceramic tiles are produced using non-metallic inorganic raw materials in a powdery state, such as clays, feldspar and sands. During the production, a sintering process occurs at high temperature (higher than 1000 °C) transforming powders into a solid ceramic object, partially crystalline and partially amorphous. In their use phase, ceramic tiles do not release *Respirable Crystalline Silica*. After their dismantling ceramic tiles are classified as inert waste.

### **RCS and ceramic tiles**

Tiles are monolithic objects and they generate dust only when they are dry-cut. Thus, a potential hazard for ceramic tiles due to *Respirable Crystalline Silica*, that is only a fraction of the generated

dust, may be associated when dry cutting with power tools occurs during installation or removal. The released dust is usually constituted by both crystalline and amorphous phases generally in a ratio about 30:70, respectively. The crystalline phase is usually quartz and residual components as feldspar and mullite<sup>4</sup>.

As a matter of fact, it is clear that only a minor part of quartz generated during dry cutting can be classified as *Respirable Crystalline Silica* and this fraction only shall be taken into consideration in order to identify the possible risks for human health.

Therefore, in order to prevent any risk to people's health, it is advisable to adopt adequate precautions regarding the cutting of ceramic tiles. In particular, wet cutting or the score and snap methods are recommended during the installation process since improper actions may expose installers to harmful powders. Indeed, in the literature for the emissions generated by cutting cement roof tile, the use of a wet saw reduced respirable particulate matter concentrations by 99% compared to a motorized dry saw<sup>5</sup>.

A recent study<sup>6</sup> reports that: «Our human health risk assessment indicates that potential risks of cancer associated with tile-related exposures to respirable crystalline silica for the average Californian who install tile are below thresholds established under the Prop 65 regulation. The potential excess lifetime cancer risk of approximately 1.3 in 10 million ( $1.3 \times 10^{-7}$ ), or 0.013 per 100,000, is 75-fold below the Prop 65 threshold of 1 in 100,000.»

Bologna, July 1st, 2019

The head of Environmental Department  
Giuliana Bonvicini, PhD  
(n.A 1719 Ordine Interprovinciale dei Chimici  
dell'Emilia-Romagna)

The Director  
Prof. Maria Chiara Bignozzi

## ***BIBLIOGRAPHY***

<sup>1</sup> EN 481:1993 "Workplace atmospheres. Size fraction definitions for measurements of airborne particles"

<sup>2</sup> "Good Practice Guide on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Product Containing it". Published on 2016 by European Network on Silica (NEPSI) <https://www.nepsi.eu/good-practice-guide>

<sup>3</sup> Laymans's Report: SILIFE Project – LIFE14 ENV/ES/000238  
[www.silife-project.eu/](http://www.silife-project.eu/)

<sup>4</sup> C.Zanelli, M.Raimondo, G.Guarini, M.Dondi; "The vitreous phase of porcelain stoneware: Composition, evolution during sintering and physical properties"; Journal of Non-Crystalline Solids; 357 (2011): 3251-3260.

<sup>5</sup> Carlo RV, Sheehy J, Feng HA, Sieber WK;; "Laboratory evaluation to reduce respirable crystalline silica dust when cutting concrete roofing tiles using a masonry saw", Journal of Occupational and Environmental Hygiene, 2010, 7: 245-251

<sup>6</sup> "Human Health Risk Assessment for Proposition 65: Crystalline Silica"; Environmental Health & Engineering, Inc. (EH&E), June 2018.



## Safety Data Sheet dated 19/03/2019, Rev. 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Mixture identification: PORCELAIN STONEWARE SLABS  
Trade name: PORCELAIN STONEWARE LARGE SIZES (XL) AND ATLAS PLAN BIG SLABS  
Commercial code: PORCELAIN STONEWARE LARGE SIZES (XL) AND ATLAS PLAN BIG SLABS

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against: coverings for buildings

#### 1.3. Details of the supplier of the safety data sheet

Supplier: CERAMICHE ATLAS CONCORDE  
VIA CANALETTO 141  
41042 SPEZZANO DI FIORANO (MO)  
REFERENCE NUMBER: 0536-867811 (from 8 am - 12 pm and 2 pm - 6 pm)  
FAX 0536-867985  
MAIL: info@atlasconcorde.it

#### 1.4. Emergency telephone number

Poisons Information Centre Milan 02 66101029  
Poisons Information Centre Bologna 051 333333  
Poisons Information Centre Turin 011 6637637  
Poisons Information Centre Pavia 0382 24444  
Poisons Information Centre Padua 049 8275078  
Poisons Information Centre Genoa 010 5636245  
Poisons Information Centre Florence 055 4277238  
Poisons Information Centre Rome 06 3054343 – 06 49970698  
Poisons Information Centre Naples 081 7472870

### SECTION 2: Hazards identification

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3)) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.

Crystalline silica contents < 25%

#### 2.1. Classification of the substance or mixture

Criteria of Directives 67/548/EC, 99/45/EC and amendments:

Properties/Symbols:

Not applicable

Criteria of Regulation EC 1272/2008 (CLP):

Hazard, STOT RE 1, Causes damage to organs through prolonged or repeated exposure.



Harmful physical-chemical effects on human health and the environment:

No other danger

#### 2.2. Label elements

Symbols:

The whole, finished product does not require labelling as hazardous, in compliance with Regulation EC 1907/2006, Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No 1272/2008 (CLP):

Danger

Hazard statements:

H372 Causes damage to organs through prolonged or repeated exposure (Inhalation).

Precautionary statements:

P260 Do not breathe dust.  
P264 Wash thoroughly after use.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing/eye protection.  
P284 Wear respiratory protection (P3).  
P314 Get medical advice/attention if you feel unwell.  
P501 Dispose of contents/container in conformity with the regulations in force.



Special provisions:

-

Contains

QUARTZ

Special provisions according to Annex XVII of the REACH regulation and amendments:

None

2.3. Other hazards

vPvB substances: None - PBT substances: None

Other hazards:

No other danger

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### SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components pursuant to Directive EEC 67/548 and the CLP regulation and relative classification:

≥ 10% - < 25% QUARTZ

CAS: 14808-60-7, EC: 238-878-4

substance with a community workplace exposure limit (see section 8)



3.9/1 STOT RE 1 H372

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### SECTION 4: First aid measures

4.1. Description of first aid measures

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.

In case of skin contact:

Wash with plenty of water and soap.

In case of contact with eyes:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed:

Do not induce vomiting. SEEK MEDICAL ADVICE IMMEDIATELY.

If inhaled:

Remove casualty to fresh air and keep at rest.

4.2. Most important symptoms and effects, both acute and delayed

Depending on the type of processing, may disperse breathable crystalline silica in the air. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The main symptoms of silicosis are coughing and dyspnea. Occupational exposure to breathable crystalline silica dust must be monitored and controlled.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:

None

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### SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Powder.

Foam

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

The material has no risks.

5.3. Advice for fire-fighters

Use appropriate respiratory equipment.

Collect contaminated water used to extinguish the fire separately. Do not discharge into the sewers.

If feasible in safety terms, move any undamaged material outside the immediate danger area.

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## SECTION 6: Accidental release measures

The material has no risks of accidental dispersion in the environment

- 6.1. Personal precautions, protective equipment and emergency procedures  
Consult the protective measures described in points 7 and 8.
- 6.2. Environmental precautions  
Prevent the release of the material into surface waters or sewers.  
Suitable collection material: manual or mechanical handling
- 6.3. 6.3 Methods and material for containment and cleaning up  
Remove the substance and any debris.
- 6.4. Reference to other sections  
See also paragraphs 8 and 13

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## SECTION 7: Handling and storage

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.

- 7.1. Precautions for safe handling  
Avoid contact with skin and eyes, avoid dust inhalation.  
Do not use empty containers before they have been cleaned if they contain debris or residues or dusts generated by the material.  
Before transfer operations, ensure that there is no broken or crushed material.  
Work clothing or clothing contaminated with crushed material or dust must be replaced before entering dining areas and after leaving the working areas.  
Do not eat or drink during processing or when handling crushed material and dusts.  
Do not wear contact lenses or eat or drink during processing or when handling crushed material and dusts.  
Refer also to paragraph 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities  
With reference to material subject to breakage, crushing or in any case when generating dusts, keep away from food, drink and animal feeding stuffs.  
Store carefully to avoid material breakages.  
Incompatible materials:  
None in particular. See also paragraph 10 below.  
Indication for storage rooms:  
Suitably ventilated storage rooms. Prevent the formation of dusts originating from the material.
- 7.3. Specific end uses  
No particular use

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## SECTION 8: Exposure controls/personal protection

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case. <sup>3</sup>





## 8.1. Control parameters

QUARTZ - CAS: 14808-60-7

Occupational Exposure Limits in mg/m<sup>3</sup> over 8 hours (TWA)

Country	Dust (generic)	Quartz
Austria / I	6	0.15
Belgium / II	3	0.1
Bulgaria / II	4	0.07
Cyprus / IV	/	10k/Q <sup>2</sup>
Denmark / VI	5	0.1
Estonia		0.1
Finland / VII		0.2
France / VIII		5 or 25k/Q
France / IX	5	0.1
Germany / X	3	/ <sup>3</sup>
Greece / XI	5	0.1
Ireland / XII	4	0.05
<b>Italy / XII</b>	<b>3</b>	<b>0.025</b>
Lithuania / XIV	10	0.1
Luxembourg / XV	6	0.15
Malta / XVI <sup>4</sup>	/	/
Norway / XVIII	5	0.1
The Netherlands / XVII	5	0.075
Poland		0.3
Portugal / XIX	5	0.025
United Kingdom / XXIV	4	0.1
Czech Republic / V		0.1
Romania / XX	10	0.1
Slovakia		0.1
Slovenia		0.15
Spain / XXI	3	0.1
Sweden / XXII	5	0.1
Switzerland / XXIII	6	0.15
Hungary		0.15

<sup>2</sup> Q: percentage of quartz – K=1.

<sup>3</sup> Germany no longer has an OEL for quartz. Employers are required to minimise exposure and comply with specific protective measures.

<sup>4</sup> If necessary, the Maltese authorities refer to United Kingdom values for OELV which do not exist in Maltese legislation.

Exposure limit values DNEL

N.A.

Exposure limit values PNEC

N.A.

## 8.2. Exposure controls

Eye protection:

Not required for normal use Work in any case according to good working practices.

In the case of dusts generated by material processing or breakages, use full facial protection according to the provisions of EN166:2001

Skin protection:

No special precautions are required for normal use. Work in any case according to good working practices.

In the case of dusts generated by material processing or breakages, wash or dispose of any clothing used. Do not use compressed air.

Hand protection:

Not required for normal use Work in any case according to good working practices. In the case of material processing or breakages, use cut/resistant safety gloves.

Respiratory protection:

Use respiratory protection type P3, in accordance with EN 143:2001 and subsequent revisions EN 143/AC2002, EN 143/AC 2005, including dust removal activities, such as water processing in the case of processing or crushing or the creation of dusts traceable to the material composition.

Thermal hazards:

None

Environmental exposure controls:

None

Suitable technical controls:

Monitoring of parameters listed in point 8.1. Use dust removal means when processing or crushing the material.



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance and colour:	solid, colour according to commercial context
Odour:	odourless
Odour threshold:	N.A.
pH:	not applicable
Melting point/freezing point:	not applicable
Initial boiling point/boiling range:	not applicable
Flammability (solid, gas):	non-flammable
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	not applicable
Flash-point:	not applicable
Evaporation rate:	N.A.
Vapour pressure:	not applicable
Relative density:	2300-2700 kg/m <sup>3</sup>
Water-solubility:	not applicable
Solubility in oil:	not applicable
Partition coefficient (n-octanol/water):	not applicable
Auto-ignition temperature:	Not self-igniting
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	not applicable
Oxidising properties:	not applicable

### 9.2. Other information

Miscibility:	N.A.
Fat solubility:	N.A.
Conductivity:	N.A.
Characteristic properties of groups of substances	N.A.

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable in normal conditions

### 10.2. Chemical stability

Stable in normal conditions

### 10.3. Possibility of hazardous reactions

### 10.4. Conditions to avoid

Stable in normal conditions.

Avoid contact with surface temperatures above 150 °C.

Avoid impacts which could cause the material to break.

### 10.5. Incompatible materials

None in particular

### 10.6. Hazardous decomposition products

None known.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Toxicological information concerning the mixture:

N.A.

Toxicological information concerning the main substances present in the mixture:

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In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis.

Unless otherwise specified, the required data according to Regulation 453/2010/EC indicated below is deemed to be N.A.:

- acute toxicity;
  - skin irritation/corrosion;
  - serious eye damage/irritation;
  - respiratory or skin sensitisation;
  - germ cell mutagenicity;
  - carcinogenicity;
  - reproductive toxicity;
  - Specific target organ toxicity (STOT) — single exposure;
  - Specific target organ toxicity (STOT) — repeated exposure;
  - aspiration hazard.
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## SECTION 12: Ecological information

- 12.1. Toxicity  
Use according to good working practices, do not release to the environment.  
N.A.
  - 12.2. Persistence and degradability  
N.A.
  - 12.3. Bioaccumulative potential  
N.A.
  - 12.4. Mobility in soil  
N.A.
  - 12.5. Results of PBT and vPvB assessment  
vPvB substances: None - PBT substances: None
  - 12.6. Other adverse effects  
None
- 

## SECTION 13: Disposal considerations

- 13.1. Waste treatment methods  
Recycle if possible. Work according to local and national regulations. The crushed material must be collected using methods that avoid dust propagation
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## SECTION 14: Transport information

Unless otherwise specified, the required data indicated below is deemed to be N.A.:

- 14.1. UN number
  - 14.2. UN proper shipping name  
ADR-Shipping Name:  
IATA-Shipping Name:  
IMDG-Shipping Name:
  - 14.3. Transport hazard classes
  - 14.4. Packing group
  - 14.5. Environmental hazards
  - 14.6. Special precautions for users
  - 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- 

## SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Italian Legislative Decree - D.Lgs. No 52 of 3/2/1997 (Classification, packaging and labelling of hazardous substances)  
D.Lgs. No 65 of 14/3/2003 (Classification, packaging and labelling of hazardous preparations)  
Italian Legislative Decree - D.Lgs. No. 81 of 9/4/2008  
Ministerial Decree - D.M. Labour law 26/02/2004 (Occupational exposure limits)  
Ministerial Decree - D.M. 03/04/2007 (Implementation of Directive 2006/8/EC)  
Regulation (EC) No 1907/2006 (REACH)  
Regulation (EC) No 1272/2008 (CLP) and ATP in force  
Regulation (EU) No 453/2010 (Annex I)

Restrictions concerning product or substances contained according to Annex XVII of Regulation (EC) 1907/2006 (REACH) and amendments:

- Restrictions concerning the product:  
No restriction.
- Restrictions concerning the substances contained:  
No restriction.

Where applicable, refer to the following regulations:

Decree Law - D.L. No. 153 of 3/4/2006 Environmental laws

Provisions concerning Directive 2012/18/EU (Seveso III):

N.A.

- 15.2. Chemical Safety Assessment  
No
- 

## SECTION 16: Other information

Text of phrases used in paragraph 3:

H372 Causes damage to organs through prolonged or repeated exposure.

This document was drafted by a technician competent in SDS matters who has received appropriate training in compliance with the CLP Regulation (EC) No 1272/2008.

Main bibliographical sources:



ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold  
CCNL - Annex 1  
Higher Health Institute - National Inventory of Chemical Substances

The information contained herein is based on our knowledge at the date indicated above. It refers exclusively to the product indicated and does not constitute a guarantee of any specific qualities.

The user is responsible for ensuring the suitability and completeness of this information in relation to the specific intended use.

This sheet annuls and replaces all previous editions.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labelling, Packaging.
DNEL:	Derived no-effect level.
EINECS:	European Inventory of Existing Commercial chemical Substances.
GefStoffVO:	German regulation on hazardous substances.
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation of the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical instructions of the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Dangerous Goods Code.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration for 50 percent of the test population.
LD50:	Lethal dose for 50 percent of the test population.
LTE:	Long-term exposure.
PNEC:	Predicted no-effect concentration.
RID:	Regulation concerning the International Carriage of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short term exposure limit.
STOT:	Specific target organ toxicity.
TLV:	Threshold limit value.
TWATLV:	Threshold limit value – time-weighted average. (ACGIH Standard).
WGK:	Water hazard class (Germany).



ENVIRONMENTAL HEALTH  
& ENGINEERING, INC.

## EXPOSURES TO CRYSTALLINE SILICA AND METALS IN CERAMIC AND GLASS TILE

Prepared By:

Environmental Health & Engineering, Inc.

November 2017





# ENVIRONMENTAL HEALTH & ENGINEERING, INC.

## RESEARCH SUMMARY

### INTRODUCTION

This research summary describes an analysis of potential human health risks associated with the ceramic and glass tile products of specific manufacturers. The research was commissioned by the Tile Council of North America (TCNA), with additional support from Confindustria Ceramica (CC), Centro Ceramico Bologna, and the TCNA Product Performance Testing Laboratory, and conducted by Environmental Health & Engineering, Inc. (EH&E). A list of the manufacturers whose products and data were examined to date is provided at the end of this summary. This information is being provided at this time to participants at Total Solutions Plus, with the understanding that a final report will be forthcoming. Data and product analysis is underway from additional manufacturers. Opportunity remains for additional tile manufacturers to participate in this significant study for the tile industry.

### SCOPE

The objective of the research was to provide TCNA with information relevant to labeling requirements in the State of California per Proposition 65 (Prop 65). To complete this objective EH&E carried out the following tasks: interviewed tile professionals to characterize tile installation practices, measured the chemical composition of commonly sold tile products, performed controlled experiments to quantify emissions of chemicals when a tile is cut, and completed searches of the literature to determine the number and types of tile installers. EH&E combined this information to estimate lifetime average exposure concentrations and associated health risks.

### RESULTS

Based on measurements of representative tile products, data from the manufacturers of 190 tile brands, and published information on the materials from which tile is manufactured, EH&E focused its analysis on 12 chemicals that are regulated by Prop 65: crystalline silica, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, nickel, selenium, titanium, and vanadium. Interviews that reflect work practices of approximately 180 professional tile installers indicate that cutting tile is expected to be the largest source of exposure to chemicals in tile, with the vast majority of all tile cuts made with a powered wet saw, manual score and snap cutter, or manual nipper. Only a de minimis number of tile cuts are made with a powered dry-cutting saw or grinder with or without a dust collection system, primarily outdoors.



## ENVIRONMENTAL HEALTH & ENGINEERING, INC.

Controlled tests of cutting tile show that airborne emissions of crystalline silica and metals are strongly related to their concentrations in tile. The testing also demonstrated that emissions from manual cutting tools are up to 50-fold lower than from a powered wet saw. Published studies of similar cutting tools indicate that emissions from a wet saw are approximately 100-fold lower than from a powered dry saw without emission controls. The chemical emissions from cutting tile developed by this research were used to evaluate inhalation exposure concentrations for tile mechanics. Information obtained through interviews and from the literature indicate that tile is installed primarily by three groups of people: professional tile installers, professional floor coverers, and do-it-yourself installers. Professional tile installers reported working with ceramic tile or natural stone on a regular basis. In contrast, professional floor coverers install tile as well as carpet, vinyl, wood, and other types of flooring. Do-it-yourselfers install tile up to a few times in a lifetime, substantially less than professional floor installers. Data on the frequency and duration of tile cutting obtained for these three groups of installers were used to estimate long-term time-weighted average (TWA) exposure to tile-related emissions per Prop 65.

Estimated TWA concentrations of crystalline silica, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, nickel, selenium, titanium, and vanadium for all three groups were below the safe harbor levels and benchmarks for lifetime cancer, developmental, and reproductive risk established by Prop 65. These results are specific to the tile brands and data examined and cannot be generalized to other tile products without additional analysis.

Although not a specific aim of this research, the analysis is also useful for comparing tile-related exposures to applicable workplace exposure standards, such as the new OSHA crystalline silica rule.<sup>1</sup> The rule established an action level of 25  $\mu\text{g}/\text{m}^3$  and a permissible exposure limit (PEL) for crystalline silica of 50  $\mu\text{g}/\text{m}^3$  over an 8-hour period. The rule also specifies numerous powered cutting tools and controls that if employed do not require exposure monitoring. This study indicates that 8-hour TWA concentrations of crystalline silica attributable to cutting tile are well below the action level and PEL when the OSHA-recommended methods are used. This study also provides data on crystalline silica exposure from manual methods, a category that is not specifically addressed by the rule. The testing showed that emissions from score and snap cutters are orders of magnitude lower than from the power tools recommended by OSHA for cutting materials that contain crystalline silica. This information may be useful to OSHA, businesses, tile installers, and occupational health professionals as they incorporate the crystalline silica rule into their work practices.

1) 29 CFR §1926.1153, Respirable crystalline silica



## PARTICIPATING TILE MANUFACTURERS

### North America

Alcobe Ceramicos S.A. de C.V., *ALCESA*  
Arto Brick California Pavers, *Monrovia, Oleson, Studio, California Revival, 2d Impressions, Decos*  
Atlas Concorde USA, Inc., *Atlas Concorde USA*  
Caesar Ceramics USA, *Caesar USA*  
Ceramiche Marca Corona USA LLC, *1741 Di Marca Corona, Marca Corona Contract*  
Crossville Inc., *Crossville*  
Dal-Tile Corporation, *Daltile, American Olean, Marazzi, Ragno, & Mohawk Hard Surfaces*  
Del Conca USA, Inc., *Del Conca USA*  
Florida Tile  
Florim USA., Inc.  
Interceramic  
Ironrock Capital Inc., *Metropolitan, Ceramincs, Quarry Tile Manufacturas*  
Manufacturas Vitromex Sa Oecv & Vitromex USA, *Vitromex, Artemis, Arko, Oem Brands and Unbranded Products*  
Mirage Granito Ceramico U.S.A. Inc., *Mirage USA*  
Nitropiso S.A. de C.V., *Tecnotide, Nitrotile*  
Oceanside Glasstile Company  
Porcelanite Lamosa S.A. de C.V., *Porcelanite, Lamosa, Firenze*  
Sonoma Tilemakers  
Summitville Tiles, Inc.  
UST Inc., *Landmark Ceramics*

### Italy

Abk Group, *Abk, Ariana, Casa Tua, Flaviker*  
Abm S.R.L., *Candia Valpanaro, Art Casa*  
Altaeco S.P.A., *Appiani, Ceramica Vogue*  
Armonie by Arte Casa Ceramiche S.P.A., *Armonie*  
Casalgrande Padana S.P.A., *Casalgrande Padana*  
Cedir Ceramiche di Romagna S.P.A., *Cedir, Imolagres*  
Ceramica Colli Di Sassuolo S.P.A., *Ceramica Colli Di Sassuolo*  
Ceramica Del Conca S.P.A., *Del Conca, Pastorelli*  
Ceramica Euro S.P.A., *Ceramica Euro Spa and Fly Zone*  
Ceramica Faetano S.P.A., *Faetano*  
Cermica Fondovalle S.P.A., *Fondovalle*  
Ceramica Mediterranea S.P.A., *Mediterranea*  
Ceramica Sant'Agostino S.P.A., *Ceramica Casamia, Ceramica Gresitalia, Ceramica Sant'Agostino*  
Ceramica Valsecchia S.P.A., *Valsecchia*  
Ceramiche Ascot S.P.A., *Ascot Ceramiche, Dom Ceramiche*  
Ceramiche Atlas Concorde S.P.A., *Atlas Concorde, Atlas Concorde Solution, Ceramiche Keope/Keope contract, Supergres*  
Ceramiche Caesar S.P.A., *Caesar, Fap Ceramiche*  
Ceramiche Ccv Castelvetro S.P.A., *Ceramiche Ccv Castelvetro*  
Ceramiche Mac3 S.R.L., *Mac3*  
Ceramiche Marca Corona S.P.A., *1741 Di Marca Corona, Marca Corona, Marca Corona Contract*  
Ceramiche Mariner S.P.A., *Mariner*  
Ceramiche Moma S.P.A., *Idea Ceramiche, Paul & Co.*  
Ceramiche Refin S.P.A., *Ceramiche Refin*  
Ceramiche Serra S.P.A., *Ceramiche Serra*  
Ceramiche Settecento Valtresinaro S.P.A., *Settecento- Mosaici e Ceramiche D'Arte*

Cerindustries S.P.A., *Cerdomus, Porcellana Di Rocca*  
Coem S.P.A., *Blu Art Stone, Ceramica Fioranese, Ceramiche Coem Manifattura*  
Cooperativa Ceramica d'Imola, *Imola, Lafaenza, Leonardo*  
Eco Ceramica S.P.A., *Eco Ceramica, Arkadia*  
Elios Ceramica S.P.A., *Elios Ceramica*  
Emilceramica S.R.L., *Emilceramica, Emilgroup, Ergon, Viva, Provenza, Acif*  
Etruria Design S.R.L., *Etruria Design*  
Faro Ceramiche S.R.L., *Faro Ceramiche, Dolcevita, Basilica*  
Fincibec S.P.A., *Century, Fincibec, Fire, Monocibec, Naxos*  
Florim Ceramiche S.P.A., *Casamood, Cedit Ceramiche d'Italia, Cerim, Floor Gres, Rex Ceramiche Artistiche, Casadolceca, Florimstone*  
Gambinigroup S.P.A., *Gambini Tile On Time*  
Gamma Due S.P.A., *Ornamenta*  
Gold Art S.P.A., *Energie Ker*  
Gruppo Beta S.P.A., *Astor, Edimax*  
Gruppo Ceramiche Gresmalt S.P.A., *Abitare La Ceramica, Materia Design, Sintesi Ceramiche*  
Gruppo Ceramiche Ricchetti S.P.A., *Cerdisa, Cisa, Ricchetti*  
Gruppo Romani S.P.A., *Cerasarda, Cercom, Cir, Ngt, Seremissima*  
Gs Luxury Group S.P.A., *Ducati, Gs Luxury, Tonino Lamborghini Tiles X Style*  
Happy House S.R.L., *Happy House*  
Herberia S.P.A., *Herberia*  
Horus Art Ceramiche S.R.L., *Horus Art Ceramiche*  
Industrie Ceramiche Piemme S.P.A., *Ceramiche Piemme Floor And More, Valentino Lifestyle By Ceramiche Piemme*  
Italgraniti Group S.P.A., *Impronta, Italgraniti*  
Keradam S.R.L., *Keradam*  
Kronos 2 Ceramiche S.P.A., *Kronos Ceramiche*  
La Fabbrica S.P.A., *Ava*  
La Fenice S.R.L., *La Fenice*  
Laminam S.P.A., *Laminam, Restile*  
Marazzi Group S.R.L., *En Place, Forme, Gallery, Marazzi, Masterker, Ragno, Unika, Villa*  
Mirage Granito Ceramico S.P.A., *Infinity, Mirage*  
Novabell S.P.A., *Novabell*  
Nuova Ri.Wal Ceramiche S.R.L., *Saime, Alfalux*  
Nuovocorso S.P.A., *Nuovocorso*  
Panariagroup Industrie Ceramiche S.P.A., *Blustyle By Cotto D'este, Cotto D'este, Fiordo Industrie Ceramiche, Lea Ceramiche, Love Tiles, Margres, Panaria Ceramica*  
Rondine S.P.A., *Aemilia 53, Ashford, Castille, Ceramica Rondine, Gap Tile, Montalcino, Premium*  
San Valentino Manifatture Ceramiche S.P.A.  
Santa Maria S.R.L., *Capri*  
Savoia Italia S.P.A., *Savoia Italia, A.L.CO Ceramiche*  
Sichenia Gruppo Ceramiche S.P.A., *Phorma, Sichenia*  
Sicis S.R.L., *Sicis*  
Sima Ceramiche S.R.L., *Simagres*  
Stile Italia S.R.L., *Stile Italia*  
Terratinta Group S.R.L., *Terratinta Ceramiche, Ceramiche Magica*  
Unicom S.R.L., *Unicom Starker*  
Valllunga & Co S.R.L., *Valllunga*  
Verde 1999 S.R.L., *Verde 1999, Ceramiche Campogalliano, Ceramicasa*  
41zero42 S.R.L., *41zero42*





# ENVIRONMENTAL HEALTH & ENGINEERING, INC.

## COMPANY PROFILE

Environmental Health & Engineering (EH&E) helps clients optimize their work environment, compliance program and building performance to prevent disruptions to vital operations and to maximize attention to business goals. Our professional scientific and engineering staff provides expertise in over 80 technical disciplines, and includes recognized experts in many scientific fields. We bring innovative and sound scientific solutions to each business challenge, and offer honesty and integrity to each business client.

EH&E's staff has extensive experience in engineering, energy efficiency, industrial hygiene, environmental health and safety compliance, risk management and communication, and indoor environmental quality. In business for over 25 years, EH&E is known for complex problem-solving abilities, innovative solutions and exceptional service. We work nation-wide with hospitals, biotechnology and research facilities, academic institutions, law firms, and commercial real estate and property management companies.

## SERVICES

- ▶ **Indoor Environmental Quality Assessment**
- ▶ **Mold and Moisture Assessment**
- ▶ **Environmental Health, Safety & Compliance**
  - Industrial Hygiene
  - Environmental Risk Management
  - Environmental Compliance & Permitting
  - Hazardous Materials Discovery and Management
  - Laboratory Safety Support & Management
  - Biosafety
  - Custom Electronic Solutions for EH&S Management
  - Data Collection Solutions
- ▶ **Engineering**
  - Energy Benchmarking
  - Energy Optimization for Energy-Intensive Facilities
  - Building Commissioning
  - LEED Design Services
  - HVAC Design Review
- ▶ **Exposure & Risk Analysis**
- ▶ **Emergency Services**
  - Biological
  - Hazardous Materials
  - Flood
  - Fire



# Breathable Crystalline Silica

---

An informative approach to understand the criticality  
and placing porcelain slabs at a higher value

## A. What is Silica?

Silicon dioxide, also known as silica, is a solid mineral made by atoms of silicon and oxygen – with the chemical formula  $\text{SiO}_2$ .

It's most commonly found in nature as quartz. In many parts of the world, silica is the major constituent of sand.

## B. Very important to make distinctions

Quartz is made of Crystalline Silica, which is the second most common mineral after feldspar.

## C. Is it dangerous?

ECHA (European Chemical Agency) established with the 2008 CLP regulation that Crystalline Silica is «not dangerous», even if, in 1997, IARC (International Agency for Research on Cancer) classified Crystalline Silica **powder** as carcinogenic of category 1 – «Substances known to have carcinogenic effects on humans».





The content of crystalline silica in some building materials:

- Granite: 15-35%
- Marble: 0-5%
- Quartzite: above 95%
- Slate: up to 40%
- Recomposed quartz: 85-100%
- Ceramic tiles (ATLAS production): 10 - 25%

Only the free crystalline silica in its breathable component, which is distinguished by a certain particle size, may be hazardous to human health.

## **BREATHABLE CRYSTALLINE SILICA – EN 418:1993**

Defined as: «inhaled particles that reach the pulmonary alveoli becoming a source of danger for the human body».

The dimensions are super small (lesser than 6 micron)

They are generated during the tiles' fabrication procedures – cutting, shaping, milling, drilling, polishing, etc. operations

PS. Very important to note that the carcinogenic effect is active during the fabrication procedures only!



**NO DANGER FROM THE PRODUCT ITSELF!**

NO DANGER FROM THE PRODUCT ITSELF!

Possible carcinogenic threat coming during  
the fabrication processes!

## Respirable Crystalline Silica: UE regulations are paving the way

The limit value of professional exposure is 0,1 mg/m<sup>3</sup>

Possible harm only for «Work involving exposure to respirable crystalline silica dust generated by a fabrication process»

Examples are: dry-grinding, dry cutting, dry rectification.

To prevent long-term damages, it's important to comply with periodic health check-ups for fabricating operators.



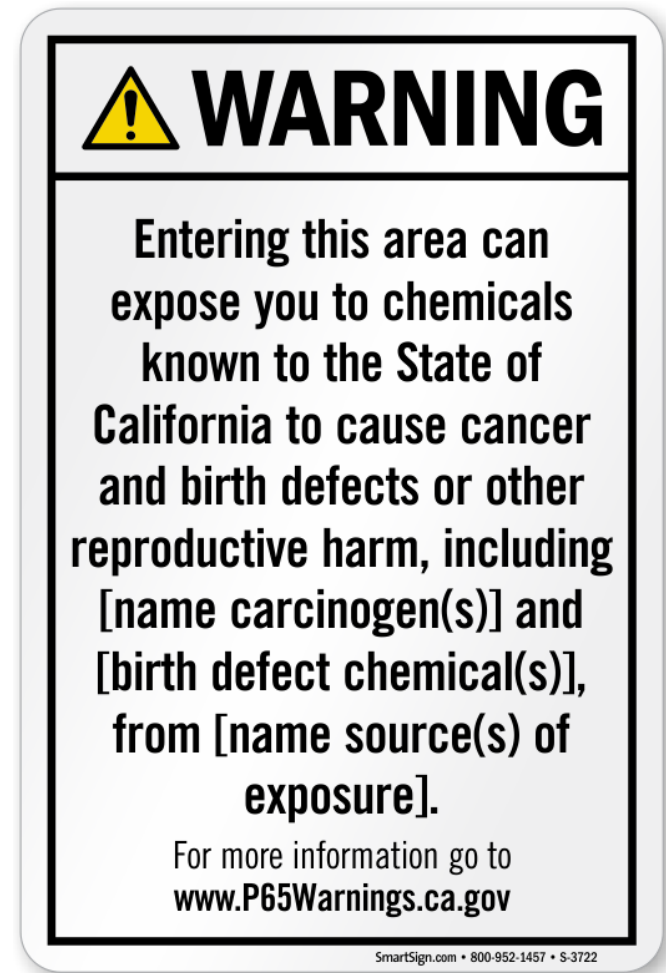
# California - Proposition 65

## (Safe Drinking Water and Toxic Enforcement Act)

Californian legislation that obliges those who market or manufacture products introduced on the market to highlight the presence of substances deemed dangerous.

It does not prohibit the use of these substances, but imposes the obligation of communication/information to the consumer.

Who sells products in the CA market must highlight the presence of substances considered dangerous - imposes the obligation of communication/information to the final consumer (does not prohibit their use).





# Risk of exposure for the final consumer

NO – not once  
installed or  
removed

POSSIBLE – during  
fabrication phase  
using power tools

Tests have shown that manual cutting methods cause lower free crystalline silica and metal emissions than power tools

\* Study conducted from Environmental  
Health & Engineering (EH&E) of Boston

# Study from Environmental Health & Engineering (EH&E)

The study conducted from Environmental Health & Engineering (EH&E) of Boston confirms the non-need to label, according to Prop. 65, the ceramic tiles/slabs of the companies/brands participating in the study.

The prop. 65 is only applicable to the CA market. For US imported products, the OSHA (Occupational Safety and Health Administration) standard is also relevant (29 CFR 1926.1153).

---> **highly important to emphasize and recommend the wet cutting or score and snap system and avoid dry cutting with powered tools**

## EXPOSURES TO CRYSTALLINE SILICA AND METALS IN CERAMIC AND GLASS TILE

Prepared By:

Environmental Health & Engineering, Inc.

November 2017



# ENGINEERED STONE NEWS

The recent news about quartz and its silicosis release cancerous side effects should create a negative domino effect for that industries and boost even more rapidly the raise of porcelain slabs in the countertop category

## Engineered Stone – Silicosis issues

REUTERS® World Business Legal Markets Breakingviews Technology Investigate



Business

2 minute read · February 7, 2023 10:54 AM CST · Last Updated a month ago

### Owner of Spain's Cosentino admits negligence over silicosis in workers - documents

Francisco Martinez, who owns Spain's leading kitchen worktop manufacturer Cosentino, accepted a six-month suspended prison sentence for five counts of serious injury due to gross negligence in a plea bargain with the court in the northwestern region of Galicia. Martinez is set to return to the dock in July for a separate trial in the northern city of Bilbao. Prosecutors are asking for two and a half years' imprisonment on six counts of reckless injury.



### Ministers to mull engineered stone import ban as unions warn of silicosis 'epidemic' among workers

Without a ban, an estimated 100,000 workers could contract silicosis in the next 50 years, the union said.

"The science is clear-cut: engineered stone is killing workers," incoming CMFEU boss Zach Smith said.

"There is no safe level of exposure to engineered stone.

CDC Centers for Disease Control and Prevention  
CDC 24/7. Saving Lives. Protecting People™

### Morbidity and Mortality Weekly Report (MMWR)

### Severe Silicosis in Engineered Stone Fabrication Workers — California, Colorado, Texas, and Washington, 2017–2019

Weekly / September 27, 2019 / 68(38):813–818

Cecile Rose, MD<sup>1,2\*</sup>; Amy Heizerling, MD<sup>2,4\*</sup>; Ketki Patel, MD, PhD<sup>5</sup>; Coralynn Sack, MD<sup>6,7</sup>; Jenna Wolff<sup>8</sup>; Lauren Zell-Baran, MPH<sup>1,9</sup>; David Weissman, MD<sup>10</sup>; Emily Hall, MPH<sup>11</sup>; Robbie Sooriash, MD<sup>12</sup>; Ronda B. McCarthy, MD<sup>13</sup>; Heidi Bojes, PhD<sup>14</sup>; Brian Korotzer, MD<sup>15</sup>; Jennifer Flattery, MPH<sup>16</sup>; Justine Lew Weinberg, MSEH<sup>15,17</sup>; Joshua Potocko, MD<sup>18</sup>; Kirk D. Jones, MD<sup>19</sup>; Carolyn K. Reeb-Whitaker, MS<sup>15</sup>; Nicholas K. Reul, MD<sup>20,21</sup>; Claire R. LaSee, MPH, MSW<sup>15</sup>; Barbara L. Materna, PhD<sup>22</sup>; Ganesh Raghu, MD<sup>23</sup>; Robert Harrison, MD<sup>24</sup> (VIEW AUTHOR AFFILIATIONS)

The Sydney Morning Herald

### Engineered stone import ban to be discussed at national ministers' meeting

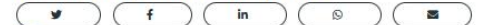
### THE TIMES OF ISRAEL

### Australia moves to ban Israeli-made countertops linked to lung disease in workers

Those fabricating marble-like Caesarstone are at risk of silicosis due to inhaling dust particles over long term



### HEALTH, SAFETY, ETHICAL & ENVIRONMENTAL Australia moves a step closer to restricting the use of quartz



BY ERIC BIGNELL 08 FEBRUARY 2023



Australia is moving towards stricter regulations regarding the use of engineered quartz and possibly banning it altogether.

MARKET INTELLIGENCE

### Cosentino owner gets suspended prison sentence for not providing sufficient warning of the risk of processing Silestone



BY ERIC BIGNELL 08 FEBRUARY 2023



Cosentino's headquarters in Spain.

Francisco Martinez, who owns Cosentino, the Spanish manufacturer of Silestone and Dekton, has agreed to pay €1.1 million compensation to five people (although one of them has died) who said they were not provided with adequate warning of the risk of being exposed to silica dust as a result of cutting and polishing Silestone countertops.

The compensation was part of a plea deal in a court in Spain that saw a prison sentence of

# LA County Supervisors Take Initial Step Toward A Ban On Artificial-Stone Countertops

By Jim Morris and Kim Krisberg | Public Health Watch  
Published Jun 7, 2023 11:11 AM

INDUSTRY / LATEST

## L.A. County Ponders Quartz-Surface Ban

PUBLISHED JUNE 2, 2023

LOS ANGELES – Quartz surfaces could be outlawed for future use here later this year due to silicosis concerns.



The Los Angeles County Board of Supervisors voted June 6 to begin consideration of banning what it called “silica-fabricated stone” within its borders.

The action directed various county officials to report back to the board in 90 days “on the options to ban the sale, fabrication and installation of silica-fabricated stone” and possibly provide money and technical assistance for converting to other materials.

The board also instructed the heads of its public-works and internal-services department to report in 45 days with recommendations on banning future use of quartz surfaces on any county-funded projects.

# Quartz countertops linked to deadly lung disease in workers who fabricate the material

Skyrocketing demand for quartz countertops has increased workers' exposure to silica dust, a chemical compound that causes lung damage.



**NEW YORK POST**

Health | Fitness | Health Care | Medicine | Men's Health | Women's Health | Mental Health

Delivery driver caught dumping grocery order on the side of the... | I caught my boyfriend cheating right before our 9-week vacation... | Family that walks on all fours baffles scientists: They...

**HEALTH**

## Fancy quartz countertops are killing people who make them, doctors say

By Marc Lallanilla | July 24, 2023 | 5:46pm | Updated

This Week's Health Headlines: Espresso and Alzheimer's, New RSV drug, & Are you a mosquito magnet?

**NEW YORK POST**

MORE ON: HOME DESIGN

Here's a kitchen design trend to die for. Quartz countertops are now the most popular choice among home renovators and designers because of their durability

**Radio Stone Update** - The podcast for the hard-surfaces industry.

HOME | BROADCASTS

## L.A. COUNTY TO BAN QUARTZ SURFACES?; MSI IN TOP 20 FOR U.S. CONTAINER IMPORTS; XIAMEN SHOW RETURNS

Jun 13, 2023 | 2023

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WORKPLACE

## California Regulators Drafting Emergency Rule to Combat Deadly Lung Disease

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## Silica Hazards from Engineered Stone Countertops

March 11, 2014 by Karen Worthington, MS, RN, COHN-S; Margaret Filios, SM, RN; Mary Jo Reilly, MS; Robert Harrison, MD, MPH; and Kenneth D. Rosenman, MD



A new engineered stone countertop product known as “quartz surfacing,” was created in the late 1980s by combining quartz aggregate with resins to create a product for use in home building and home improvement. Manufacturing of this material, including products such as CaesarStone™, Silestone™, Zodiaq™, or Cambria™ is a fast growing industry. First made in Israel and Spain, production of these materials has grown world-wide, driving quartz slab imports to the U.S. up 63% between 2011 and 2012 and 48% between April 2012 and April 2013 (Schwartzkopf 2013, StatWatch 2013). Quartz surfacing materials may contain up to 93% crystalline silica (Dupont 2010). In contrast, the percent of crystalline silica in a slab of granite is less than 45%, darker color granite has a lower percentage (Simcox et al. 1999). Workers who fabricate and install quartz surfacing are at risk for overexposure to silica released during sizing, cutting, grinding and polishing. Prolonged inhalation of dust from silica-containing materials can lead to silicosis (scarring of the lungs). In addition to silicosis, scientific evidence indicates that occupational exposure to crystalline silica puts workers at increased risk for other serious health conditions: chronic obstructive lung disease, lung cancer, kidney and connective tissue disease, and tuberculosis. The focus of this blog is on silicosis, which has occurred in

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

**Trade Name:** PORCELAIN STONWARE FOR INTERIOR AND EXTERIOR USE  
**CAS No.:** Not applicable  
**EC No.:** Not applicable  
**Registration No.:** Not applicable  
**Registration No. without reference to individual declarant:** Not applicable  
**Index 67/548/EEC:** Not applicable

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses:** Creation of flooring, wall tiling, decorations

**Uses advised against:** This product must not be used in applications different from those recommended in this document, without prior advice from the supplier.

**1.3 Data relating to the supplier of the substance or mixture**

**Manufacturer/Supplier:** Florim Ceramiche Spa SB  
Via Canaletto 24  
41042 Fiorano Modenese (MO) Italy.

**Telephone:** +39 0536/840111

**1.4 Emergency telephone number:** +39 0536/840111

**1.5 Other information:** The product is exempt from the obligation for registration according to the REACH regulation in compliance with Article 2(7)(b).

**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance**

Regulation (EC) No. 1272/2008 (CLP)	
Hazard classes/Hazard categories	Hazard statement
None	None

EC Directives Nos. 67/548, 99/45 and subsequent amendments	
Hazard characteristics	R-phrases
None	None

**2.2 Label elements****Labelling according to Regulation (EC) No. 1272/2008 CLP**

**Pictogram(s):** None  
**Hazard instructions:** None  
**CLP hazard statements:** None

**Labelling in compliance with Directive 1999/45/EC**

**EC pictograms:** None  
**EC classification:** None  
**EC risk phrases:** None  
**EC precautionary statements:** None

### 2.3 Other hazards

**Health risks:** Porcelain stoneware do not emit hazardous substances after installation: during the firing process stable chemical compounds are formed, and therefore porcelain stoneware slabs are not considered hazardous for the health.

During activities such as cutting, polishing, perforation, etc., of porcelain stoneware, dust containing crystalline silica may be formed.

Inhaling this type of dust is hazardous for the health and must be avoided.

Prevent dispersion/inhaling of dust by means of suction systems or personal protection devices.



Repeated exposure, prolonged over time and/or massive inhaling of the breathable fraction may have an effect on the lungs causing fibrosis (silicosis).

Prolonged exposure over time to the finer fraction suspended in air may cause irritation of the cornea.

**Safety hazards:** The product does not present hazards for safety if used in compliance with the normal precautions for use.

**Environmental hazards:** Not classified as hazardous for the environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Product identification:** Porcelain stoneware comprise a mixture composed mainly of natural clays and other natural mineral substances.

The mixture is created with natural raw materials, with humidity and appropriate granulometric distribution for the subsequent pressing stage.

After mixing with water and pressing of the tile, it is fired at high temperatures.

During the firing process a particularly stable crystalline structure is formed, which incorporates the individual chemical elements.

The main components of the ceramic mixture are silicon oxides and aluminium oxides; in addition, it contains small percentages of the following substances: sodium oxides, manganese oxides, iron oxides, magnesium oxides, potassium oxides and barium oxides.

**Chemical composition:** SiO<sub>2</sub> 67-70% (crystalline silica 15-25%), Al<sub>2</sub>O<sub>3</sub> 18-20%; Fe<sub>2</sub>O<sub>3</sub> < 1%, TiO<sub>2</sub> < 1%, CaO < 2%, MgO < 1%, Na<sub>2</sub>O < 5%, K<sub>2</sub>O < 5%, ZrO<sub>2</sub> < 2%

**Mineralogical composition:** mixture of raw materials and natural minerals (clays, feldspars, quartz).

**Hazardous components:**

**Classification of components according to Regulation (EC) No. 1272/2008 CLP**

None.

**Classification of components according to EC Directives Nos. 67/548 and 99/45 and subsequent amendments**

None.

#### 4. FIRST AID MEASURES

**NB: this section applies exclusively to activities of cutting, polishing, etc.**

##### 4.1 Description of first aid measures

**Skin contact:** Rinse, and subsequently wash the skin with water and soap.

**Eye contact:** Wash the eyes for several minutes using copious amounts of water, keeping eyelids open.

**Ingestion:** In the unlikely event that ingestion takes place, have the subject drink water.

**Inhalation:** Remove the subject from the area of exposure and have the subject breathe fresh air.

##### 4.2 Most important symptoms and effects, both acute and delayed

Irritation of the respiratory tract.

Eye irritation.

In the case of persistent irritation consult a doctor.

##### 4.3 Indication of any immediate medical attention and special treatment needed.

In the case of accident or illness consult a doctor immediately and if possible show this safety data sheet.

#### 5. FIREFIGHTING MEASURES

The Porcelain Stoneware is NOT COMBUSTIBLE and does not create gases or other hazardous elements in the case of fire.

##### 5.1 Extinguishing media:

**Suitable extinguishing media:** Water, CO<sub>2</sub>, chemical dust, foam, sand or inert gases.

**Unsuitable extinguishing media that must not be used for safety reasons:** None.

##### 5.2 Special hazards arising from the substance or mixture

None.

##### 5.3 Advice for firefighters

None in particular.

#### 6. ACCIDENTAL RELEASE MEASURES

**NB: this section applies exclusively to activities of cutting, polishing, etc.**

##### 6.1 Personal precautions, protective equipment and emergency procedures

In the case of prolonged exposure or a high level of suspended dust, wear personal protection devices for the respiratory tract.

##### 6.2 Environmental precautions

If appropriate dampen the material to limit dust dispersion.

##### 6.3 Methods and material for containment and cleaning up

Collect the mixture with suction or other mechanical means.

Place the mixture in covered containers.



**6.4 Reference to other sections**

See also Sections 8 and 13.

**7. HANDLING AND STORAGE****7.1 Precautions for safe handling.**

No special precautions are required for handling and laying the tiles, except for the normal PPDs in use for the work activities (gloves, safety shoes).

For cutting, polishing etc. activities safety glasses and respiratory tract protection devices are also necessary. Wet-cutting systems are preferable to dry-cutting.

**7.2 Conditions for safe storage, including any incompatibilities**

No particular precautions are required.

**7.3 Specific end uses:**

No specific technical measures or particular precautions are required.

**8. EXPOSURE CONTROL/PERSONAL PROTECTION****8.1 Control parameters**

**NB: this section applies exclusively to activities of cutting, polishing, etc.**

**Occupational exposure limits**

Free crystalline silica SiO<sub>2</sub> = 0.05 mg/Nm<sup>3</sup> (European Network on Silica limit NEPSIO<sub>2</sub>); 0.100 mg / Nm<sup>3</sup> (Directive (EU) 2017/2398 of the European Parliament and of the Council, of 12 December 2017, implemented in Italy by Legislative Decree 44/2020 of 01/06/2020)

Dust – breathable fraction = 3 mg/Nm<sup>3</sup> (European Network on Silica limit NEPSIO<sub>2</sub>)

Inhalable dust = 10 mg/Nm<sup>3</sup>

**Biological exposure index (BEI):** No attribution of biological limits.

**8.2 Exposure controls****8.2.1 General information.**

Wash hands after work and before breaks.

Do not eat or drink during handling of the mixture.

**8.2.2 Occupational exposure controls**

**Eye protection:** Use of protective glasses recommended.

**Hand protection:** Use of protective work gloves recommended.

**Skin protection:** Use of protective workwear recommended; operate according to best work practices

**Respiratory protection:** In the absence of adequate ventilation, use suitable personal respiratory protection devices with filter for inert particles.

**8.2.3 Environmental exposure controls**

Provide appropriate suction and filtering at the points where the mixture may be dispersed into the environment since it can release inhalable, breathable dust.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties.**

Appearance: solid

Odour: odourless

pH: not applicable

Melting point/range: > 1300°C

Boiling point/range: not applicable  
Flash point: not applicable  
Flammability: non-flammable  
Oxidising properties: non-oxidising  
Explosive properties: non-explosive  
Density: 2.4-2.5 g/cm<sup>3</sup>  
Water solubility: insoluble.

**9.2 Other information**

**Not applicable.**

**10. STABILITY AND REACTIVITY****10.1 Reactivity**

The mixture is NON REACTIVE in normal conditions of use.

**10.2 Chemical stability**

The mixture is STABLE in normal conditions of use.

**10.3 Possibility of hazardous reactions**

The mixture DOES NOT CAUSE HAZARDOUS REACTIONS in normal conditions of use.

**10.4 Conditions to avoid**

The mixture is STABLE in normal conditions of use.

**10.5 Incompatible materials**

No particular incompatibility.

**10.6 Decomposition products**

The formation of hazardous decomposition products is not expected in normal conditions of storage and use.

**11. TOXICOLOGICAL INFORMATION**

***NB: this section applies exclusively to activities of cutting, polishing, etc.***

**Information on toxicological effects**

Repeated exposure, prolonged over time and/or a massive inhalation of the breathable fraction of dust containing quartz may cause pulmonary fibrosis (silicosis) due to the action of free crystalline silica particles on lung tissue.

NON TOXIC article, considered as physiologically non-hazardous.

**Bases for assessment:** The information supplied is based on product data, on knowledge of the components and on the toxicology of similar products.

**Probable ways of exposure:** Inhalation is the primary way of exposure.

**Acute toxicity, by oral route:** Not applicable.

**Acute toxicity, by dermal route:** Not applicable.

**Acute toxicity, by inhalation:** Not applicable.

**Skin corrosion/irritation:** Not irritant for the skin.

**Serious eye damage/irritation:** May cause mechanical irritation for the eyes.

**Respiratory tract irritation:** Inhalation of dust may cause irritation to the respiratory tract.

**Sensitisation to the respiratory tract or skin:** Data unavailable

**Germ cell mutagenicity:** Data unavailable.

**Carcinogenicity:** Data unavailable.

**Reproductive and developmental toxicity:** Data unavailable.

**Specific target organ toxicity – single exposure:** Data unavailable.

**Specific target organ toxicity – repeated exposure:** Data unavailable.

**Other information:** In 1997, the IARC (International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources may cause lung cancer in human beings. However it stressed that not all industrial situations and not all types of crystalline silica were incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemical to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France and IARC MONOGRAPH 100 OF 2009).

In June 2003, SCOEL (the European “Scientific Committee on Occupational Exposure Limits”) concluded that the main effect on humans through inhalation of breathable crystalline silica dust is silicosis. “There is sufficient information to conclude that the related risk of lung cancer is higher in people with silicosis (and, apparently, not in workers not affected by silicosis who are exposed to silica in quarries and in ceramics industries). So preventing the occurrence of silicosis also reduces the risk of cancer...” (SCOEL SUM Doc 94-final, June 2003)

There is evidence to support the theory that the increase in the risk of cancer would be limited to people already suffering from silicosis. The protection of workers against silicosis should be guaranteed by compliance with prevailing regulations on the Limit of Occupational Exposure and when necessary, in the presence of additional risks, implemented by directives (see Section 16).

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

NOT TOXIC article.

Use the product according to good working practices, avoiding dispersion in the environment.

### 12.2 Persistence and degradability

NOT BIODEGRADABLE article.

### 12.3 Bioaccumulative potential

Not considered significantly bioaccumulative.

### 12.4 Mobility in soil

The mixture is not significantly soluble.

### 12.5 Result of PBT and vPvB assessment

There are no risks of persistence, bioaccumulation and toxicity in the substance, and therefore it is not considered PBT or vPvB.

### 12.6 Other adverse effects

No data available.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Disposal methods:** Disposal must be carried out in compliance with the instructions laid down by Italian Legislative Decree 152/2006 and subsequent modifications and integrations and with the instructions laid down by regional authorities.

The waste producer is responsible for determining the toxicity and the physical properties of the material generated to identify the appropriate classification of the waste and the disposal methods in compliance with prevailing regulations.

The waste must be disposed of in compliance with prevailing laws, using an authorised waste disposal facility, The competence of the disposal facility must be verified in advance.

For handling and measures in the case of accidental dispersion of the waste, the instructions given in Sections 6 and 7 generally apply.

Do not disperse in the environment, in wells or water courses.

**Disposal of packing material:** Any paper and plastic packing materials are recyclable.

Disposal of packing materials must be carried out after they have been completely emptied.

Do not pollute the soil, water or the environment with the container for waste.

#### 14. TRANSPORT INFORMATION

NOT HAZARDOUS mixture according to transport regulations.

**Transport by road/rail (ADR/RID):**

NOT HAZARDOUS mixture according to road and rail transport regulations.

**Transport by sea (IMDG code):**

NOT HAZARDOUS mixture according to sea transport regulations.

**Transport by air (ICAO/IATA):**

NOT HAZARDOUS mixture according to air transport regulations.

#### 15. REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**

Classification, packaging and labelling of hazardous substances (Italian Legislative Decree 52/1997 and subsequent modifications).

Classification, packaging and labelling of hazardous mixtures (Italian Legislative Decree 65/2003).

Safeguarding of health and safety in the workplace (Italian Legislative Decree 81/2008 and subsequent modifications).

**15.2 Chemical safety assessment**

No chemical safety assessment has been conducted.

#### 16. OTHER INFORMATION

**Liability:** The information shown in this basic safety sheet has been drawn up to the best of current knowledge and on the basis of information sources currently available.

The user must comply with prevailing regulations and be satisfied as to the updating, suitability and completeness of the information contained here, as it relates to the specific use made of the substance in their own production cycle.

The information constitutes a description of the product in relation to safety and draws the attention of users to possible risks connected with an improper use of the product.

**R- Phrases:** None.

**CLP Hazard statements:** None.

**Uses identified according to the system describing use**

**Recommended restrictions relating to use (advised against):** This product must not be used in applications different from those recommended in Section 1, without prior advice from the supplier.

**Additional information:** This document contains important information regarding safety in storage, handling and use of the product.

The information shown in this document must be brought to the attention of the person in your organisation who is responsible for hygiene and safety in the work environments.

**Distribution of SDS:** The information contained in this document must be made available to all those who handle the product.

**Further information:**

**Training:** Workers must be informed about the presence of crystalline silica and trained in the proper use and handling of this product as required by prevailing regulations.

Breathable crystalline silica – Social dialogue agreement; a multi-sector social dialogue on “Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products containing it” was signed on 25<sup>th</sup> April 2006.

This autonomous agreement, which receives financial support from the European Commission, is based on a Good Practice Guide.

The agreement is operational from 25th October 2006. The agreement was published in the Official Journal of the European Union) 2006/C 279/02.

The text of the agreement and its annexes, including the Good Practice Guide, are available at <http://www.nepsi.eu> which also supplies useful information and a guide for handling products containing breathable crystalline silica.



# Basic information on crystalline silica

Increasing attention is paid today to **health** and the **need for reducing the potential risks** deriving from **work activities**.

In the field of construction and processing of natural and synthetic stone this attention is also focused on **reducing lung diseases caused by dust**, as the presence of breathable free crystalline silica in the work environment has been acknowledged as potentially dangerous.

We have prepared this short focus for our customers with the aim of informing and explaining certain concepts.

## Crystalline silica

Silica is the main component of ceramic tile body, and also represents around half the weight of the earth's crust as well as being present in sand, granite and in many other minerals.

Silica exists in various mineral forms: it can be in amorphous – or vitreous – form, not biologically active, or in crystalline forms.

**Quartz is the most common form of crystalline silica**, and we can also find it in the form of cristobalite and tridymite.

We give below an indication of the content of crystalline silica in some building materials:

Granite: 15-35%

● Marble: 0-5%

● Quartzite: above 95%

Slate: up to 40%

- Recomposed quartz: 85-100%
- Ceramic tiles (FLORIM production) 15-25% (total SiO<sub>2</sub> 67-70%)
- 

The part that is potentially dangerous for human health is only the free crystalline silica in its breathable part, characterized by a precise particle size.

FLORIM ceramic tiles and slabs comprise a body composed of natural raw materials (clays, feldspars, kaolin and sands), and they therefore contain both amorphous and crystalline silica; since these components are firmly embedded inside the ceramic matrix, there are no problems of toxicity or legal obligations for labelling.

Free crystalline silica, inhalable in its “breathable” part, is formed with subsequent processing (cutting, polishing, shaping, milling, perforation, etc.) and, in the absence of due precautions, it may penetrate right down into the lungs causing, in the case of high exposures (*or prolonged and repeated exposures over the course of some years, with high concentrations*), irreversible effects on the health (pneumoconioses such as silicosis) or the worsening of lung diseases.

## Safety data sheet

Current legislation (Directive 1999/45/EC, Reg. EC/1907/2006 (REACH) and Reg. EC/1272/2008 (CLP)) lays down that mixtures or solutions containing chemical substances with recognized biological activity should be accompanied by a “**safety data sheet**” which supplies the necessary information to users on use, handling, etc..

A ceramic tile in its commercial form, whether glazed or not, is a finished product; however, the safety data sheet is provided even though it is not foreseen, and in the absence of labelling obligations.

Consult our safety data sheets here.

SAFETY DATA SHEET – PORCELAIN STONEWARE

SAFETY DATA SHEET – MESH-REINFORCED PORCELAIN STONEWARE SLABS

## Good practices

### PRECAUTIONS FOR SAFE HANDLING

Due attention must be paid to the weight of the material and suitable certified handling systems provided for the load that is to be moved.

**No special precautions are required for handling tiles, except for the normal personal protection devices in use for the work activities** (cut-resistant gloves, safety footwear) according to prevailing regulations.

For **large-size tiles** (ceramic slabs) it is appropriate to equip oneself also with **cut-resistant sleeves** to protect the forearms.

**Florim stone slabs** are obtained through combining a ceramic slab with glass fibre and polyurethane resin. As well as the above-quoted personal protection devices, **safety glasses and dust masks must be worn during handling** to avoid direct contact of the skin and mucous membranes with the glass fibre.

If the material is supplied on an A-frame pay particular attention to the safety of the system.

Further information on this is available in the [technical manuals](#).

### PRECAUTIONS FOR SAFE PROCESSING

Professional tile-layers and transformers, since they are experts working in the sector, should already be aware of the potential risks for health consequent on inhalation of dust deriving from ceramic tile processing (cutting, polishing, etc.).

**They are advised to apply the laws/rules/directives in force locally**, suitably instructing employees on potential hazards, on the adoption of **personal hygiene** measures in the workplace (e.g. not to eat, drink or smoke during processing, wash themselves carefully and change clothes at the end of work, etc.), on the **use of appropriate equipment** (e.g. to give preference to wet-cutting and grinding tools or dry-cutting tools connected to efficient suction systems, etc.) and **personal protection systems** (e.g. protective gloves, FFP3 dust masks for protecting the respiratory tract, safety glasses, etc.).



We would advise you to consult **more updated information on the dedicated websites** commonly drawn up by government bodies for safety at work.

[Nepsi.eu](https://nepsi.eu)

• [Osha.gov](https://osha.gov)

• [Cancer.org](https://cancer.org)

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If you want, we'll keep you updated on the latest news about products and events

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Capitale Sociale i.v. Euro 50.000.000 PI/CF 01265320364

## Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: Glazed Porcelain Tile

### SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME:	Glazed Porcelain Tile
SYNONYM:	
PRODUCT CODES:	All current product references
CHEMICAL NAME:	N/A
CHEMICAL FAMILY:	N/A
CHEMICAL FORMULA:	N/A
MANUFACTURER:	Italgraniti Group S.P.A.
ADDRESS:	Via Radici in Piano 355 - 41043 Casinalbo - Modena
EMERGENCY PHONE:	+39 059 888411
RECOMMENDED USE:	Residential and Commercial Construction Applications
USE RESTRICTIONS:	Refer to product installation manual

### SECTION 2: Hazards Identification



IRRITANT/RESPIRATORY TRACT IRRITATION



CARCINOGEN

NOTES: Not applicable for intact tiles. Excessive exposure to tile dust can cause discomfort and mechanical irritation. Long term exposure to silica dusts can lead to silicosis.

#### EMERGENCY OVERVIEW:

The product is not classified as hazardous according to Regulation 1272/2008 (CLP). The product is a mixture of natural occurring minerals that have been mixed with water and fired in a high temperature kiln.

Signal Word (GHS-US)	:	Danger
Hazard Statements (GHS-US)	:	H335 - May cause respiratory irritation. H350 - May cause cancer. H372 - Causes damage to organs through prolonged or repeated exposure.
Precautionary Statements (GHS-US)	:	P280 - Wear protective gloves, protective clothing, and eye protection. P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

9 H 2-11

POTENTIAL HEALTH EFFECTS

EYES: Mechanical stress through eye rubbing if exposed to dust or airborne particulates

SKIN: Skin irritation if exposed to dust or airborne particulates

INGESTION: Potential choking hazard if exposed to airborne particulates

INHALATION: Mechanical stress from inhalation of dust or airborne particulates

ACUTE HEALTH HAZARDS: No further relevant information available.

CHRONIC HEALTH HAZARDS: No further relevant information available

CARCINOGENICITY

Crystalline Silica (Quartz)

LD50 Rat oral > 22,500 mg/kg & LD50 Mouse oral > 15,000 mg/kg LC50 Carp > 10,000 mg/l (per 72 hr)

OSHA: Recommended that Crystalline Silica be considered a POTENTIAL occupational carcinogen ACGIH: No information available

NTP: 9<sup>th</sup> Report: Lists Respirable Crystalline Silica as known to be a Human Carcinogen

IARC: Respirable Crystalline Silica is classified as a Group 1 Carcinogen (carcinogenic to humans).

---

### SECTION 3. Composition/Information on Ingredients

INGREDIENT:

The product is a mixture of below natural occurring minerals that have been mixed with water and fired in a high temperature kiln. This tile may contains <0.1 percent by weight each of the following elements; cadmium, zinc, chrome and other metals.

<u>NAME</u>	<u>CAS NO.</u>	<u>% WT</u>	<u>SARA 313 REPORTABLE</u>
Crystalline Silica (Quartz) *	14808-60-7	11 - 44	DSD: Not Classified CLP: Not Classified
Titanium Dioxide	13463-67-7	0.1-3	DSD: Not Classified CLP: Not Classified
Kaolin	1332-58-7	9-32	DSD: Not Classified CLP: Not Classified
Feldspar	68476-25-5	22 -52	DSD: Not Classified CLP: Not Classified

\* Crystalline Silica exists in the nature of the minerals such as sand and clay

---

### SECTION 4: First aid measures

Respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates if dust is produced by cutting tiles or if dust is produced by any other operations, including removal.

EYES: Do not rub eyes to avoid possible cornea damage as a result of mechanical stress. Check for and remove any contact lenses. Rinse out with water with eyelid held wide open. Get medical attention if irritation persists.

SKIN: Wash off immediately with soap and plenty of water. Get medical attention if irritation persists.

INGESTION: Rinse out mouth and make victim drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting unless directed to do so by medical personnel; call for medical help.

INHALATION: Remove from exposure. Keep warm and at rest and provide fresh air. Dust in throat and nasal passages should clear spontaneously. Get medical attention if irritation persists.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No further information available.

---

## SECTION 5: Firefighting measures

FLAMMABLE LIMITS IN AIR, UPPER: Not Flammable  
(% BY VOLUME) LOWER: Not Flammable

FLASH POINT: No Data Available

F: N/A

C: N/A

METHOD USED:

AUTOIGNITION TEMPERATURE: No Data Available

F: N/A

C: N/A

EXTINGUISHING MEDIA:

Suitable: Water, alcohol resistant foam, CO<sub>2</sub>, dry chemical powder

Unsuitable: Water jet

SPECIAL FIRE FIGHTING PROCEDURES:

Wear self-contained breathing apparatus and full protective clothing in case of fire. Avoid breathing fire fumes

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not explosive

HAZARDOUS DECOMPOSITION PRODUCTS:

The product is non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials. Development of hazardous combustion gases or fumes are possible in the event of fire.

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## SECTION 6: Accidental release measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

For non-emergency personnel: Keep unnecessary and unprotected personnel from entering. Wear appropriate personal protective equipment as described in Section 8. Follow the advice for safe handling and use given in Section 7.

For emergency responders: Emergency procedures are not required. However, respiratory protection is needed in situations with high dust levels.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP

Do not empty into drains and sewers. Keep from entering into water and ground water systems. Contain spillage where possible and safe to do so. Inform appropriate authority in case of accidental contamination of watercourses or drains.

Use dry clean-up methods such as vacuum exhaust which do not generate dust formation. Never use compressed air for cleaning. If dust is formed applying a dry-cleaning method, personal protective equipment must be used. Avoid inhalation of product dust and skin contact. Place the spilled material in an appropriate waste disposal container for proper disposal.

---

## SECTION 7: Handling and storage

### PRECAUTIONS FOR SAFE HANDLING

Provide adequate ventilation. Provide local exhaust or general room ventilation to minimize dust concentrations. Avoid inhalation and contact with skin, eye and clothing.

### CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.

### OTHER PRECAUTIONS:

No further relevant information available.

**EXPOSURE GUIDELINES:** Attempt to stop spillage without personal risk. Should not be released into the environment. Prevent product from entering drains.

---

## SECTION 8: Exposure controls/personal protection



### ENGINEERING CONTROLS:

Contains the following ingredients with occupational exposure limit values:

Crystalline Silica (Quartz):	TWA: 0.1 mg/cubic meter (respirable dust)
Nepheline Syenite:	TWA(respirable): 5mg/m <sup>3</sup>
Titanium Dioxide:	15mg/m <sup>3</sup> (OSHA-PEL)
Kaolin:	2mg/m <sup>3</sup> (Respirable Fraction)

**VENTILATION:** Provide adequate ventilation. Provide local exhaust or general room ventilation to minimize dust concentrations. The highest probability of silica exposure occurs during dry cutting. Wet cutting methods are recommended.

**RESPIRATORY PROTECTION:** Use FFP2 type dust mask

**EYE PROTECTION:** Use tight fitting safety goggles or safety glasses with side shields where dust is formed. Contact lenses may absorb irritants. Do not wear contact lenses in work areas. Have emergency eyewash station available in area where tiles are cut

**SKIN PROTECTION:** Wear dust proof protective gloves, boots, and long-sleeved clothing.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** None required

**WORK HYGIENIC PRACTICES:** Do not eat, drink or smoke when working. Wash hands and if necessary shower before breaks and after work to remove adherent product. Avoid contact with eyes and skin. After working with the product, workers should wash or shower and use skin care products. Clean contaminated clothing, footwear etc. thoroughly before re-using them.

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## SECTION 9. Physical and chemical properties

APPEARANCE: Solid

ODOR: Odorless

PHYSICAL STATE: Solid

pH AS SUPPLIED: No data available pH (Other):

BOILING POINT: No data available

F:

C:

MELTING POINT:

F: > 2372

C: > 1300

FREEZING POINT: No data available

F:

C:

UPPER/LOWER FLAMABILITY OR EXPLOSIVE LIMITS: No data available

VAPOR PRESSURE (mmHg): Not applicable

@

F:

C:

VAPOR DENSITY (AIR = 1): 2.35 – 2.95 g / cubic centimeter

@

F:

C:

SPECIFIC GRAVITY (H<sub>2</sub>O = 1): Not applicable

@

F:

C:

EVAPORATION RATE: Not applicable

SOLUBILITY IN WATER: Not soluble

PERCENT SOLIDS BY WEIGHT: 100%

PERCENT VOLATILE: Not applicable BY WT/ BY VOL. @

F:

C:

VOLATILE ORGANIC COMPOUNDS (VOC): Not applicable

WITH WATER: LBS/GAL

WITHOUT WATER: LBS/GAL

MOLECULAR WEIGHT: Not applicable VISCOSITY: Not applicable

@

F:

C:

## SECTION 10: Stability and reactivity

**STABILITY:** The product is **STABLE** under normal conditions of storage and use. Contact with incompatible materials should be avoided.

**CONDITIONS TO AVOID (STABILITY):** Avoid contact with acids (e.g. acetic, hydrofluoric, etc.) Glass is non-flammable. Glass will react with hydrofluoric acid producing a corrosive gas – silicon tetra fluoride.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Acids (e.g., acetic, hydrofluoric, etc.)

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Under normal conditions of storage and use, hazardous decomposition products should not be produced. In a fire, decomposition may produce toxic gases / fumes. Glass sand is not classified as a hazardous material by the criteria of the OSHA Hazard Communication Standard, Title 29, Code of Federal Regulations, Section 1910.1200.

**HAZARDOUS POLYMERIZATION:** Not applicable

**CONDITIONS TO AVOID (POLYMERIZATION):** Not applicable

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## SECTION 11: Toxicological information

### TOXICOLOGICAL INFORMATION:

**Acute:** Working with broken or cut tile produces a potential for cuts to the hands and exposed body parts. Acute effects such as eye irritation may occur if associated with high dust operations such as dry cutting tile or during the removal of tile surfaces.

**Chronic:** Not applicable for intact tiles. Excessive exposure to tile dust can cause discomfort and mechanical irritation. Long term exposure to silica dusts can lead to silicosis.

**Crystalline Silica (Quartz)**  
LD50 Rat oral > 22,500 mg / kg & LD50 Mouse oral > 15,000mg/ kg  
LC50 Carp > 10,000 mg / l (per 72 hrs.)

**Nepheline Syenite**  
**Dermal:** LD50 estimated to be > 5,000 mg/kg  
**Ingestion:** LD50 estimated to be 2,000 - 5,000mg/kg

**Titanium Dioxide**  
Oral LD50>10000mg/kg

### Skin & Eye corrosion / irritation

Inhalation and potential eye exposure to eyes may cause irritation if contact is made with broken, and / or during procedures involving the cutting of tiles, and / or for operations involving the removal of installed tiles.

**Sensitization** Existing lung disease may be aggravated after exposure to tile dusts. Long term exposure to silica dusts can lead to silicosis.

**Genetic Toxicity** No data available **Repeated Dose Toxicity** No data available

### Carcinogenicity

Respirable crystalline silica is classified by the International Agency for Research on Cancer (IARC) as a Group 1 Carcinogen (carcinogenic to humans). The National Toxicology Program (9<sup>th</sup> Report) lists respirable crystalline silica as known to be a Human Carcinogen. USDOL/OSHA and NIOSH have recommended that crystalline silica be considered a potential occupational carcinogen.

**Reproductive Toxicity** No data available

**Specific target organ Toxicity:** No data



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**SECTION 12: Ecological information**

No information available.

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**SECTION 13: Disposal considerations**

**WASTE DISPOSAL METHOD:**

- Waste Treatment Methods:** Can be deposited in landfills, sent to an incineration or other appropriate means of disposal provided they meet the requirements of local laws.
- Methods of Disposal:** Although not hazardous, the generation of waste should be avoided or minimized wherever possible. Do not dispose in Storm or Sanitary Sewers. Dispose of in accordance with state and local regulations.
- Contaminated Packaging:** This material and its package must be disposed of in a safe way
- 

**SECTION 14: Transport information**

- RCRA HAZARD CLASS:** Not Applicable
- SPECIAL SHIPPING INFORMATION** Not Applicable
- In Accordance with DOT** Not regulated for transport
- In Accordance with IMDG** Not regulated for transport
- In Accordance with IATA** Not regulated for transport
- 

**SECTION 15: Regulatory information**

**US Federal Regulations**

Porcelain Tile	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Kaolin (1332-58-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### US State Regulations

Silica (Quartz) (14808-60-7)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Kaolin (1332-58-7)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

This product and/or its components have been previously introduced into U.S. commerce and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce. Hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR Section 721 and 723.250.

This tile contains <1 percent by weight each of the following elements, which are SARA 313 Recordable: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Mercury, Nickel, Lead, Silver, Thallium, Tin, Titanium, Vanadium, and Zinc.

Title 22 Division 2, California Code of Regulation Chapter 3 (Proposition 65): This product contains a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

This product or its components meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Sections 3 & 11)	<input type="checkbox"/> Unstable
<input type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

Note: The information in this data sheet provides information related to the potential hazards associated with dusts which may be produced during cutting or otherwise changing the shape of the tile during installation and/or removal.

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### SECTION 16: Other information

#### OTHER INFORMATION:

PREPARATION INFORMATION:	Date Prepared	January 28, 2019
	Revision	02
	Prepared by	Dott. G. Pifferi

**DISCLAIMER:** The information contained within this Safety Data Sheet is believed to be accurate and have been compiled from sources believed to be reliable. It is offered for consideration, investigation and verification. It is the users responsibility to follow the guidelines as outlined within this SDS. The user assumes all risk of use, storage and handling in compliance with applicable laws and regulations.



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# ITALGRANITI GROUP S.P.A.

Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy

Certified sites are listed in the attachment to this certificate.

*Bureau Veritas Italia S.p.A. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below*

## ISO 14001:2015

*Scope of certification*

**Production of atomized mixture and porcelain stoneware tiles by complete wet cycle through the processes of mixture and enamel preparation, atomization, mixing, pressing, glazing, firing, selectin and packaging**

Certificate issued in accordance with the Technical Regulation ACCREDIA RT-09

Original cycle start date:	<b>08-February-2010</b>
Expiry date of previous cycle:	<b>08-February-2022</b>
Certification / Recertification Audit date:	<b>15-September-2021</b>
Certification / Recertification cycle start date:	<b>21-October-2021</b>
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:	<b>08-February-2025</b>
Certificate No.: <b>IT310442</b>	Version: <b>1</b> Issue Date: <b>21-October-2021</b>

**GIORGIO LANZAFAME - Local Technical Manager**



SGA N° 008D

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC  
Signatory of EA, IAF and ILAC mutual Recognition Agreements

Certification body address:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

To check the validity of this certificate please double click or scan QR CODE





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Attachment to certificate no. IT310442

# ITALGRANITI GROUP S.P.A.

Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy

*Bureau Veritas Italia S.p.A. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below*

## ISO 14001:2015

### Certified Sites

Site	Address	Scope
OPERATIVE UNIT	Via Per Carpi, 54-42018 SAN MARTINO IN RIO (RE) - Italy	Corporate offices, showrooms, logistics center.
OPERATIVE SITE	Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy	Production of atomized mixture and porcelain stoneware tiles by complete wet cycle through the processes of mixture and enamel preparation, atomization, mixing, pressing, glazing, firing, selectin and packaging

Version: 1

Issue Date: 21-October-2021

**GIORGIO LANZAFAME - Local Technical Manager**



SGA N° 008D

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC  
Signatory of EA, IAF and ILAC mutual Recognition Agreements

Certification body address:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia

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## DECLARATION OF PERFORMANCE

No. 003\_ITALGRANITI

1. *Unique identification code of the product type*  
*Type, batch or serial number or any other element allowing identification of the product*  
**Dry-pressed ceramic tiles, with water absorption  $E_w > 10\%$**
2. *Intended use(s)*  

**For internal walls**
3. *Name or registered trade mark, and contact address of the manufacturer*  

ITALGRANITI GROUP SPA  
Via Radici in Piano, 355 – 41043 Casinalbo di Formigine (MO) – Italy  
Tel. 0039 059 888411 Fax 0039 059 848808 P.iva e CF 03294200369  
[info@italgranitigroup.com](mailto:info@italgranitigroup.com)      [www.italgranitigroup.com](http://www.italgranitigroup.com)
4. *System(s) of assessment and verification of constancy of performance (AVCP)*  

**System 4**
5. *Name and identification number of notified laboratory, if relevant: N.A.*  
*Task(s) carried out: N.A.*  
*AVCP system: N.A.*  
*Document issued and date of issue: N.A.*
6. *Declared performances::*

Essential characteristics	Performance	Harmonised technical specification
<b>Reaction to fire</b>	A1	EN 14411
<b>Release of dangerous substance, for</b>	NPD	
• Cadmium	NPD	
• Lead	NPD	
<b>Breaking strength</b>	> 600 N	
<b>Bond strength/adhesion for:</b>	≥ 0.5N/mm <sup>2</sup>	
Cementitious adhesive, type C1		
<b>Durability for:</b>		
• internal use	<b>Pass</b>	

The performance of the product identified above is in conformity with the declared performances. This declaration of performance is issued, **in accordance with Regulation (EU) No 305/2011**, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

*Quality Supervisor*

Name and function  
Armando Bergamini

Place and date of issue Casinalbo, 2019-01-23

*Signature*



**MARCATURA CE  
CE MARKING  
CE-KENNZEICHNUNG  
MARQUAGE CE  
MARCADO CE**


<b>ITALGRANITI GROUP SpA</b> Via Radici in Piano, 355 – 41043 Casinalbo di Formigine (MO) - Italy
05 003_ITALGRANITI
EN 14411 Dry-pressed ceramic tiles, with water absorption $E_v > 10\%$ , for internal walls



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# ITALGRANITI GROUP S.P.A

Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy

I siti oggetto di certificazione sono in allegato al presente certificato.

*Bureau Veritas Italia S.p.A. certifica che il sistema di gestione dell'organizzazione sopra indicata è stato valutato e giudicato conforme ai requisiti della norma di sistema di gestione seguente*

## ISO 45001:2018

*Campo di applicazione*

**Produzione di impasto atomizzato e di piastrelle in gres porcellanato mediante ciclo completo ad umido attraverso i processi di: preparazione impasto e smalti, atomizzazione, miscelazione, pressatura, smaltatura, cottura, scelta e confezionamento.**

IAF: 15

Data della certificazione originale:	<b>29-Novembre-2019</b>
Data di scadenza precedente ciclo di certificazione:	<b>08-Febbraio-2022</b>
Data dell'Audit di certificazione / rinnovo:	<b>11-Giugno-2022</b>
Data d'inizio del presente ciclo di certificazione:	<b>21-Luglio-2022</b>
Soggetto al continuo e soddisfacente mantenimento del sistema di gestione questo certificato è valido fino al:	<b>28-Novembre-2025</b>
Certificato Numero: <b>IT316843</b>	Versione: <b>1</b> Data di emissione: <b>21-Luglio-2022</b>

**GIORGIO LANZAFAME - Local Technical Manager**

Indirizzo dell'organismo di certificazione:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia



SCR N° 008F

Membro di MLA EA per gli schemi di accreditamento SGQ, SGA, PRD, PRS, ISP, GHG, LAB, LAT e PTP, di MLA IAF per gli schemi di accreditamento SGQ, SGA, SSI, FSM, PRD e PRS e di MRA ILAC per gli schemi di accreditamento LAB, MED, LAT e ISP Signatory of EA MLA for the accreditation schemes QMS, EMS, PRD, PRS, INSP, GHG, TL, CL and PTP, of IAF MLA for the accreditation schemes QMS, EMS, ISMS, FSMS, PRD and PRS, and of ILAC MRA for the accreditation schemes TL, ML, CL and INSP

Ulteriori chiarimenti sul campo di applicazione di questo certificato e sui requisiti applicabili della norma del sistema di gestione possono essere ottenuti consultando l'organizzazione.

Per controllare la validità di questo certificato fare doppio click sul QR CODE o scansionarlo con apposita App





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Allegato al Certificato di Conformità N° IT316843

# ITALGRANITI GROUP S.P.A

Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy

Bureau Veritas Italia S.p.A. certifica che il sistema di gestione dell'organizzazione sopra indicata è stato valutato e giudicato conforme ai requisiti della norma di sistema di gestione seguente

## ISO 45001:2018

Siti oggetto di certificazione

Sito	Indirizzo	Scopo
SITO OPERATIVO	Via Per Carpi, 54-42018 SAN MARTINO IN RIO (RE) - Italy	Produzione di impasto atomizzato e di piastrelle in gres porcellanato mediante ciclo completo ad umido attraverso i processi di: preparazione impasto e smalti, atomizzazione, miscelazione, pressatura, smaltatura, cottura, scelta e confezionamento.
SEDE OPERATIVA	Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy	Uffici corporate, showroom, polo logistico.
SITO OPERATIVO	Via Statuto, 21-20121 MILANO (MI) - Italy	Showroom.

Versione: 1

Data di emissione: 21-Luglio-2022

**GIORGIO LANZAFAME - Local Technical Manager**

Indirizzo dell'organismo di certificazione:  
Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia



SCR N° 008F

Membro di MLA EA per gli schemi di accreditamento SGO, SGA, PRD, PRS, ISR, GHG, LAB, LAT e PTP, di MLA IAF per gli schemi di accreditamento SGO, SGA, SSI, FSM, PRD e PRS e di MRA ILAC per gli schemi di accreditamento LAB, MED, LAT e ISP Signatory of EA MLA for the accreditation schemes QMS, EMS, PRD, PRS, INSP, GHG, TL, CL and PTP, of IAF MLA for the accreditation schemes QMS, EMS, ISMS, FSMS, PRD and PRS, and of ILAC MRA for the accreditation schemes TL, ME, CL and INSP

Ulteriori chiarimenti sul campo di applicazione di questo certificato e sui requisiti applicabili della norma del sistema di gestione possono essere ottenuti consultando l'organizzazione.

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# ITALGRANITI GROUP S.P.A.

Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy

Certified sites are listed in the attachment to this certificate.

*Bureau Veritas Italia S.p.A. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below*

## ISO 9001:2015

*Scope of certification*

**Design, production and assistance of porcelain stoneware tiles.**

**IAF: 15**

Original cycle start date:	<b>10-September-2019</b>
Expiry date of previous cycle:	<b>10-September-2022</b>
Certification / Recertification Audit date:	<b>04-May-2022</b>
Certification / Recertification cycle start date:	<b>26-July-2022</b>
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:	<b>10-September-2025</b>
Certificate No.: <b>IT316439</b>	Version: <b>1</b> Issue Date: <b>26-July-2022</b>

**GIORGIO LANZAFAME - Local Technical Manager**



SGQ N° 009A

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC  
Signatory of EA, IAF and ILAC mutual Recognition Agreements

Certification body address:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

To check the validity of this certificate please double click or scan QR CODE





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Attachment to certificate no. IT316439

# ITALGRANITI GROUP S.P.A.

Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy

*Bureau Veritas Italia S.p.A. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below*

## ISO 9001:2015

### Certified Sites

Site	Address	Scope
OPERATIVE UNIT	Via Per Carpi, 54-42018 SAN MARTINO IN RIO (RE) - Italy	Design, production and assistance of porcelain stoneware tiles.
OPERATIVE SITE	Via Radici in Piano, 355 Frazione: Casinalbo-41043 Formigine (MO) - Italy	Administrative and commercial activities, after-sales assistance, showroom, logistic warehouse

Version: 1

Issue Date: 26-July-2022

**GIORGIO LANZAFAME - Local Technical Manager**



SGQ N° 009A

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC  
Signatory of EA, IAF and ILAC mutual Recognition Agreements

Certification body address:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

To check the validity of this certificate please double click or scan QR CODE



# CERTIFICATE OF COMPLIANCE

## Italgraniti Group S.P.A.

**See product list below**



UL 2818 - 2022 Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Products tested in accordance with UL 2821 test method to show compliance to emission limits in UL 2818, Section 7.1.

Furniture and furnishings are tested in accordance with ANSI/BIFMA M7.1-2011 and determined to comply with ANSI/BIFMA X7.1-2011 and ANSI/BIFMA e3-2014e Credit 7.6.1. Panel based workstations are modeled in the open plan environment. Casework systems and individual furniture items are modeled in the private office environment. Seating products are modeled in the seating environment.



*UL evaluated representative samples of the identified product, process or facility to the identified Standard or other requirements in accordance with the agreements and any applicable program service terms in place between UL and the Client (collectively "Agreement"). The Client is authorized to use the UL Mark for the identified Product, process or facility covered by this certificate, in accordance with the terms of the Agreement. This Certificate is valid for the identified dates unless there is non-compliance with the Agreement. This certificate is subject to modification, suspension and withdrawal by UL see SPOT.ul.com, to authenticate the certificate.*

# CERTIFICATE OF COMPLIANCE

## UL GREENGUARD Certified Products Listing

Product Name	Certification	Status	Certificate Number	Certification Period	Restrictions
ROVERE BLANC SQ. 120X20	GREENGUARD Certified	Certified	305535-410	2023.07.18-2024.07.18	
ROVERE AMANDE SQ. 120X20	GREENGUARD Certified	Certified	305536-410	2023.07.18-2024.07.18	
ROVERE NATUREL SQ. 120X20	GREENGUARD Certified	Certified	305537-410	2023.07.18-2024.07.18	
OLMO AMBRE' SQ. 120X20	GREENGUARD Certified	Certified	305538-410	2023.07.18-2024.07.18	
OLMO FUME' SQ. 120X20	GREENGUARD Certified	Certified	305539-410	2023.07.18-2024.07.18	
NOCE BRUN SQ. 120X20	GREENGUARD Certified	Certified	305540-410	2023.07.18-2024.07.18	
PURO SQ. 120X20	GREENGUARD Certified	Certified	305541-410	2023.07.18-2024.07.18	
VANIGLIA SQ. 120X20	GREENGUARD Certified	Certified	305542-410	2023.07.18-2024.07.18	
NEUTRO SQ. 120X20	GREENGUARD Certified	Certified	305543-410	2023.07.18-2024.07.18	
PLUMBEO SQ. 120X20	GREENGUARD Certified	Certified	305544-410	2023.07.18-2024.07.18	
MANDORLA SQ. 120X20	GREENGUARD Certified	Certified	305545-410	2023.07.18-2024.07.18	
TERRA SQ. 120X20	GREENGUARD Certified	Certified	305546-410	2023.07.18-2024.07.18	
CALACATTA PINK SQ. 120X60	GREENGUARD Certified	Certified	305548-410	2023.07.18-2024.07.18	
CALACATTA PINK SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305550-410	2023.07.18-2024.07.18	
CALACATTA GREEN SQ. 120X60	GREENGUARD Certified	Certified	305551-410	2023.07.18-2024.07.18	
CALACATTA GREEN SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305552-410	2023.07.18-2024.07.18	
CALACATTA BLACK SQ. 120X60	GREENGUARD Certified	Certified	305554-410	2023.07.18-2024.07.18	
CALACATTA BLACK SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305555-410	2023.07.18-2024.07.18	
INVISIBLE GREY SQ. 120X60	GREENGUARD Certified	Certified	305557-410	2023.07.18-2024.07.18	



UL evaluated representative samples of the identified product, process or facility to the identified Standard or other requirements in accordance with the agreements and any applicable program service terms in place between UL and the Client (collectively "Agreement"). The Client is authorized to use the UL Mark for the identified Product, process or facility covered by this certificate, in accordance with the terms of the Agreement. This Certificate is valid for the identified dates unless there is non-compliance with the Agreement. This certificate is subject to modification, suspension and withdrawal by UL see SPOT.ul.com, to authenticate the certificate.

# CERTIFICATE OF COMPLIANCE

INVISIBLE GREY SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305559-410	2023.07.18-2024.07.18	
AMAZZONITE SQ. 120X60	GREENGUARD Certified	Certified	305560-410	2023.07.18-2024.07.18	
AMAZZONITE SQ.LAP. 120X60	GREENGUARD Certified	Certified	305561-410	2023.07.18-2024.07.18	
BLU SAINT LAURENT SQ. 120X60	GREENGUARD Certified	Certified	305562-410	2023.07.18-2024.07.18	
BLU SAINT LAURENT SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305563-410	2023.07.18-2024.07.18	
CHARM GREEN SQ. 120X60	GREENGUARD Certified	Certified	305571-410	2023.07.18-2024.07.18	
CHARM GREEN SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305572-410	2023.07.18-2024.07.18	
CHARM BLU SQ. 120X60	GREENGUARD Certified	Certified	305573-410	2023.07.18-2024.07.18	
CHARM BLU SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305574-410	2023.07.18-2024.07.18	
CHARM PINK SQ. 120X60	GREENGUARD Certified	Certified	305575-410	2023.07.18-2024.07.18	
CHARM PINK SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305576-410	2023.07.18-2024.07.18	
CHARM BLACK SQ. 120X60	GREENGUARD Certified	Certified	305577-410	2023.07.18-2024.07.18	
CHARM BLACK SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305578-410	2023.07.18-2024.07.18	
CEPPO ARTISTICO SQ. 120X60	GREENGUARD Certified	Certified	305579-410	2023.07.18-2024.07.18	
CEPPO ARTISTICO SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305580-410	2023.07.18-2024.07.18	
ESSENCE NATURAL SQ. 120X20	GREENGUARD Certified	Certified	305581-410	2023.07.18-2024.07.18	
ESSENCE GOLD SQ. 120X20	GREENGUARD Certified	Certified	305582-410	2023.07.18-2024.07.18	
ESSENCE WARM SQ. 120X20	GREENGUARD Certified	Certified	305583-410	2023.07.18-2024.07.18	
ESSENCE TAUPE SQ. 120X20	GREENGUARD Certified	Certified	305584-410	2023.07.18-2024.07.18	
ICONE BLANC SQ. 120X60	GREENGUARD Certified	Certified	305585-410	2023.07.18-2024.07.18	
ICONE BEIGE SQ. 120X60	GREENGUARD Certified	Certified	305586-410	2023.07.18-2024.07.18	
ICONE GRIS SQ. 120X60	GREENGUARD Certified	Certified	305587-410	2023.07.18-2024.07.18	
ICONE NOIR SQ. 120X60	GREENGUARD Certified	Certified	305588-410	2023.07.18-2024.07.18	
ICONE AMANDE SQ. 120X60	GREENGUARD Certified	Certified	305589-410	2023.07.18-2024.07.18	
STATUARIETTO FADE SQ. 120X60	GREENGUARD Certified	Certified	305590-410	2023.07.18-2024.07.18	
STATUARIETTO SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305591-410	2023.07.18-2024.07.18	



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# CERTIFICATE OF COMPLIANCE

PIETRA GREY FADE SQ. 120X60	GREENGUARD Certified	Certified	305592-410	2023.07.18-2024.07.18	
PIETRA GREY SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305593-410	2023.07.18-2024.07.18	
HELSINKI WHITE FADE SQ. 120X60	GREENGUARD Certified	Certified	305594-410	2023.07.18-2024.07.18	
HELSINKI WHITE SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305595-410	2023.07.18-2024.07.18	
CALACATTA MONT BLANC FADE SQ. 120X60	GREENGUARD Certified	Certified	305596-410	2023.07.18-2024.07.18	
CALACATTA MONT BLANC SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305597-410	2023.07.18-2024.07.18	
PANDA WHITE FADE SQ. 120X60	GREENGUARD Certified	Certified	305598-410	2023.07.18-2024.07.18	
PANDA WHITE SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305599-410	2023.07.18-2024.07.18	
STATUARIO LUX SQ. 120X60	GREENGUARD Certified	Certified	305600-410	2023.07.18-2024.07.18	
STATUARIO LUX SQ.LAP. 120X60	GREENGUARD Certified	Certified	305601-410	2023.07.18-2024.07.18	
CALACATTA GOLD SQ. 120X60	GREENGUARD Certified	Certified	305602-410	2023.07.18-2024.07.18	
CALACATTA GOLD SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305603-410	2023.07.18-2024.07.18	
OROBICO GREY SQ. 120X60	GREENGUARD Certified	Certified	305604-410	2023.07.18-2024.07.18	
OROBICO GREY SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305605-410	2023.07.18-2024.07.18	
SAHARA NOIR SQ. 120X60	GREENGUARD Certified	Certified	305606-410	2023.07.18-2024.07.18	
SAHARA NOIR SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305607-410	2023.07.18-2024.07.18	
STEEL SQ. 120X60	GREENGUARD Certified	Certified	305621-410	2023.07.18-2024.07.18	
CORTEN SQ. 120X60	GREENGUARD Certified	Certified	305622-410	2023.07.18-2024.07.18	
IRON SQ. 120X60	GREENGUARD Certified	Certified	305623-410	2023.07.18-2024.07.18	
ZINC SQ. 120X60	GREENGUARD Certified	Certified	305624-410	2023.07.18-2024.07.18	
PLATE SQ. 120X60	GREENGUARD Certified	Certified	305625-410	2023.07.18-2024.07.18	
ISLANDA SQ. 120X60	GREENGUARD Certified	Certified	305626-410	2023.07.18-2024.07.18	
DANIMARCA SQ. 120X60	GREENGUARD Certified	Certified	305627-410	2023.07.18-2024.07.18	
NORVEGIA SQ. 120X60	GREENGUARD Certified	Certified	305628-410	2023.07.18-2024.07.18	
SVEZIA SQ. 120X60	GREENGUARD Certified	Certified	305629-410	2023.07.18-2024.07.18	
FINLANDIA SQ. 120X60	GREENGUARD Certified	Certified	305630-410	2023.07.18-2024.07.18	



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# CERTIFICATE OF COMPLIANCE

NUANCES BIANCO SQ.120X60	GREENGUARD Certified	Certified	305631-410	2023.07.18-2024.07.18	
NUANCES GRIGIO SQ.120X60	GREENGUARD Certified	Certified	305632-410	2023.07.18-2024.07.18	
NUANCES ANTRACITE SQ. 120X60	GREENGUARD Certified	Certified	305633-410	2023.07.18-2024.07.18	
NUANCES NERO SQ. 120X60	GREENGUARD Certified	Certified	305634-410	2023.07.18-2024.07.18	
NUANCES AVORIO SQ.120X60	GREENGUARD Certified	Certified	305636-410	2023.07.18-2024.07.18	
NUANCES TORTORA SQ.120X60	GREENGUARD Certified	Certified	305637-410	2023.07.18-2024.07.18	
NUANCES CIPRIA SQ.120X60	GREENGUARD Certified	Certified	305638-410	2023.07.18-2024.07.18	
NUANCES MARRONE SQ. 120X60	GREENGUARD Certified	Certified	305640-410	2023.07.18-2024.07.18	
NUANCES SALVIA SQ.120X60	GREENGUARD Certified	Certified	305642-410	2023.07.18-2024.07.18	
NUANCES CIELO SQ.120X60	GREENGUARD Certified	Certified	305643-410	2023.07.18-2024.07.18	
NUANCES FIAMMA SQ. 120X60	GREENGUARD Certified	Certified	305644-410	2023.07.18-2024.07.18	
ORIGINS WHITE SQ. 120X60	GREENGUARD Certified	Certified	305645-410	2023.07.18-2024.07.18	
ORIGINS BEIGE SQ. 120X60	GREENGUARD Certified	Certified	305646-410	2023.07.18-2024.07.18	
ORIGINS GREIGE SQ. 120X60	GREENGUARD Certified	Certified	305647-410	2023.07.18-2024.07.18	
ORIGINS TAUPE SQ. 120X60	GREENGUARD Certified	Certified	305648-410	2023.07.18-2024.07.18	
ORIGINS SILVER SQ. 120X60	GREENGUARD Certified	Certified	305649-410	2023.07.18-2024.07.18	
ORIGINS DARK SQ. 120X60	GREENGUARD Certified	Certified	305650-410	2023.07.18-2024.07.18	
MOON SQ. 120X60	GREENGUARD Certified	Certified	305651-410	2023.07.18-2024.07.18	
SAND SQ. 120X60	GREENGUARD Certified	Certified	305652-410	2023.07.18-2024.07.18	
GREIGE SQ. 120X60	GREENGUARD Certified	Certified	305653-410	2023.07.18-2024.07.18	
ASH SQ. 120X60	GREENGUARD Certified	Certified	305654-410	2023.07.18-2024.07.18	
DARK SQ. 120X60	GREENGUARD Certified	Certified	305655-410	2023.07.18-2024.07.18	
TAUPE SQ. 120X60	GREENGUARD Certified	Certified	305656-410	2023.07.18-2024.07.18	
CEPPO DI GRE' GREY SQ. 120X60	GREENGUARD Certified	Certified	305657-410	2023.07.18-2024.07.18	
CEPPO DI GRE' DARK SQ. 120X60	GREENGUARD Certified	Certified	305658-410	2023.07.18-2024.07.18	
SILVER GRAIN WHITE SQ. 120X60	GREENGUARD Certified	Certified	305659-410	2023.07.18-2024.07.18	



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# CERTIFICATE OF COMPLIANCE

SILVER GRAIN BEIGE SQ. 120X60	GREENGUARD Certified	Certified	305660-410	2023.07.18-2024.07.18	
SILVER GRAIN GREY SQ. 120X60	GREENGUARD Certified	Certified	305661-410	2023.07.18-2024.07.18	
SILVER GRAIN TAUPE SQ. 120X60	GREENGUARD Certified	Certified	305662-410	2023.07.18-2024.07.18	
SILVER GRAIN DARK SQ. 120X60	GREENGUARD Certified	Certified	305663-410	2023.07.18-2024.07.18	
BIANCO SQ. 120X60	GREENGUARD Certified	Certified	305664-410	2023.07.18-2024.07.18	
AVORIO SQ. 120X60	GREENGUARD Certified	Certified	305665-410	2023.07.18-2024.07.18	
PERLA SQ. 120X60	GREENGUARD Certified	Certified	305666-410	2023.07.18-2024.07.18	
LINO SQ. 120X60	GREENGUARD Certified	Certified	305667-410	2023.07.18-2024.07.18	
POLVERE SQ. 120X60	GREENGUARD Certified	Certified	305668-410	2023.07.18-2024.07.18	
TABACCO SQ. 120X60	GREENGUARD Certified	Certified	305669-410	2023.07.18-2024.07.18	
NERO SQ. 120X60	GREENGUARD Certified	Certified	305670-410	2023.07.18-2024.07.18	
DOWNTOWN SQ. 60X60	GREENGUARD Certified	Certified	305671-410	2023.07.18-2024.07.18	
AVENUE SQ. 60X60	GREENGUARD Certified	Certified	305672-410	2023.07.18-2024.07.18	
STREET SQ. 60X60	GREENGUARD Certified	Certified	305673-410	2023.07.18-2024.07.18	
WAY SQ. 60X60	GREENGUARD Certified	Certified	305674-410	2023.07.18-2024.07.18	
DISTRICT SQ. 60X60	GREENGUARD Certified	Certified	305675-410	2023.07.18-2024.07.18	
CROSSING SQ. 60X60	GREENGUARD Certified	Certified	305676-410	2023.07.18-2024.07.18	
QUARZITE GREY 30X60	GREENGUARD Certified	Certified	305677-410	2023.07.18-2024.07.18	
ARDESIA BLACK 30X60	GREENGUARD Certified	Certified	305678-410	2023.07.18-2024.07.18	
TERRE BIANCO SQ. 120X60	GREENGUARD Certified	Certified	305679-410	2023.07.18-2024.07.18	
TERRE AVORIO SQ. 120X60	GREENGUARD Certified	Certified	305680-410	2023.07.18-2024.07.18	
TERRE CANAPA SQ. 120X60	GREENGUARD Certified	Certified	305681-410	2023.07.18-2024.07.18	
TERRE SENAPE SQ. 120X60	GREENGUARD Certified	Certified	305682-410	2023.07.18-2024.07.18	
TERRE COTTO SQ. 120X60	GREENGUARD Certified	Certified	305683-410	2023.07.18-2024.07.18	
TERRE CENERE SQ. 120X60	GREENGUARD Certified	Certified	305684-410	2023.07.18-2024.07.18	
UP_WHITE SQ. 30X60	GREENGUARD Certified	Certified	305685-410	2023.07.18-2024.07.18	



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# CERTIFICATE OF COMPLIANCE

UP_BEIGE SQ. 30X60	GREENGUARD Certified	Certified	305686-410	2023.07.18-2024.07.18	
UP_CLOUD SQ. 30X60	GREENGUARD Certified	Certified	305687-410	2023.07.18-2024.07.18	
UP_LEAD SQ. 30X60	GREENGUARD Certified	Certified	305688-410	2023.07.18-2024.07.18	
DECORA FLORA DECORO 120X60	GREENGUARD Certified	Certified	305690-410	2023.07.18-2024.07.18	
DECORA MISTERO DECORO 120X60	GREENGUARD Certified	Certified	305691-410	2023.07.18-2024.07.18	
DECORA OASI DECORO 120X60	GREENGUARD Certified	Certified	305693-410	2023.07.18-2024.07.18	
DECORA ORIENTE DECORO 120X60	GREENGUARD Certified	Certified	305694-410	2023.07.18-2024.07.18	
DECORA POP A DECORO 120X60	GREENGUARD Certified	Certified	305695-410	2023.07.18-2024.07.18	
DECORA POP B DECORO 120X60	GREENGUARD Certified	Certified	305696-410	2023.07.18-2024.07.18	
DECORA POP C DECORO 120X60	GREENGUARD Certified	Certified	305697-410	2023.07.18-2024.07.18	
DECORA PRIMAVERA DECORO 120X60	GREENGUARD Certified	Certified	305698-410	2023.07.18-2024.07.18	
DECORA PRIMAVERA DECORO 120X60	GREENGUARD Certified	Certified	305699-410	2023.07.18-2024.07.18	
DECORA BOSCO SQ. 120X60	GREENGUARD Certified	Certified	305700-410	2023.07.18-2024.07.18	
ICE SQ. 120X60	GREENGUARD Certified	Certified	305701-410	2023.07.18-2024.07.18	
COAST SQ. 120X60	GREENGUARD Certified	Certified	305702-410	2023.07.18-2024.07.18	
SEA SQ. 120X60	GREENGUARD Certified	Certified	305703-410	2023.07.18-2024.07.18	
RIVER SQ. 120X60	GREENGUARD Certified	Certified	305704-410	2023.07.18-2024.07.18	
CREEK SQ. 120X60	GREENGUARD Certified	Certified	305705-410	2023.07.18-2024.07.18	
LINFA CHIARO SQ. 120X20	GREENGUARD Certified	Certified	305706-410	2023.07.18-2024.07.18	
LINFA MIELE SQ. 120X20	GREENGUARD Certified	Certified	305707-410	2023.07.18-2024.07.18	
LINFA CALDO SQ. 120X20	GREENGUARD Certified	Certified	305708-410	2023.07.18-2024.07.18	
LINFA TORTORA SQ. 120X20	GREENGUARD Certified	Certified	305709-410	2023.07.18-2024.07.18	
CALACATTA ORO SQ. 120X60	GREENGUARD Certified	Certified	305710-410	2023.07.18-2024.07.18	
CALACATTA ORO SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305711-410	2023.07.18-2024.07.18	
CALACATTA CERVAIOLE SQ. 120X60	GREENGUARD Certified	Certified	305712-410	2023.07.18-2024.07.18	
CALACATTA CERVAIOLE SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305713-410	2023.07.18-2024.07.18	



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# CERTIFICATE OF COMPLIANCE

CALACATTA MACCHIA VECCHIA SQ. 120X60	GREENGUARD Certified	Certified	305714-410	2023.07.18-2024.07.18	
CAL.MACCHIA VECCHIA SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305715-410	2023.07.18-2024.07.18	
NERO MARQUINIA SQ. 120X60	GREENGUARD Certified	Certified	305716-410	2023.07.18-2024.07.18	
NERO MARQUINIA SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305717-410	2023.07.18-2024.07.18	
BIANCO LASA SQ. 120X60	GREENGUARD Certified	Certified	305718-410	2023.07.18-2024.07.18	
BIANCO LASA SQ.LAPP. 120X60	GREENGUARD Certified	Certified	305719-410	2023.07.18-2024.07.18	
LIMESTONE WHITE SQ. 120X60	GREENGUARD Certified	Certified	305720-410	2023.07.18-2024.07.18	
LIMESTONE BEIGE SQ. 120X60	GREENGUARD Certified	Certified	305721-410	2023.07.18-2024.07.18	
LIMESTONE GREY SQ. 120X60	GREENGUARD Certified	Certified	305722-410	2023.07.18-2024.07.18	
LIMESTONE TAUPE SQ. 120X60	GREENGUARD Certified	Certified	305723-410	2023.07.18-2024.07.18	
LIMESTONE DARK SQ. 120X60	GREENGUARD Certified	Certified	305724-410	2023.07.18-2024.07.18	
BRILL SQ. 120X60	GREENGUARD Certified	Certified	305725-410	2023.07.18-2024.07.18	
COOL SQ. 120X60	GREENGUARD Certified	Certified	305726-410	2023.07.18-2024.07.18	
APPEAL SQ. 120X60	GREENGUARD Certified	Certified	305727-410	2023.07.18-2024.07.18	
CHARM SQ. 120X60	GREENGUARD Certified	Certified	305728-410	2023.07.18-2024.07.18	
MAGIC SQ. 120X60	GREENGUARD Certified	Certified	305729-410	2023.07.18-2024.07.18	
MYSTIQUE SQ. 120X60	GREENGUARD Certified	Certified	305730-410	2023.07.18-2024.07.18	
WHITE NAT.12MM STUOIATO 160X320 / WHITE NAT.20MM 160X320	GREENGUARD Certified	Certified	305731-410	2023.07.18-2024.07.18	
WHITE LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305732-410	2023.07.18-2024.07.18	
BLACK NAT.12MM STUOIATO 160X320 / BLACK NAT.20MM 160X320	GREENGUARD Certified	Certified	305733-410	2023.07.18-2024.07.18	
BLACK LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305734-410	2023.07.18-2024.07.18	
AVORIO 12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305795-410	2023.07.18-2024.07.18	
GRIGIO 12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305796-410	2023.07.18-2024.07.18	
ANTRACITE 12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305797-410	2023.07.18-2024.07.18	
IRON 12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305798-410	2023.07.18-2024.07.18	



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# CERTIFICATE OF COMPLIANCE

CALACAT.GREEN NAT.12MM STUOIATO 160X32	GREENGUARD Certified	Certified	305896-410	2023.07.18-2024.07.18	
CALACAT.GREEN LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305897-410	2023.07.18-2024.07.18	
CALACAT.PINK NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305898-410	2023.07.18-2024.07.18	
CALACAT.PINK LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305900-410	2023.07.18-2024.07.18	
CAL.MACCHIA VEC.NAT.12MM STUOIAT.160X320	GREENGUARD Certified	Certified	305901-410	2023.07.18-2024.07.18	
CAL.MACCHIA VEC.LAP.12MM STUOIAT.160X320	GREENGUARD Certified	Certified	305902-410	2023.07.18-2024.07.18	
CAL.CERVAIOLE NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305903-410	2023.07.18-2024.07.18	
CAL.CERVAIOLE LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305904-410	2023.07.18-2024.07.18	
CAL.CERVAIOLE LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305905-410	2023.07.18-2024.07.18	
STATUAR.LUX 1 NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305906-410	2023.07.18-2024.07.18	
STATUAR.LUX 1 LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305907-410	2023.07.18-2024.07.18	
CALACAT.GOLD 1 NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305908-410	2023.07.18-2024.07.18	
CALACAT.GOLD 1 LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305909-410	2023.07.18-2024.07.18	
CAL.MONT BLANC NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305910-410	2023.07.18-2024.07.18	
CAL.MONT BLANC LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305911-410	2023.07.18-2024.07.18	
STATUARIETTO NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305912-410	2023.07.18-2024.07.18	
HELSINKI WHITE LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305913-410	2023.07.18-2024.07.18	
PIETRA GREY NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305914-410	2023.07.18-2024.07.18	
PIETRA GREY LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305915-410	2023.07.18-2024.07.18	
SAHARA NOIR NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305916-410	2023.07.18-2024.07.18	
NERO MARQUINIA NAT.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305917-410	2023.07.18-2024.07.18	
NERO MARQUINIA LAP.12MM STUOIATO 160X320	GREENGUARD Certified	Certified	305918-410	2023.07.18-2024.07.18	

Please refer to current certificates on <https://spot.ul.com> for complete compliance information.



**CLASSIFICATION:** 09 30 13.00 Finished: Ceramic Tiling

**PRODUCT DESCRIPTION:** Italgraniti tiles are dry-pressed ceramic with water absorption lower 0,5%, manufactured using high temperature kiln firing process. They are a mixture of predominantly clay, sand, other natural occurring minerals that have been mixed with water. As floor and wall coverings they are realized in wide range of colors, sizes and shapes. Ceramics tiles are resistant to fire and helps to make healthy indoor environment as they do not release volatile organic substances or other pollutants. Information on ITALGRANITIGROUP tiles product can be found on the following website: <https://www.italgranitigroup.com>

### Section 1: Summary

### Basic Method / Product Threshold

#### CONTENT INVENTORY

##### Inventory Reporting Format

- Nested Materials Method  
 Basic Method

##### Threshold Disclosed Per

- Material  
 Product

##### Threshold level

- 100 ppm  
 1,000 ppm  
 Per GHS SDS  
 Per OSHA MSDS  
 Other

##### Residuals/Impurities

- Considered  
 Partially Considered  
 Not Considered

Explanation(s) provided for Residuals/Impurities?

- Yes  No

*All Substances Above the Threshold Indicated Are:*

**Characterized**  Yes Ex/SC  Yes  No

*% weight and role provided for all substances.*

**Screened**  Yes Ex/SC  Yes  No

*All substances screened using Priority Hazard Lists with results disclosed.*

**Identified**  Yes Ex/SC  Yes  No

*All substances disclosed by Name (Specific or Generic) and Identifier.*

#### CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

**MATERIAL** | **SUBSTANCE** | *RESIDUAL OR IMPURITY*

**GREENSCREEN SCORE** | HAZARD TYPE

**ITALGRANITI PORCELAIN TILES BY ITALGRANITIGROUP S.P.A.** [ **KAOLIN CLAY** **LT-UNK** | CAN **TALC** **BM-1** | CAN **FELDSPAR** **LT-UNK** | RES **QUARTZ** **LT-1** | CAN **SILICA, VITREOUS (PRIMARY CASRN IS 60676-86-0)** **LT-1** | CAN ]

Number of Greenscreen BM-4/BM3 contents ... 0

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-1

Nanomaterial ... No

#### INVENTORY AND SCREENING NOTES:

#### VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

#### CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: VOC Emissions

Multi-attribute: Environmental Product Declaration (EPD) by IBU (Arbeitsgemeinschaft Umweltverträgliches Bauprodukt E.V.(AUB)

Recycled content: BV Recycled Content Certification

Other: ISO 14001:2015 Environmental management systems

#### CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients, Option 1

Third Party Verified?

Yes

PREPARER: Self-Prepared

VERIFIER:

SCREENING DATE: 2019-04-19

PUBLISHED DATE: 2019-05-08





## Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: [www.hpd-collaborative.org/hpd-2-1-standard](http://www.hpd-collaborative.org/hpd-2-1-standard)

### ITALGRANITI PORCELAIN TILES BY ITALGRANITIGROUP S.P.A.

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: The firing process transform the raw materials mixture into a chemical and phical structure where residues and impurities are not detectable. tiles do not release hazardous materials before and after installation and are not considered hazardous waste should disposal be necessary. Respiratory hand, and eyes protections must be needed to prevent exposure to airborne particulates if dust is produced by dry cutting tiles

OTHER PRODUCT NOTES:

#### KAOLIN CLAY

ID: 1332-58-7

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2019-04-19

#: 20.00 - 50.00

GS: LT-UNK

RC: None

NANO: No

ROLE: Pre firing phase

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

CANCER

MAK

Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES:

#### TALC

ID: 14807-96-6

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2019-04-19

#: 15.00 - 35.00

GS: BM-1

RC: None

NANO: No

ROLE: Pre fired Phase

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

CANCER

IARC

Group 2b - Possibly carcinogenic to humans

CANCER

MAK

Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SUBSTANCE NOTES:

#### FELDSPAR

ID: 68476-25-5

%: **10.00 - 30.00**GS: **LT-UNK**RC: **None**NANO: **No**ROLE: **Pre firing phase**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

**RESPIRATORY****AOEC - Asthmagens****Asthmagen (Rs) - sensitizer-induced**

SUBSTANCE NOTES:

**QUARTZ**ID: **14808-60-7**%: **0.00 - 10.00**GS: **LT-1**RC: **None**NANO: **No**ROLE: **Pre fired Phase**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

**CANCER****IARC****Group 1 - Agent is Carcinogenic to humans****CANCER****US CDC - Occupational Carcinogens****Occupational Carcinogen****CANCER****CA EPA - Prop 65****Carcinogen - specific to chemical form or exposure route****CANCER****IARC****Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources****CANCER****US NIH - Report on Carcinogens****Known to be Human Carcinogen (respirable size - occupational setting)****CANCER****MAK****Carcinogen Group 1 - Substances that cause cancer in man****CANCER****New Zealand - GHS****6.7A - Known or presumed human carcinogens****CANCER****Japan - GHS****Carcinogenicity - Category 1A****CANCER****Australia - GHS****H350i - May cause cancer by inhalation**

SUBSTANCE NOTES:

**SILICA, VITREOUS (PRIMARY CASRN IS 60676-86-0)**ID: **1417404-62-6**%: **0.00 - 1.00**GS: **LT-1**RC: **None**NANO: **No**ROLE: **final product**

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

**CANCER****US CDC - Occupational Carcinogens****Occupational Carcinogen**

SUBSTANCE NOTES:





## Section 3: Certifications and Compliance

*This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.*

### VOC EMISSIONS

#### VOC Emissions

CERTIFYING PARTY: **Second Party**      ISSUE DATE: **2014-11-05**      EXPIRY DATE:      CERTIFIER OR LAB: **Centro Ceramico di Bologna**  
APPLICABLE FACILITIES: **Italgranitigroup**  
CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES: **Emission of Volatile Organic Compounds VOC Emission**

### MULTI-ATTRIBUTE

#### Environmental Product Declaration (EPD) by IBU (Arbeitsgemeinschaft Umweltverträgliches Bauprodukt E.V.(AUB))

CERTIFYING PARTY: **Third Party**      ISSUE DATE: **2016-09-20**      EXPIRY DATE: **2021-09-20**      CERTIFIER OR LAB: **IBU**  
APPLICABLE FACILITIES: **Italgraniti Group**  
CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES: **Environmental Product Declaration (EPD) as for ISO 14025**

### RECYCLED CONTENT

#### BV Recycled Content Certification

CERTIFYING PARTY: **Third Party**      ISSUE DATE: **2016-09-06**      EXPIRY DATE: **2019-09-05**      CERTIFIER OR LAB: **Bureau Veritas**  
APPLICABLE FACILITIES: **Italgranitigroup**  
CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES: **Presence of pre-consumer recycled content by weight**

### OTHER

#### ISO 14001:2015 Environmental management systems

CERTIFYING PARTY: **Third Party**      ISSUE DATE: **2010-02-08**      EXPIRY DATE: **2022-02-08**      CERTIFIER OR LAB: **DNV**  
APPLICABLE FACILITIES: **Italgranitigroup**  
CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES: **Enviromental Management System**

## Section 4: Accessories

*This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.*

### VARIOUS INSTALLATION PRODUCTS

HPD URL: **NO HPD available**

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

see Italgranitigroup website: <https://www.italgranitigroup.com> for Installation and maintenance instruction

## Section 5: General Notes

All technical documents can be found at following website: <https://www.italgranitigroup.com>



## MANUFACTURER INFORMATION

MANUFACTURER: **Italgraniti Group**  
 ADDRESS: **Via Radici in Piano 355**  
**Casinalbo MODENA 41043, Italia**  
 WEBSITE: <https://www.italgranitigroup.com>

CONTACT NAME: **Bergamini Armando**  
 TITLE: **Mr**  
 PHONE: **+39059888498**  
 EMAIL: **a.bergamini@italgranitigroup.com**

## KEY

**OSHA MSDS** Occupational Safety and Health Administration Material Safety Data Sheet  
**GHS SDS** Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

### Hazard Types

<b>AQU</b> Aquatic toxicity	<b>GLO</b> Global warming	<b>PHY</b> Physical Hazard (reactive)
<b>CAN</b> Cancer	<b>MAM</b> Mammalian/systemic/organ toxicity	<b>REP</b> Reproductive toxicity
<b>DEV</b> Developmental toxicity	<b>MUL</b> Multiple hazards	<b>RES</b> Respiratory sensitization
<b>END</b> Endocrine activity	<b>NEU</b> Neurotoxicity	<b>SKI</b> Skin sensitization/irritation/corrosivity
<b>EYE</b> Eye irritation/corrosivity	<b>OZO</b> Ozone depletion	<b>LAN</b> Land Toxicity
<b>GEN</b> Gene mutation	<b>PBT</b> Persistent Bioaccumulative Toxic	<b>NF</b> Not found on Priority Hazard Lists

### GreenScreen (GS)

<b>BM-4</b> Benchmark 4 (prefer-safer chemical)	<b>LT-P1</b> List Translator Possible Benchmark 1
<b>BM-3</b> Benchmark 3 (use but still opportunity for improvement)	<b>LT-1</b> List Translator Likely Benchmark 1
<b>BM-2</b> Benchmark 2 (use but search for safer substitutes)	<b>LT-UNK</b> List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
<b>BM-1</b> Benchmark 1 (avoid - chemical of high concern)	<b>NoGS</b> Unknown (no data on List Translator Lists)
<b>BM-U</b> Benchmark Unspecified (insufficient data to benchmark)	

### Recycled Types

**PreC** Preconsumer (Post-Industrial)  
**PostC** Postconsumer  
**Both** Both Preconsumer and Postconsumer  
**Unk** Inclusion of recycled content is unknown  
**None** Does not include recycled content

### Other Terms

#### Inventory Methods:

**Nested Method / Material Threshold** Substances listed within each material per threshold indicated per material  
**Nested Method / Product Threshold** Substances listed within each material per threshold indicated per product  
**Basic Method / Product Threshold** Substances listed individually per threshold indicated per product

**Nano** Composed of nano scale particles or nanotechnology  
**Third Party Verified** Verification by independent certifier approved by HPDC  
**Preparer** Third party preparer, if not self-prepared by manufacturer  
**Applicable facilities** Manufacturing sites to which testing applies

*The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:*

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

*Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.*

*The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.*

*The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.*

Safety Data Sheet dated 31/03/2023, revision 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification: PORCELAIN STONEWARE SLABS AND TILES  
Trade name: PORCELAIN STONEWARE SLABS AND TILES  
Commercial code: PORCELAIN STONEWARE SLABS AND TILES

1.2. Relevant identified uses of the substance or mixture and uses advised against: coverings for buildings

1.3. Details of the supplier of the safety data sheet

Supplier: MIRAGE GRANITO CERAMICO SPA  
VIA GIARDINI NORD 225  
41026 PAVULLO NEL FRIGNANO (MO)  
REFERENCE NUMBER: 0536-29627 (from 8 am - 12 pm and 2-6 pm)  
FAX 0536-29766  
MAIL: info@mirage.it

1.4. Emergency telephone number

Poisons Information Centre Milan 02 66101029  
Poisons Information Centre Bologna 051 333333  
Poisons Information Centre Turin 011 6637637  
Poisons Information Centre Pavia 0382 24444  
Poisons Information Centre Padua 049 8275078  
Poisons Information Centre Genoa 010 5636245  
Poisons Information Centre Florence 055 4277238  
Poisons Information Centre Rome 06 3054343 – 06 49970698  
Poisons Information Centre Naples 081 7472870

SECTION 2: Hazards identification

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.

Crystalline silica contents < 25%

2.1. Classification of the substance or mixture

Criteria of Directives 67/548/EC, 99/45/EC and amendments:

Properties/Symbols:

Not applicable

Criteria of Regulation EC 1272/2008 (CLP):

Hazard, STOT RE 1, Causes damage to organs through prolonged or repeated exposure.



Harmful physical-chemical effects on human health and the environment:

No other danger

2.2. Label elements

Symbols:

The whole, finished product does not require labelling as hazardous, in compliance with Regulation EC 1907/2006, Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No 1272/2008 (CLP):

Danger

Hazard statements:

H372 Causes damage to organs through prolonged or repeated exposure (Inhalation).

Precautionary statements:

P260 Do not breathe dust.

P264 Wash thoroughly after use.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection.

P284 Wear respiratory protection (P3).

P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents/container in conformity with the regulations in force.



Safety Data Sheet  
MIRAGE PORCELAIN STONEWARE SLABS

Special provisions:

-

Contains

QUARTZ

Special provisions according to Annex XVII of the REACH regulation and amendments:

None

2.3. Other hazards

vPvB substances: None - PBT substances: None

Other hazards:

No other danger

---

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components pursuant to Directive EEC 67/548 and the CLP regulation and relative classification:

≥ 10% - < 25% QUARTZ

CAS: 14808-60-7, EC: 238-878-4

substance with a community workplace exposure limit (see section 8)



3.9/1 STOT RE 1 H372

---

SECTION 4: First aid measures

4.1. Description of first aid measures

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.

In case of skin contact:

Wash with plenty of water and soap.

In case of contact with eyes:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed:

Do not induce vomiting. SEEK MEDICAL ADVICE IMMEDIATELY.

If inhaled:

Remove casualty to fresh air and keep at rest.

4.2. Most important symptoms and effects, both acute and delayed

Depending on the type of processing, may disperse breathable crystalline silica in the air. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The main symptoms of silicosis are coughing and dyspnea. Occupational exposure to breathable crystalline silica dust must be monitored and controlled.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:

None

---

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Powder.

Foam

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

The material has no risks.

5.3. Advice for fire-fighters

Use appropriate respiratory equipment.

Collect contaminated water used to extinguish the fire separately. Do not discharge into the sewers.

If feasible in safety terms, move any undamaged material outside the immediate danger area.

SECTION 6: Accidental release measures

The material has no risks of accidental dispersion in the environment

- 6.1. Personal precautions, protective equipment and emergency procedures  
Consult the protective measures described in points 7 and 8.
  - 6.2. Environmental precautions  
Prevent the release of the material into surface waters or sewers.  
Suitable collection material: manual or mechanical handling
  - 6.3. 6.3 Methods and material for containment and cleaning up  
Remove the substance and any debris.
  - 6.4. Reference to other sections  
See also paragraphs 8 and 13
- 

SECTION 7: Handling and storage

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.

- 7.1. Precautions for safe handling  
Avoid contact with skin and eyes, avoid dust inhalation.  
Do not use empty containers before they have been cleaned if they contain debris or residues or dusts generated by the material.  
Before transfer operations, ensure that there is no broken or crushed material.  
Work clothing or clothing contaminated with crushed material or dust must be replaced before entering dining areas and after leaving the working areas.  
Do not eat or drink during processing or when handling crushed material and dusts.  
Do not wear contact lenses or eat or drink during processing or when handling crushed material and dusts.  
Refer also to paragraph 8 for recommended protective equipment.
  - 7.2. Conditions for safe storage, including any incompatibilities  
With reference to material subject to breakage, crushing or in any case when generating dusts, keep away from food, drink and animal feeding stuffs.  
Store carefully to avoid material breakages.  
Incompatible materials:  
None in particular. See also paragraph 10 below.  
Indication for storage rooms:  
Suitably ventilated storage rooms. Prevent the formation of dusts originating from the material.
  - 7.3. Specific end uses  
No particular use
- 

SECTION 8: Exposure controls/personal protection

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis. The hazard assessment refers to this specific case.<sup>3</sup>

- 8.1. Control parameters  
QUARTZ - CAS: 14808-60-7

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MIRAGE PORCELAIN STONEWARE SLABS

Occupational Exposure Limits in mg/m<sup>3</sup> over 8 hours (TWA)

Country	Dust (generic)	Quartz
Austria / I	6	0.15
Belgium / II	3	0.1
Bulgaria / II	4	0.07
Cyprus / IV	/	10k/Q <sup>2</sup>
Denmark / VI	5	0.1
Estonia		0.1
Finland / VII		0.2
France / VIII		5 or 25k/Q
France / IX	5	0.1
Germany / X	3	/ <sup>3</sup>
Greece / XI	5	0.1
Ireland / XII	4	0.05
<b>Italy / XII</b>	<b>3</b>	<b>0.025</b>
Lithuania / XIV	10	0.1
Luxembourg / XV	6	0.15
Malta / XVI <sup>4</sup>	/	/
Norway / XVIII	5	0.1
The Netherlands / XVII	5	0.075
Poland		0.3
Portugal / XIX	5	0.025
United Kingdom / XXIV	4	0.1
Czech Republic / V		0.1
Romania / XX	10	0.1
Slovakia		0.1
Slovenia		0.15
Spain / XXI	3	0.1
Sweden / XXII	5	0.1
Switzerland / XXIII	6	0.15
Hungary		0.15

<sup>2</sup> Q: percentage of quartz – K=1.

<sup>3</sup> Germany no longer has an OEL for quartz. Employers are required to minimise exposure and comply with specific protective measures.

<sup>4</sup> If necessary, the Maltese authorities refer to United Kingdom values for OELV which do not exist in Maltese legislation.

Exposure limit values DNEL

N.A.

Exposure limit values PNEC

N.A.

8.2. Exposure controls

Eye protection:

Not required for normal use Work in any case according to good working practices.

In the case of dusts generated by material processing or breakages, use full facial protection according to the provisions of EN166:2001

Skin protection:

No special precautions are required for normal use. Work in any case according to good working practices.

In the case of dusts generated by material processing or breakages, wash or dispose of any clothing used. Do not use compressed air.

Hand protection:

Not required for normal use Work in any case according to good working practices. In the case of material processing or breakages, use cut/resistant safety gloves.

Respiratory protection:

Use respiratory protection type P3, in accordance with EN 143:2001 and subsequent revisions EN 143/AC2002, EN 143/AC 2005, including dust removal activities, such as water processing in the case of processing or crushing or the creation of dusts traceable to the material composition.

Thermal hazards:

None

Environmental exposure controls:

None

Suitable technical controls:

Monitoring of parameters listed in point 8.1. Use dust removal means when processing or crushing the material.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour:

solid, colour according to commercial context

Odour:

odourless

Odour threshold:

N.A.

pH:

not applicable

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Melting point/freezing point:	not applicable
Initial boiling point/boiling range:	not applicable
Flammability (solid, gas):	non-flammable
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	not applicable
Flash-point:	not applicable
Evaporation rate:	N.A.
Vapour pressure:	not applicable
Relative density:	2300-2700 kg/m <sup>3</sup>
Water-solubility:	not applicable
Solubility in oil:	not applicable
Partition coefficient (n-octanol/water):	not applicable
Auto-ignition temperature:	Not self-igniting
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	not applicable
Oxidising properties:	not applicable
9.2. Other information	
Miscibility:	N.A.
Fat solubility:	N.A.
Conductivity:	N.A.
Characteristic properties of groups of substances	N.A.

SECTION 10: Stability and reactivity

- 10.1. Reactivity
  - Stable in normal conditions
- 10.2. Chemical stability
  - Stable in normal conditions
- 10.3. Possibility of hazardous reactions
- 10.4. Conditions to avoid
  - Stable in normal conditions.
  - Avoid contact with surface temperatures above 150 °C.
  - Avoid impacts which could cause the material to break.
- 10.5. Incompatible materials
  - None in particular
- 10.6. Hazardous decomposition products
  - None known.

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects
  - Toxicological information concerning the mixture:
    - N.A.

Toxicological information concerning the main substances present in the mixture:

There is no proof or indication that the whole, finished product (definable as an "article" pursuant to Regulation EC 1907/2006, Article 3 (3) has any risks according to Directives 67/548/EC, 99/45/EC, amendments thereto and Regulation EC No1272/2008 (CLP):

In the case of the breakage of the article or its processing involving crushing, breakage, cutting, sanding or any other process which could lead to the release of dusts traceable to the matrix of the article, it may generate crystalline silica powder. The breathable fraction of crystalline silica, particularly during prolonged exposures and/or exposures to high concentrations, may lead to lung damage or illnesses, such as silicosis.

Unless otherwise specified, the required data according to Regulation 453/2010/EC indicated below is deemed to be N.A.:

- a) acute toxicity;
- b) skin irritation/corrosion;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) Specific target organ toxicity (STOT) — single exposure;
- i) Specific target organ toxicity (STOT) — repeated exposure;
- j) aspiration hazard.

SECTION 12: Ecological information

- 12.1. Toxicity
  - Use according to good working practices, do not release to the environment.
  - N.A.
- 12.2. Persistence and degradability
  - N.A.
- 12.3. Bioaccumulative potential



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- N.A.  
12.4. Mobility in soil  
N.A.  
12.5. Results of PBT and vPvB assessment  
vPvB substances: None - PBT substances: None  
12.6. Other adverse effects  
None
- 

SECTION 13: Disposal considerations

- 13.1. Waste treatment methods  
Recycle if possible. Work according to local and national regulations. The crushed material must be collected using methods that avoid dust propagation
- 

SECTION 14: Transport information

Unless otherwise specified, the required data indicated below is deemed to be N.A.:

- 14.1. UN number  
14.2. UN proper shipping name  
ADR-Shipping Name:  
IATA-Shipping Name:  
IMDG-Shipping Name:  
14.3. Transport hazard classes  
14.4. Packing group  
14.5. Environmental hazards  
14.6. Special precautions for users  
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- 

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Italian Legislative Decree - D.Lgs. No 52 of 3/2/1997 (Classification, packaging and labelling of hazardous substances)  
D.Lgs. No 65 of 14/3/2003 (Classification, packaging and labelling of hazardous preparations)  
Italian Legislative Decree - D.Lgs. No. 81 of 9/4/2008  
Ministerial Decree - D.M. Labour law 26/02/2004 (Occupational exposure limits)  
Ministerial Decree - D.M. 03/04/2007 (Implementation of Directive 2006/8/EC)  
Regulation (EC) No 1907/2006 (REACH)  
Regulation (EC) No 1272/2008 (CLP) and ATP in force  
Regulation (EU) No 453/2010 (Annex I)  
Restrictions concerning product or substances contained according to Annex XVII of Regulation (EC) 1907/2006 (REACH) and amendments:  
Restrictions concerning the product:  
No restriction.  
Restrictions concerning the substances contained:  
No restriction.  
Where applicable, refer to the following regulations:  
Decree Law - D.L. No. 153 of 3/4/2006 Environmental laws  
Provisions concerning Directive 2012/18/EU (Seveso III):  
N.A.  
15.2. Chemical Safety Assessment  
No
- 

SECTION 16: Other information

Text of phrases used in paragraph 3:  
H372 Causes damage to organs through prolonged or repeated exposure.  
This document was drafted by a technician competent in SDS matters who has received appropriate training in compliance with the CLP Regulation (EC) No 1272/2008.

Main bibliographical sources:  
ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold  
CCNL - Annex 1  
Higher Health Institute - National Inventory of Chemical Substances

Safety Data Sheet  
MIRAGE PORCELAIN STONEWARE SLABS

The information contained herein is based on our knowledge at the date indicated above. It refers exclusively to the product indicated and does not constitute a guarantee of any specific qualities.

The user is responsible for ensuring the suitability and completeness of this information in relation to the specific intended use.

This sheet annuls and replaces all previous editions.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labelling, Packaging.
DNEL:	Derived no-effect level.
EINECS:	European Inventory of Existing Commercial chemical Substances.
GefStoffVO:	German regulation on hazardous substances.
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation of the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical instructions of the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Dangerous Goods Code.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration for 50 percent of the test population.
LD50:	Lethal dose for 50 percent of the test population.
LTE:	Long-term exposure.
PNEC:	Predicted no-effect concentration.
RID:	Regulation concerning the International Carriage of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short term exposure limit.
STOT:	Specific target organ toxicity.
TLV:	Threshold limit value.
TWATLV:	Threshold limit value – time-weighted average. (ACGIH Standard).
WGK:	Water hazard class (Germany).

# Declare. SM

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## Porcelain tiles and slabs CERAMICHE REFIN

**Final Assembly:** Salvaterra, Reggio Emilia, Italy

**Life Expectancy:** 60 Year(s)

**End of Life Options:** Recyclable (100%)

### Ingredients:

---

**porcelain tiles:** Silica, Vitreous; Silica, crystalline quartz; Mullite (Al<sub>6</sub>O<sub>5</sub>(SiO<sub>4</sub>)<sub>2</sub>); Feldspar

**Living Building Challenge Criteria:** Compliant

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### I-13 Red List:

- |   |                             |
|---|-----------------------------|
| <input checked="" type="checkbox"/> LBC Red List Free | % Disclosed: 100% at 100ppm |
| <input type="checkbox"/> LBC Red List Approved        | VOC Content: Not Applicable |
| <input type="checkbox"/> Declared                     |                             |

**I-10 Interior Performance:** Not Applicable

**I-14 Responsible Sourcing:** Not Applicable

CRR-0001

EXP. 01 MAY 2022

Original Issue Date: 2021

MANUFACTURER RESPONSIBLE FOR LABEL ACCURACY

INTERNATIONAL LIVING FUTURE INSTITUTE™ [living-future.org/declare](https://living-future.org/declare)



## MATERIAL SAFETY DATA SHEET

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### 1. Chemical Product and Company information

**Product name**            **Unglazed Porcelain Tile**

**Company Information**

**Emergency Contact Information**

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### 2. Composition/Ingredient Information

**Hazardous Constituents**

**Non Hazardous Constituents**

N/A

<b>Composition</b>	<b>CAS Number</b>	<b>Approximate Percent by Weight</b>
SiO <sub>2</sub>	14808-60-7	53 – 71%
Al <sub>2</sub> O <sub>3</sub>	1344-28-1	20 – 35 %
Fe <sub>2</sub> O <sub>3</sub>	1309-37-1	0.2 – 2,5 %
CaO	1305-78-8	0.2 – 3 %
TiO <sub>2</sub>	1317-80-2	0.5 – 3 %
Na <sub>2</sub> O	1313-59-3	2 – 4,5%
K <sub>2</sub> O	12136-45-7	1.5 – 4%
MgO	1309-48-4	0.5 – 2%

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### 3. Hazards Identification

There are no known hazards physical associates with the use Unglazed Porcelain Tile.

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#### **4. Health Hazards**

##### **Potential Health Effects**

**This material as packaged should pose no health hazards. During installation and while cutting the tiles to size the following possible health effects could occur.**

**Eyes** Dust and small shards of tile could cause eye irritation and possible eye injury if Personal Protective Equipment, PPE, is not worn properly. Refer to the PPE section for PPE requirements.

**Skin** Dust and sharp edges generated during installation could cause irritation and lacerations if proper PPE is not worn. Refer to the PPE section for PPE requirements.

**Ingestion** Ingestion of small amounts of dust should not cause harmful effects. Larger pieces could damage the intestinal tract and therefore any area where tiles are being prepared for installation should be thoroughly cleaned to prevent the ingestion of shards or larger pieces and minimize the ingestion of dust prior to food being brought into the area. Any food in the area during installation should be discarded to prevent possible ingestion of unglazed porcelain shards or pieces.

**Inhalation** Inhalation of dust generated during installation could cause upper respiratory tract irritation and in rare cases allergic/asthmatic reactions. To prevent inhalation engineering controls should be installed whenever practicable and ventilation maximized. If engineering controls are not available or practicable proper PPE should be worn at all times when unglazed porcelain tile dust is present.

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#### **5. Fire fighting Measures**

Unglazed Porcelain Tile is not flammable under normal circumstance so any fire fighting measures should be tailored to the materials around the tile. This includes the cardboard packaging materials and any other shipping containers the tile is received in.

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#### **6. Accidental Release Measures**

Unglazed Porcelain Tile does not in itself present any dangers during an accidental release save the possibility that the tile could bury workers. There are no known environmental risks should the tile enter the environment. Spilled and broken tile should be disposed of as per local regulations for standard trash in a lined landfill.



## 7. Handling and Storage

Care should be taken during the handling and storage of Unglazed Porcelain Tile due to the high density of the materials. Each package weighs in excess of 45 lbs., (20 KG). No more than one package should be transferred at a time to prevent personal injury. When being handled at low temperatures, 50F, (10C), the tile can become brittle and crack and chip more easily than under normal conditions. Extra care should be taken in density of the tile should be taken into account prior to storing to prevent the overloading of the shelf unit.

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## 8. Exposure Controls/Personal Protection

During storage and transport Unglazed Porcelain Tile should pose no unusual risk to personal safety. During installation when the tile is cut and formed there are risks to personal safety. To minimize these risks the following minimum engineering controls and PPE are recommended.

### Engineering Controls

Engineering Controls in the form of ventilation and dust controls should be implemented when installing Tile. This includes using a wet saw when cutting tile to size, opening windows, and positioning ventilation fans to disperse the dust generated during installation. The main hazard of Unglazed Porcelain Tile to personnel is through inhalation and lacerations from sharp newly cut edges. The use of properly maintained and serviced cutting equipment and PPE should minimize these risks.

### Personal Protection Equipment, PPE

Personal Protection Equipment or PPE should be worn at all times when installing Unglazed Porcelain Tile. The main risks associated with the installation of Tile are due to the dust and sharp edges generated while cutting and shaping the tile to size. To minimize these hazards the following PPE should be worn when performing the listed tasks.

### Cutting Shaping

Safety Goggles, Dust Masks, Leather Gloves, and safety shoes with steel toes and metatarsal protection.

### Installing/Positioning

Safety Goggles, Dust Masks, Leather Gloves, and safety shoes with steel toes and metatarsal protection.

### Carrying/Stacking

Leather Gloves and Safety Shoes with steel toes and metatarsal protection.



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## 9. Physical and Chemical Properties

Unglazed Porcelain Tile is inert under normal conditions.

Boiling Point                      N/A

Vapor Pressure                      N/A

State Solid

Color Various

Odor      N/A

pH      N/A

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## 10. Stability and Reactivity

This material is stable and not readily reactive with most solvents, acids, or caustics.

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## 11. Toxicological Information

No Data

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## 12. Ecological Information

No Data

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## 13. Disposal Consideration

Dispose of in accordance with all federal, state, and local regulations.

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## 14. Transport Information

This material is not regulated by US DOT or Canadian TDG regulations.

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### **15. Regulatory Information**

This material is not regulated under any of the following federal regulations.

TSCA  
CERCLA  
SARA 302, 313

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### **16. Proposition 65 Data**

This product contains Silica that is suspected carcinogen. Extreme care should be taken to prevent exposure to the dust generated during installation. Refer to the “Personal Protection” section for more details.

Salvaterra  
30/08/2011

CER REFIN S.p.A





DNV

# PRODUCT CERTIFICATE

Certificate No.:  
10000429931-PA-DNV GL-ITA Rev. 0

Initial date:  
28 october 2021

Valid:  
28 october 2021 – 27 october 2024

This Certificate consists in 12 pages

In compliance with DNV guidelines for the Certification of product, it has been stated that the product:

## porcelain stoneware ceramic tiles and slabs

Manufactured by or for:



## Ceramiche Refin S.p.A.

Via I Maggio, 22 - 42013 Casalgrande (RE) - Italy

Have been evaluated in conformity with requirements defined by following documents:

- THE WELL BUILDING STANDARD ® V2

Place and Date:  
Vimercate, 28 october 2021

For the Certification Body

DNV  
Via Energy Park, 14, 20871 Vimercate (MB),  
Italy

Zeno Beltrami  
Management Representative

<b>Well V2™ Concept: AIR</b>
<b>Feature: A01 FUNDAMENTAL AIR QUALITY   P</b>
<b>Intent:</b> Ensure a basic level of indoor air quality that contributes to the health and well-being of building users.
<b>Summary:</b> This WELL feature requires projects to provide acceptable air quality levels as determined by public health authorities.
<b>Impact:</b> The quality of the air people breathe indoors directly impacts their health and well-being and constitutes one of the most important aspects of healthy buildings.
<p><b>Requirement:</b></p> <p><b>Part 2 Meet Thresholds for Organic Gases For All Spaces except Commercial Kitchen Spaces:</b></p> <p>The following thresholds are met:</p> <ul style="list-style-type: none"> <li>a. Formaldehyde less than 27 ppb.</li> <li>b. Individual component VOCs less than or equal to the limits listed in the table at page 8/282 WELL v2 Manual:</li> </ul> <p><b>For Commercial Kitchen Spaces:</b></p> <p>The following threshold is met:</p> <ul style="list-style-type: none"> <li>a. Formaldehyde less than 81 ppb</li> </ul>
<p><b>Evaluation:</b></p> <p>Following LEED V4 and LEED V4.1 requirements, Ceramic tiles are inherently nonemitting materials .</p> <p>Low – emitting criteria: Inherently nonemitting sources – definition: Products that are an inherently nonemitting sources of VOCs (stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, and unfinished or untreated solid wood flooring) are considered fully compliant without any VOC testing if they do not have integral organic-based surface coatings, binders, or sealants emissions.</p> <p>FAQ#24450 - Are there any materials that WELL considers to be inherently non-emitting that do not need to meet VOC testing? The IWBI recognizes the following as inherently non-emitting: stone, <b>ceramic</b>, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, natural wool, and unfinished or untreated solid wood. It is important to note that if any of these items have finishes, sealants or adhesives applied, they will require VOC testing either as a whole or in parts, i.e. at least the coating/finish/adhesive requires VOC testing.</p> <p>Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.</p>
<b>Products:</b> This credit is applicable for all ceramic products manufactured by the Company

<b>Well V2™ Concept: AIR</b>
<b>Feature: A14 MICROBE AND MOLD CONTROL   O (MAX: 2 PT)</b>
<b>Intent:</b> Reduce mold and bacteria growth through condensation management and reduce levels of microbes within occupied spaces.
<b>Summary:</b> This WELL feature requires projects to conduct regular inspections in order to eliminate sources of microbes and mold and to inactivate existing microbes.
<b>Impact:</b> Minimizing exposure to mold and microbes leads to better air quality and reduced health risks
<p><b>Requirement:</b></p> <p><b>Part 2 Manage Condensation and Mold (Max: 1 Pt)</b></p> <p><b>Mold inspections</b></p> <p>The following requirements are met:</p> <ol style="list-style-type: none"> <li>a. Annual inspections for signs of water damage or pooling, discoloration and mold on ceilings, walls and floors is performed by a professional demonstrated not to have a conflict of interest. The report is submitted annually through WELL Online.</li> </ol>
<p><b>Evaluation:</b></p> <p>Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.</p>
<p><b>Products:</b></p> <p>This credit is applicable for all ceramic products manufactured by the Company.</p>

<b>Well V2™ Concept: THERMAL COMFORT</b>
<b>FEATURE: T05 RADIANT THERMAL COMFORT   O (MAX: 2 PT)</b>
<b>Intent:</b> Maximize volume of the space, reduce dust transmission, improve ventilation control and increase thermal comfort by incorporating radiant heat and cooling systems into the building design.
<b>Summary:</b> This WELL feature requires projects to use radiant systems and independently controlled ventilation systems.
<b>Impact:</b> Proper design and operation of radiant heating and cooling systems can provide equal or even better thermal comfort compared to all-air systems, which could ultimately be linked to increased human comfort and well-being.
<p><b>Requirement:</b></p> <p><b>Part 1 Implement Radiant Systems (Max: 1 Pt)</b> <b>For All Spaces except Commercial Kitchen Spaces:</b></p> <p>At least 50% of the project floor area is serviced by one of the following systems:</p> <ol style="list-style-type: none"> <li>a. Hydronic radiant heating and/or cooling systems.</li> <li>b. Electric radiant systems.</li> </ol>
<p><b>Evaluation:</b></p> <p>Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.</p>
<p><b>Products:</b></p> <p>This credit is applicable for all ceramic products manufactured by the Company</p>

<b>Well V2™ Concept: MATERIALS</b>
<b>Feature: X01 FUNDAMENTAL MATERIAL PRECAUTIONS   P</b>
<b>Intent:</b> Reduce or eliminate human exposure to building materials known to be hazardous.
<b>Summary:</b> This WELL feature requires the restriction of hazardous ingredient components in newly installed building materials, specifically through the restriction of asbestos, mercury-containing lamps and lead in plumbing products and paint.
<b>Impact:</b> Restriction of known hazardous ingredients found in building materials, specifically in those that are newly installed, aims to reduce risk of exposure, whether directly within the indoor environment or through environmental contamination. This also helps to push for reformulations of key building materials and products and promotes innovation in green chemistry.
<p><b>Requirement:</b></p> <p><b>Part 1 Restrict Asbestos For All Spaces:</b></p> <p>The following <b>building materials</b> contain asbestos less than 1% by weight:</p> <ol style="list-style-type: none"> <li>Thermal system insulation (applied to pipes, fittings, boilers, breeching, tanks, ducts or other like components to prevent heat loss or gain).</li> <li>Surfacing material (that is sprayed, troweled or otherwise applied to surfaces, for example acoustical plaster or fireproofing materials).</li> <li>Wallboard/millboard, resilient floor covering, roofing and siding shingles (including metal cladding) and construction mastics.</li> </ol> <p>Note: Projects can disclose or report ingredients listed here using labels approved for use in Part 1: Promote Ingredient Disclosure in Feature X14: Material Transparency to earn points toward that feature</p> <p><b>Part 3 Restrict Lead-For All Spaces:</b></p> <p>All newly installed <b>building materials</b> meet the following materials composition requirements:</p> <ol style="list-style-type: none"> <li>Drinking water systems and plumbing products are lead-free as defined by the Safe Drinking Water Act (SDWA) and certified by an ANSI Accredited third-party certification body.</li> <li>Indoor paints and surface coatings contain less than 90 ppm total lead.</li> </ol> <p>Note: Projects can disclose or report ingredients listed here using labels approved for use in Part 1: Promote Ingredient Disclosure in Feature X14: Material Transparency to earn points toward that feature.</p>
<p><b>Evaluation:</b></p> <p>Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.</p>
<b>Products:</b> This credit is applicable for all ceramic products manufactured by the Company.

<b>Well V2™ Concept: MATERIALS</b>
<b>Feature: X08 HAZARDOUS MATERIAL REDUCTION   O (MAX: 1 PT)</b>
<b>Intent:</b> Reduce or eliminate exposure to hazardous heavy metals and phthalates found in building materials.
<b>Summary:</b> This WELL feature requires the restriction of heavy metals in various building materials and products, including furniture and furnishings and electrical components.
<b>Impact:</b> The restriction of heavy metals across key building materials and products, both indoor and outdoor, not only mitigates risk of exposure but also helps push the market toward safer alternatives.
<p><b>Requirement:</b></p> <p><b>Part 1 Limit Hazardous Materials (Max: 1 Pt)</b> <b>For All Spaces:</b></p> <p>Projects meet one of the following requirements and develop a purchasing plan for continued procurement:</p> <p>a. For all newly installed building materials, at minimum 20% by cost of the following building products and material types contain less than 100 ppm added lead:</p> <ol style="list-style-type: none"> <li>1. Doors and door hardware.</li> <li>2. Ductwork.</li> <li>3. Conduits.</li> <li>4. Metal studs.</li> <li>5. Mirrors/glass.</li> <li>6. Roofing or flashing.</li> <li>7. Brass cooler drains, pumps, motors and valves.</li> <li>8. Vinyl blinds or wallcovering.</li> </ol> <p>b. For all newly installed furnishings and furniture (including textiles, finishes and dyes), all components that constitute at least 5%, by weight, furniture or furnishing assembly meet the following thresholds for material content:</p> <ol style="list-style-type: none"> <li>1. Mercury less than 100 ppm.</li> <li>2. Cadmium less than 100 ppm.</li> <li>3. Antimony less than 100 ppm.</li> <li>4. Hexavalent chromium in plated finishes less than 1000 ppm</li> </ol> <p>Note:</p> <p>For the lead requirements in Part 1: Limit Hazardous Materials, other product categories can also be suggested for inclusion in the cost calculation, provided evidence/documentation for added lead content is presented.</p> <p>Wherever procurement of a product or a material type is not possible, the project is permitted to submit documentation demonstrating an attempt has been made: for each listed product or material type applicable to project, a petition or formal request is filed with at minimum three manufacturers who were unable to meet their needs.</p> <p>Projects can disclose or report ingredients listed here using labels approved for use in Part 1: Promote Ingredient Disclosure in Feature X14: Material Transparency to earn points toward that feature.</p>
<b>Evaluation:</b>
Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.
<b>Products:</b> This credit is applicable for all ceramic products manufactured by the Company

<b>Well V2™ Concept: MATERIALS</b>
<b>Feature: X10 VOLATILE COMPOUND REDUCTION   O (MAX: 3 PT)</b>
<b>Intent:</b> Minimize the impact of hazardous volatile and semi-volatile organic compounds (VOCs and SVOCs) on indoor air quality.
<b>Summary:</b> This WELL feature requires the restriction of hazardous VOC and SVOC compounds, halogenated flame retardants (HFRs), urea-formaldehyde and select phthalates commonly used in building materials and products.
<b>Impact:</b> Restriction of select, well-studied VOCs and SVOCs commonly used in building materials and products limits their presence in indoor air and dust, thereby helping to mitigate associated exposure and health hazards.
<p><b>Requirement:</b></p> <p><b>Part 1 Manage Volatile Organic Compounds (Max: 2 Pt)</b> <b>For All Spaces:</b> The following requirements are met:</p> <ul style="list-style-type: none"> <li>a. At minimum, 20% by cost of the following newly installed components contain halogenated flame retardants at less than 100 ppm or the extent allowable by local code:             <ol style="list-style-type: none"> <li>1. Furniture.</li> <li>2. Window and waterproofing membranes, door and window frames and siding.</li> <li>3. Flooring, ceiling tiles and wall coverings.</li> </ol> </li> </ul> <p>Note: Projects can disclose or report ingredients listed here using labels approved for use in Part 1: Promote Ingredient Disclosure in Feature X14: Material Transparency to earn points toward that feature.</p> <p><b>Part 2 Manage Semi-Volatile Organic Compounds (SVOCs) (Max: 1 Pt)</b> <b>For All Spaces:</b> The following requirements are met:</p> <ul style="list-style-type: none"> <li>a. At minimum, 20% by cost of the following newly installed components contain phthalates at less than 100 ppm or the extent allowable by local code:             <ol style="list-style-type: none"> <li>1. Flooring, including resilient and hard surface flooring and carpet.</li> <li>2. Wall coverings, window blinds and shades, shower curtains, furniture and upholstery.</li> <li>3. Plumbing pipes and moisture barriers.</li> </ol> </li> </ul> <p><b>Part 3 Purchase Compliant Products (Max: 1 Pt)</b> Note: Projects may only receive points for this part if Part 1: Manage Volatile Organic Compounds or Part 2: Manage Semi-Volatile Organic Compounds (SVOCs) is also achieved.</p> <p><b>For All Spaces:</b> Projects have a program in place that specifies the following:</p> <ul style="list-style-type: none"> <li>a. Future purchasing for repair, renovation or replacement of building materials and products that complies with requirements for 100% of components listed in Part 1: Manage Volatile Organic Compounds and Part 2: Manage Semi-Volatile Organic Compounds (SVOCs).</li> </ul>

**Evaluation:**

Following LEED V4 and LEED V4.1 requirements, Ceramic tiles are inherently nonemitting materials .

Low – emitting criteria: Inherently nonemitting sources – definition:

Products that are an inherently nonemitting sources of VOCs (stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, and unfinished or untreated solid wood flooring) are considered fully compliant without any VOC testing if they do not have integral organic-based surface coatings, binders, or sealants emissions.

FAQ#24450 - Are there any materials that WELL considers to be inherently non-emitting that do not need to meet VOC testing?

The IWBI recognizes the following as inherently non-emitting: stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, natural wool, and unfinished or untreated solid wood. It is important to note that if any of these items have finishes, sealants or adhesives applied, they will require VOC testing either as a whole or in parts, i.e. at least the coating/finish/adhesive requires VOC testing.

Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.

**Products:**

This credit is applicable for all ceramic products manufactured by the Company



<b>Well V2™ Concept: MATERIALS</b>
<b>Feature: X11 LONG-TERM EMISSION CONTROL   O (MAX: 3 PT)</b>
<b>Intent:</b> Minimize the impact of slow-emitting volatile organic compounds (VOCs) on indoor air quality.
<b>Summary:</b> This WELL feature requires testing and adherence to emission thresholds for newly purchased furniture and furnishings, flooring and insulation.
<b>Impact:</b> Restriction of source VOCs in building materials and products can limit their presence in indoor air and dust and help to mitigate exposure risks and health hazards.
<p><b>Requirement:</b></p> <p><b>Part 2 Manage Flooring and Insulation Emissions (Max: 1 Pt)</b> <b>For All Spaces:</b></p> <p>All newly installed flooring and thermal and acoustic insulation inside the building meet the following VOC emission thresholds:</p> <ul style="list-style-type: none"> <li>California Department of Public Health (CDPH) Standard Method v.1.2-2017.</li> </ul> <p>Note: Wherever procurement of a product or a material type is not possible, the project is permitted to submit documentation demonstrating an attempt has been made: for each listed product or material type applicable to the project, a petition or formal request is filed with at minimum three manufacturers who were unable to meet its needs.</p>
<p><b>Evaluation:</b></p> <p>Following LEED V4 and LEED V4.1 requirements, Ceramic tiles are inherently nonemitting materials .</p> <p>Low – emitting criteria: Inherently nonemitting sources – definition:</p> <p>Products that are an inherently nonemitting sources of VOCs (stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, and unfinished or untreated solid wood flooring) are considered fully compliant without any VOC testing if they do not have integral organic-based surface coatings, binders, or sealants emissions.</p> <p>FAQ#24450 - Are there any materials that WELL considers to be inherently non-emitting that do not need to meet VOC testing? The IWBI recognizes the following as inherently non-emitting: stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, natural wool, and unfinished or untreated solid wood. It is important to note that if any of these items have finishes, sealants or adhesives applied, they will require VOC testing either as a whole or in parts, i.e. at least the coating/finish/adhesive requires VOC testing.</p> <p>Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.</p>
<b>Products:</b> This credit is applicable for all ceramic products manufactured by the Company



<b>Well V2™ Concept: MATERIALS</b>
<b>Feature: X13 ENHANCED MATERIAL PRECAUTION   O (MAX: 2 PT)</b>
<b>Intent:</b> Minimize the impact of hazardous building material ingredients on indoor air quality, protect the environment and health of workers and help support the demand for safer chemical alternatives.
<b>Summary:</b> This WELL feature requires screening and labeling of products in accordance with programs that restrict the use of hazardous ingredient contents in materials and products.
<b>Impact:</b> Screening and certification schemes that promote safe environmental and health attributes through the restriction of ingredients known to be environmental or health hazards help to increase the demand for safer alternatives, protect public health and enable market transformation.
<b>Requirement:</b> <b>Part 1 Select Optimized Materials (Max: 2 Pt)</b> <b>For All Spaces:</b> All newly installed furnishings, built-in furniture, interior finishes and finish materials comply with some combination of the following programs, earning points based on the table below:  Percent Compliance by Cost Points 15%: 1 25%: 2  a. Declare: Living Building Challenge Red List Free, Declare: Living Building Challenge Compliant or Living Product Challenge label.
<b>Evaluation:</b>  Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.
<b>Products:</b>  This credit is applicable for all ceramic products manufactured by the Company

<b>Well V2™ Concept: MATERIALS</b>
<b>Feature: X14 MATERIAL TRANSPARENCY   O (MAX: 2 PT)</b>
<b>Intent:</b> Promote material transparency across building material and product supply chain.
<b>Summary:</b> This WELL feature requires the compilation and availability of product descriptions, with ingredients evaluated and disclosed down to 1,000 ppm, through transparency labels.
<b>Impact:</b> Consumer access to material ingredient content through product labeling can help educate consumers and drive market demand for safer ingredients, protect public health and enable market transformation.
<p><b>Requirement:</b></p> <p><b>Part 1 Promote Ingredient Disclosure (Max: 2 Pt)</b> <b>For All Spaces:</b></p> <p><b>Material information</b> All newly installed interior finishes and finish materials, furnishings (including workstations) and built-in furniture have some combination of the following material descriptions, with ingredients identified and disclosed to 1,000 ppm and earning points based on the table below:</p> <p>Minimum Percent by Cost Points 25% (by cost) 1 50% (by cost) 2</p> <p>a. Declare Label. b. Health Product Declaration. c. Any screening and hazard disclosure method accepted in USGBC's LEED v4 MR credit: Building Product Disclosure and Optimization - Material Ingredients, Option 1: material ingredient reporting.</p>
<p><b>Evaluation:</b></p> <p>Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.</p>
<p><b>Products:</b></p> <p>This credit is applicable for all ceramic products manufactured by the Company</p>

<b>Well V2™ Concept: INNOVATIONS</b>
<b>Feature: I05 GREEN BUILDING RATING SYSTEMS   O (MAX: 5 PT)</b>
<b>Intent:</b> Recognize projects that have achieved certification under leading green building rating systems.
<b>Summary:</b> WELL aligns with leading green building rating systems and recognizes projects that balance a commitment to environmental sustainability with a commitment to human health. Policies that reduce the environmental impact of buildings contribute to the advancement of human health at the building and community scale. The environment itself can act as a mechanism to promote and reinforce health by providing fresh air, clean water, affordable and accessible food and green spaces for physical activity and social connection. By balancing sustainability and human health considerations, both people and planet can thrive.
<p><b>Requirement:</b></p> <p><b>Part 1 Achieve Sustainable Building Certification (Max: 5 Pt)</b> <b>For All Spaces:</b></p> <p>The project has achieved certification for a green building rating system that meets the following requirements:</p> <ol style="list-style-type: none"> <li>a. Primary goal is to advance sustainability and green practices in built spaces.</li> <li>b. Demonstrates leadership and innovation.</li> <li>c. Includes transparent development, rating and scoring processes.</li> <li>d. Undergoes third-party review to confirm achievement.</li> <li>e. Based on supporting scientific, medical and/or industry research.</li> <li>f. Viewable online at no cost.</li> <li>g. Addresses at least three of the objectives below:             <ol style="list-style-type: none"> <li>1. Reduce contribution to global climate change.</li> <li>2. Enhance individual human health, well-being and vitality.</li> <li>3. Protect and restore water resources.</li> <li>4. Protect, enhance and restore biodiversity and ecosystem services.</li> <li>5. Promote sustainable and regenerative material resource cycles.</li> <li>6. Build a greener economy.</li> <li>7. Enhance community through social equity, environmental justice and quality of life.</li> </ol> </li> </ol> <p>Note: Projects receive the full five points in Innovation for pursuing a green building rating system that meets the above criteria. Projects cannot receive more than five points for pursuing additional green building rating programs. Project must submit proof of achievement through WELL Online. A list of green building rating systems that have been evaluated by IWBI and found to meet the above criteria can be found at <a href="https://v2.wellcertified.com/resources/preapproved-programs">https://v2.wellcertified.com/resources/preapproved-programs</a>.</p>
<b>Evaluation:</b>
Company has made available to the certification body the information regarding compliance with the requirement. All documentation on this requirement has been reviewed.
<b>Products:</b> This credit is applicable for all ceramic products manufactured by the Company



## ENVIRONMENTAL PRODUCT DECLARATION

Product name:

Porcelain Stoneware  
Ceramic Tiles and Slabs

Site Plant:

Via I Maggio, 22  
42013 Casalgrande (RE), Italy

in compliance with ISO 14025 and EN 15804

Program Operator	EPDIItaly
Publisher	EPDIItaly
Declaration Number	EPD-03-REF
EPDIItaly Registration Number	EPDITALY0034
ECO EPD Registration Number	00000759
Issue Date	01/09/2018
Valid to	01/09/2023



<p><b>Owner of the program</b></p> <p>EPDItaly</p>	<p><b>Owner of the declaration</b></p> <p><b>Ceramiche Refin S.p.A.</b></p> <p>Via I Maggio 22, 42013 Casalgrande (RE), Italy</p>
<p><b>Declaration number</b></p> <p>EPD-03-RFN</p>	<p><b>Date of issue</b> September 1, 2018</p> <p><b>Valid until</b> September 1, 2023</p>
<p><b>Audit</b></p> <p>Independent audit of the EPD and of the data contained therein</p> <p>conducted in accordance with ISO 14025</p> <p><input type="checkbox"/> internal      <input checked="" type="checkbox"/> external</p> <p>Performed by ICMQ S.p.A. – Via de Castilla, 10 – 20124</p> <p>Milan (<a href="http://www.icmq.it">www.icmq.it</a>)</p>	<p><b>Field of application</b></p> <p>This document refers to an average product “ceramic tiles and slabs”, manufactured at:</p> <p>Ceramiche Refin S.p.A. – Via I Maggio 22 - 42013 Casalgrande (RE).</p>
<p><b>Comparability</b></p> <p>Environmental declarations published within the same product category but coming from different programs may not be comparable. In particular, EPDs of construction products may not be comparable if not compliant with EN 15804.</p>	<p><b>Responsibility</b></p> <p>Ceramiche Refin S.p.A. holds EPDItaly harmless for any failure to comply with the environmental legislation declared by the manufacturer itself.</p> <p>The holder of the declaration will be responsible for the information and supporting evidence; EPDItaly disclaims any liability with regard to the manufacturer's information, the data and any results of the life cycle assessment.</p>

## SECTION 2 - GENERAL INFORMATION

### THE COMPANY

Ceramiche Refin was founded in 1962 and over the years has become a reference point for the ceramics market achieving product and production excellence, thus becoming more and more competitive on the international market.



Refin's mission is to produce surface solutions with high technological quality, image and Italian design for the ceramic tile market, particularly focusing on lightweight commercial and high level residential designs, managing the company ethically and respecting the environment.

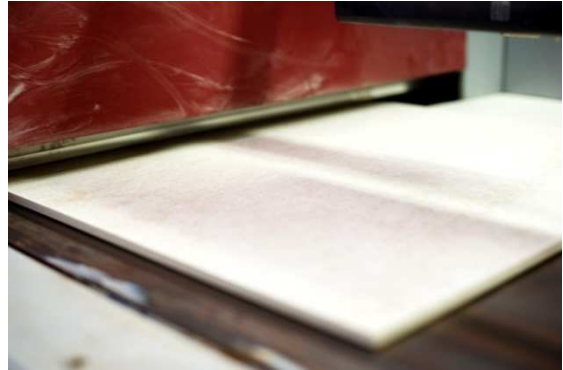
Refin interprets "Made in Italy" as a productive model combining the creative flair typical of the company culture with the work ethics that have always characterized Italian manufacturing tradition. For this reason Refin has adhered to the Made in Italy ethical code promoted by Confindustria Ceramica, stating, with clarity and transparency, the origin of the products.

Ceramiche Refin has a productive capacity of more than 7 million sqm of tiles per year, supported by avant-garde machinery for the creation of surface graphics and post-manufacturing processes, as well as a modern laboratory committed to the research of new technological solutions. All the phases of the production process undergo strict control procedures and the excellent quality standards of the products are certified by the most important international certifications.

Today Refin offers a broad range of porcelain stoneware solutions for floors and walls, able to enhance the multitude of contemporary architectural styles for residential settings and for the world of design.

### CERAMIC TILES

The ceramic tiles are produced by dry pressing natural raw materials like clay, feldspar, sand and kaolin. The type of tiles produced is porcelain stoneware, distinguished by a very compact structure and high level of performance. For this study an average product was identified and adopted, representative of Ceramiche Refin's entire product range.



### INTENDED APPLICATION

The ceramic tiles analyzed here are intended to be used for both floors and walls and to be installed both indoors and outdoors, both for floors and walls, for residential and commercial use.

## EPD PURPOSE AND TYPE

In accordance with the PCRs of reference, the LCA study is of the **cradle-to-grave** type. The system analyzed takes into account all the stages from the production of raw materials to the production of the finished and packaged product (A1-A3), distribution to the final customer (A4), as well as the end of the product's life including transport (C2), energy recovery (C3) and landfill disposal (C4), with the addition of any energy credits (D).

To produce the LCA the tool "EPD tool creator for Ceramic Tile - V5 (13-07-18) - DB version 2018 SP36" was used by thinkstep AG, Leinfelden-Echterdingen, 2016, validated by ICMQ and IBU Institut Bauen und Umwelt.

The declaration is classified as:

- 1 a: Manufacturer environmental product declaration (product EPD) for a specific product by a specific manufacturer

Furthermore this declaration was developed according to the EPDItaly program and is based on product category rules (PCR):

- IBU PCR Part B:30-11-2017 V1.6
- EPDItaly - PCR ICMQ-001/15 rev. 2 21/04/2017

The EN 15804 standard constitutes the framework of reference for the PCRs.

Product declared / Unit of measurement declared:

**1 m<sup>2</sup> of ceramic tiles.**

The data relating to the LCA study (life cycle assessment) refer to the entire production of 2016.



## SECTION 3 - DESCRIPTION OF THE PRODUCT AND THE PRODUCTION PROCESS

### BASIC MATERIALS / AUXILIARY MATERIALS

#### Main raw materials for ceramic tiles:

- Clay 41%
- Sand 23%
- Feldspar 25%

#### Main components of the glaze:

- Clay powder
- Alumina
- Natural pigments
- Frits

#### Main auxiliary additives:

- Dispersing agents
- Binding agents
- Fluidifying agents
- Leveling agents
- Air release agents

### PRODUCTION PROCESS

The manufacturing process of the ceramic tiles covered by this EPD is illustrated and described below.

The required composition of raw materials – including therefore recycled waste – is mixed and milled in wet milling plants: the slip produced (a suspension with about 25-30% of water) is treated in spray dryers (atomizers) that use thermal energy generated by natural gas and high atmospheric pressure to produce a dry powder with spherical granules of suitable size distribution, ready to be pressed.

For the drying process energy is produced through cogeneration.

The ceramic tiles are formed by dry pressing with the aid of special molds (isostatic pressing).

Glazing and decoration are carried out on the surfaces of the dried tiles.

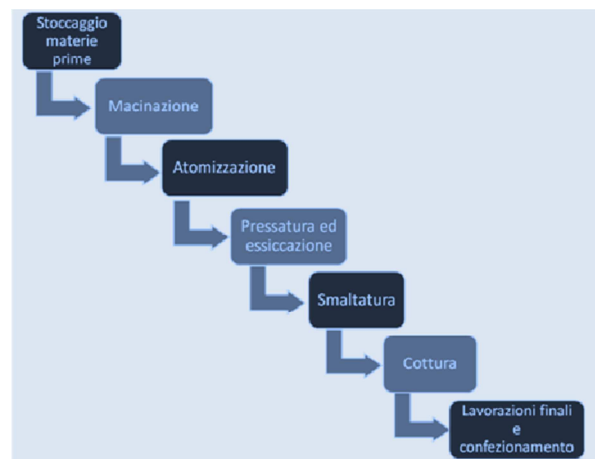
Both wet and dry application techniques are used.

The firing stage is carried out at different temperatures (depending on the ceramic tiles produced, between 1000°C and 1300°C) to obtain the typical characteristics of abrasion, resistance to water and to chemical products and durability of the ceramic tiles.

Before arriving at the sorting and packaging lines, the rectified products are cut and squared to the desired size.

The final product is packaged in cardboard boxes, stacked on wooden pallets and protected by PET film. The tiles are stored in the warehouse until the order is ready for shipment to the customer.

The monitoring of manufacturing performance is mainly carried out through the quality management system and certification of processes in accordance with ISO 9001 and OHSAS 18001 international standards.



### TECHNICAL DATA

The ceramic tiles produced comply with the regulations and specifications listed below:

Pursuant to European EN 14411 and international ISO 13006 standards, ceramic tiles are classified in attachment B1a, with water absorption  $E \leq 0.5\%$ .

The requirements listed in attachments A to L of the ISO 13006 and EN 14411 standards are:

length and width (ISO 10545/ 2 - sec. 2),  
thickness (ISO 10545/ 2 - sec. 3),  
straightness of sides (ISO 10545/ 2 - sec. 4),  
rectangularity (ISO 10545/ 2 - sec. 5),  
edge curvature and warpage (ISO 10545/ 2 - sec. 6).

Surface quality (ISO 10545/ 2 - sec. 7): a minimum of 95% of the tiles shall be free from visible defects that would impair the appearance of a major area of tiles.

STANDARD	Value	Unit of measure
Dimensional characteristics and surface quality according to ISO10545-2	Compliant	
Water absorption according to ISO10545-3	Compliant	
Breaking load according to ISO 10545-4	8 – 35 (min)	N/mm <sup>2</sup>
Modulus of rupture according to ISO 10545-4	200-1300 (min)	N/mm <sup>2</sup>
Resistance to surface abrasion - Glazed tiles according to ISO 10545-7	0 - 5	Abrasion class
Linear thermal expansion coefficient according to ISO 10545-8	9 E10-6 (max)	1/K
Resistance to thermal shock according to ISO 10545-9	Resistant	
Crazing resistance according to ISO 10545-11	Resistant	
Frost resistance according to ISO 10545-12	Resistant	
Anti-slip properties (class A, B or C) according to /CEN/TS 16165/	Resistant	
Cohesive/adhesion strength according to EN 12004	Resistant	
Impact resistance according to ISO 10545-5	Resistant	
Fire resistance without test (CWT)	A1-A1FL	
Chemical resistance according to ISO 10545-13	A-C	
Resistance to household chemicals and pool additives according to ISO 10545-13	B (min)	
Resistance to low and high concentrations of acids and alkalis according to ISO 10545-13	Resistant	
Resistance to stains according to ISO 10545-14	Resistant	
Release of lead and cadmium - Glazed tiles according to ISO 10545-15	Where Required	

Moisture expansion according to ISO 10545-10	Resistant
Resistance to deep abrasion (unglazed tiles) according to ISO 10545-6	<175 mm <sup>3</sup>

#### APPLICABLE STANDARDS

For sales in EU/EFTA, with the exception of Switzerland, EU Regulation no. 305/2011 applies.

The products require a Declaration of Performance that takes into account the EN 14411 standard "Ceramic tiles - Definition, classification, characteristics, assessment and verification of constancy of performance and marking".

#### STATE OF DELIVERY

The dimensions of the products can vary according to the various formats; the thickness varies from 6 mm to 20 mm.

#### ENVIRONMENT AND HEALTH - MANUFACTURE

Workers are informed about the physical and chemical risks associated with their profession and workplace. They receive appropriate training and personal protective equipment.

Ceramiche Refin is certified BS OHSAS 18001

#### Water / soil

The production process does not cause any contamination of water and soil: All wastewater produced is recycled or fed into internal treatment plants in order to reuse it internally or externally.

#### Air

Natural gas is used only to produce energy. Emissions generated by the combustion process are monitored and kept below strict limits. Environmental protection measures are adopted.

In addition, the company uses self-produced electricity through cogeneration.

#### PRODUCT INSTALLATION

The tiles are anchored to the wall and floor surfaces by means of different materials and quantities, for example dispersion/cementitious adhesives and mortar, sealants or applied liquid membranes. During installation no emissions are generated and the

ceramic tile installations do not cause health or environmental hazards.

## PACKAGING

The tiles are packed in cardboard boxes, wrapped in polyethylene film and plastic straps, then stacked on wooden pallets. The amount of packaging material varies according to the size of the tiles.

The end-of-life stage of packaging includes (according to Eurostat 2013):

- Paper: recycling, energy recovery, disposal.
- Plastic: recycling, energy recovery, disposal.
- Wood: reuse, energy recovery, landfill.

## CONDITIONS OF USE

Ceramic tiles are robust and inert having been fired at high temperatures. The environmental impacts generated during stage B1 are very low and therefore not worthy of note.

## ENVIRONMENT AND HEALTH - USE

Ceramics are inherently inert, chemically stable and therefore during use do not emit pollutants or substances dangerous for the environment and for health, such as: VOC and Radon.

## USEFUL LIFE OF REFERENCE

The useful life of tiles is generally more than 50 years (BNB 2011). Moreover, according to the US Green Building Council, the useful life of tiles could be the same as the useful life of the building itself. Therefore, 60 years could represent an alternative useful life for tiles according to the US GBC.

The results reported take into account the use of the tiles for 1 year, therefore by multiplying the

B2 values by 50 or 60 it is possible to obtain B2 values for 50 or 60 years.

No life reference is reported according to ISO 15686.

## EXTRAORDINARY CONDITIONS

**Fire:** According to EN 13501-1:2007+A1:2009, ceramic tiles can be classified as belonging to fire resistance class A1 or A1fl since they do not contribute to the spread of fire.

**Water:** Ceramic tiles do not absorb surface water because they are waterproof and chemically inert.

**Mechanical destruction:** Ceramic tiles can be mechanically crushed but no damage to the environment is expected.

## REUSE STAGE

After the demolition and deconstruction stage, ceramic tiles can be crushed and used in a wide range of different applications, for example aggregates for concrete or road construction.

## DISPOSAL

According to the European Waste Catalog (EWC), ceramic tiles belong to group 17 "Construction and demolition waste", Tiles and ceramics (code: 17 01 03).

## MORE INFORMATION

More information can be found at the following websites:

[www.refin.it](http://www.refin.it)

[www.confindustriaceramica.it](http://www.confindustriaceramica.it)

[www.laceramicaitaliana.it](http://www.laceramicaitaliana.it)

## SECTION 4 - LCA (LIFE CYCLE ASSESSMENT): RESULTS

The following tables illustrate the results of the LCA (life cycle assessment). Basic information on all declared modules is given in the previous section.

### DESCRIPTION OF SYSTEM LIMITS

PRODUCTI ON STAGE			INSTALLA TION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS BEYOND THE BOUNDARIE S OF THE SYSTEM
Supply of raw materials	Transport	Manufacturing	Transportation from the gate to	Installation	Use	Maintenance	Repair	Replacement	Renovation	Use of operating energy	Use of operating water	Disassembl y Demolition	Transport	Waste treatment	Disposal	Potential of reuse- recovery-recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

(X = INCLUDED IN THE LCA; MND = MODULE NOT DECLARED)

### LCA RESULTS

ENVIRONMENTAL IMPACT: 1m<sup>2</sup> OF MEDIUM CERAMIC TILES (24.,4 kg/m<sup>2</sup>)

Parameter	GWP	ODP	AP	EP	POCP	ADPE	ADPF	
Unit of Measure	[kg CO2-eq.]	[kg CFC11-eq.]	[kg SO2-eq.]	[kg PO43-eq.]	[kg ethene-eq.]	[kg Sb-eq.]	[MJ]	
LIFE CYCLE STAGE	A1-3	9,60E+00	4,02E-11	3,75E-02	2,88E-03	2,27E-03	3,04E-05	1,56E+02
	A4	6,49E-01	2,37E-14	5,35E-03	5,96E-04	2,75E-04	4,72E-08	8,60E+00
	A5	2,51E+00	5,00E-12	4,75E-03	7,60E-04	3,33E-04	6,05E-06	1,79E+01
	B1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B2	4,04E-02	7,63E-12	5,85E-05	4,47E-05	6,56E-06	1,33E-08	3,46E-01
	B3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B5	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B6	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B7	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C2	5,27E-02	1,86E-15	2,31E-04	5,86E-05	-9,09E-05	5,59E-09	9,27E-01
	C3	5,10E-02	2,29E-14	3,64E-04	8,77E-05	3,97E-05	6,73E-08	9,92E-01
C4	1,38E-01	3,12E-14	8,15E-04	1,13E-04	6,34E-05	5,29E-08	1,78E+00	
D	-2,25E-01	-7,19E-13	-5,79E-04	-9,50E-05	-5,85E-05	-9,20E-08	-3,86E+00	
Legend	GWP = global warming potential ODP = stratosphere ozone depletion potential AP = soil and water acidification potential EP = eutrophication potential			POCP = tropospheric photochemical ozone creation potential ADPE = non-fossil abiotic resource depletion potential ADPF = fossil abiotic resource depletion potential				

**LCA RESULTS - USE OF RESOURCES:**

 1m<sup>2</sup> OF MEDIUM CERAMIC TILES (24.4 kg/m<sup>2</sup>)

Parameter	PERE	PERM	PERT	PENRE	PENRM	PENRT	SM	RSF	NRSF	FW	
Unit of Measure	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[kg]	[MJ]	[MJ]	[m3]	
LIFE CYCLE STAGE	A1-3	30,7	8,1	38,8	161	1,03	162	0	0	0	0,0449
	A4	3,51E-01	0,00E+00	3,51E-01	8,64E+00	0,00E+00	8,64E+00	0,00E+00	0,00E+00	0,00E+00	6,49E-04
	A5	1,43E+01	-8,63E+00	6,71E+00	2,00E+01	-1,10E+00	1,90E+01	0,00E+00	0,00E+00	0,00E+00	6,79E-03
	B1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B2	1,87E-02	0,00E+00	1,87E-02	3,67E-01	0,00E+00	3,67E-01	0,00E+00	0,00E+00	0,00E+00	2,84E-04
	B3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B5	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B6	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B7	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C2	5,13E-02	0,00E+00	5,13E-02	9,30E-01	0,00E+00	9,30E-01	0,00E+00	0,00E+00	0,00E+00	9,45E-05
	C3	6,93E-02	0,00E+00	6,93E-02	1,03E+00	0,00E+00	1,03E+00	0,00E+00	0,00E+00	0,00E+00	3,13E-04
	C4	2,29E-01	0,00E+00	2,29E-01	1,85E+00	0,00E+00	1,85E+00	0,00E+00	0,00E+00	0,00E+00	3,53E-04
	D	-1,69E+00	0,00E+00	-1,69E+00	-4,57E+00	0,00E+00	-4,57E+00	1,97E+01	0,00E+00	0,00E+00	-1,15E-03

Legend	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials;	PENRM = Use of non-renewable primary energy resources as raw materials;
	PERM = Use of renewable energy resources as raw materials; PERT = Total use of renewable primary energy resources;	PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary materials;
	PENRE = Use of non-renewable primary energy resources excluding non-renewable primary energy resources used as raw materials;	RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of fresh water

**LCA RESULTS – OUTGOING FLOWS AND WASTE CATEGORIES:**  
 1m<sup>2</sup> OF MEDIUM CERAMIC TILES (24.4 kg/m<sup>2</sup>)

Parameter	HWD	NHWD	RWD	CRU	MFR	MER	EEE	EET
Unit of Measure	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[MJ]	[MJ]
<b>LIFE CYCLE STAGE</b>	A1-3	4,43E-04	6,85E-01	2,32E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	A4	3,49E-07	5,44E-04	1,62E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	A5	2,90E-05	1,81E+00	4,33E-04	1,89E-01	1,32E-01	0,00E+00	6,24E-01
	B1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B2	2,54E-03	5,72E-03	8,51E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B5	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B6	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	B7	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C2	5,38E-08	7,79E-05	1,27E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	C3	3,33E-08	2,19E-04	1,58E-05	0,00E+00	2,02E+01	0,00E+00	0,00E+00
	C4	3,18E-08	8,67E+00	2,67E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	D	-2,58E-08	-8,19E-01	-2,84E-04	-	-	-	-

Legend	HWD = Hazardous waste disposed of; NHWD = Non-hazardous waste disposed of; RWD = Radioactive waste disposed of; CRU = Components for reuse;	MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Electrical energy exported; EET = Thermal energy exported
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**LCA RESULTS - TRACE INDICATORS**  
 1m<sup>2</sup> OF MEDIUM CERAMIC TILES (24.4 kg/m<sup>2</sup>)

Parameter	Global Warming Air	Ozone Depletion Air	Acidification Air	Eutrophication	Smog Air	
Unit of Measure	[kg CO2-eq.]	[kg CFC11-eq.]	[kg SO2-eq.]	[kg N-eq.]	[kg O3-eq.]	
<b>LIFE CYCLE STAGE</b>	A1-A3	9,60E+00	4,04E-11	3,72E-02	1,59E-03	4,56E-01
	A4	6,49E-01	2,37E-14	5,67E-03	2,50E-04	1,04E-01
	A5	2,51E+00	5,02E-12	5,11E-03	6,55E-04	7,93E-02
	B2	4,04E-02	8,12E-12	8,71E-05	8,87E-05	1,31E-03
	C2	5,27E-02	1,86E-15	3,09E-04	2,74E-05	6,77E-03
	C3	5,10E-02	2,29E-14	4,87E-04	3,54E-05	1,62E-02
	C4	1,38E-01	3,12E-14	8,93E-04	7,53E-05	1,75E-02
	D	-2,25E-01	-7,19E-13	-6,56E-04	-6,83E-05	-1,41E-02

## SECTION 5 - LCA (LIFE CYCLE ASSESSMENT): CALCULATION RULES

### DECLARED UNIT OF MEASURE

The declared unit of measure is 1 m<sup>2</sup> of ceramic tiles for walls and floors with an average mass of 24.4 kg.

Declared unit of measure	1	m <sup>2</sup>
Weight	24.4	kg/m <sup>2</sup>
Conversion factor at 1 kg	0.0409	

### SYSTEM LIMITS

The entire product life cycle is considered (EPD type: cradle to grave) and in this EPD the modules described below are declared.

**Modules A1-A3** include processes that envisage the input of energy and materials for the system (A1), transport to the plant factory gate (A2), manufacturing processes and waste treatment (A3).

**Module A4** includes transport from the production plant to the customer or to the place of tile installation.

**Module A5** considers all the tile installation stages (such as the consumption of adhesives) and also the treatment of packaging waste (recycling, incineration, disposal). Energy replacement credits are declared in the module

D. During this stage a loss of ceramic material equal to 6.5% was considered.

**Module B1** considers the use of the tiles. During the use of ceramic tiles there is no generation of dangerous emissions indoors.

**Module B2** concerns the cleaning of the tiles. It considers the use of water, tile cleaning detergent – including the treatment of wastewater – for one year of use.

**Modules B3-B4-B5** refer to the repair, replacement and renovation of the tiles. If the tiles are installed correctly, no repair, replacement or renovation is required.

**Modules B6-B7** consider the use of energy for the operation of the technical systems integrated into the building (B6) and the use of operating water for technical installations related to the building. The use of operating energy or water is not considered. Cleaning water is declared in module B2.

**Module C1** concerns the process of demolition and deconstruction of the tiles from the building.

**Module C2** considers the transport of the discarded tile to a recycling or disposal process.

**Module C3** considers every process (collection, crushing process, etc.) necessary for tile recycling.

**Module C4** includes all landfill disposal processes, including pre-treatment and management of the disposal site.

**Module D** includes the benefits deriving from all the net flows at the end of life stage that leave the product limit system after having passed the end of waste stage. Incineration of packaging and the resulting energy credits (electricity and thermal energy) are declared in module D.

### ESTIMATES AND HYPOTHESES

Modules A5 to C4 are scenarios based on average data, included in the PCR created by the European Federation of ceramic tile manufacturers CET PCR 2014.

For materials (composed of glaze, dyes and chemical additives) for which primary data were not available and whose exact chemical composition was not known (taken from the technical data sheets), an average composition was used and hypotheses were formulated based on common chemicals.

### BACKGROUND DATA

Background data for life cycle modeling were taken from the latest version of the GaBi 8 professional database.

Other sources of background data used are ELCD FEFCO, *Perry's Chemical Engineers' Handbook*, *Ceramic Glaze Handbook*, *European Ceramic Tile Manufacturers' Federation*.



**QUALITY OF DATA**

The period of validity of the background data used by the ver. 5 tool based on the thinkstep database is between 2012 and 2018. Most of the information (energy and water consumption, emissions of pollutants, atomized powders and ceramic production) are measured or calculated directly at the company level and declared in the Italian IPPC document called AIA, which is specific and is checked for each plant involved in this study. Carbon dioxide emissions (related to carbonate oxidation) are collected using the ETS (Emissions Trading Scheme) declaration.

Detailed data were obtained not only for mixtures of raw materials (collected with primary data specific to companies) but also for dyes, frits and other raw materials used in the manufacture of the glaze.

The overall data quality can be considered optimal.

**PERIOD EXAMINED**

The primary data collected for this study refer to the entire production for the year 2016.

**ALLOCATIONS**

If it is not possible to avoid using allocation, the aspect is managed according to the ISO standard of reference (14040, 14044) using mass allocation. In particular, the supply of energy and materials has been allocated to the product based on the mass of ceramic tiles produced annually. No further allocations were applied to the subsequent module.

Furthermore, some ceramic waste is recycled internally. Credits are taken into consideration from the energy recovery of packaging materials at the end of product life (module D).

**CUT-OFF**

All mass and energy inflows and outflows were considered.

**SECTION 5 - LCA: SCENARIOS AND FURTHER TECHNICAL INFORMATION**

The following technical information on the declared modules and related scenarios is based on average data, in accordance with the European Federation of Ceramic Tile Manufacturers and Confindustria Ceramica.

**Transportation to the building site (A4)**

Ceramiche Refin sells its ceramic tiles in Italy, Europe and the rest of the world. The average predefined transport scenarios are shown and illustrated below.

Name	Value	Unit of Measur
Liters of fuel (per functional unit)	31	l/100km
Volumetric factor of capacity utilization (including empty trips)	0.85	-
Truck with national destination with a capacity of 27 tons (51% of tiles sold)	300	Km
Truck with a European destination with a capacity of 27 tons (34% of tiles sold)	1390	Km
Transoceanic shipping	6520	Km

**Installation in a building (A5)**

For the installation stage, 3 options are defined, in which it is possible to use different materials. For option 1, adhesives, mortar and water, for option 2 adhesives with mortar and polysulfides, for option 3 also cementitious adhesives (different quantities for different tile formats). These considerations are based on average data provided by various ceramic tile manufacturers in Europe. In this EPD it is assumed that the tiles are installed by means of a cementitious adhesive (option 3).

For the treatment of packaging waste, an average European scenario taken from "Eurostat, 2013" is used and illustrated; therefore the end of life consists in recycling, energy recovery and landfill disposal for plastics and paper, and in reuse, energy recovery and landfill disposal for wood. The loss of ceramic material considered is equal to 6.5%.

**Use (B1)**

The ceramic tiles are robust and have a hard surface that is resistant to abrasion. There is no impact on the environment during the use stage.

## Maintenance (B2)

Ceramic products can be cleaned regularly, to varying degrees depending on the type of building: residential, commercial or healthcare. The consumption of water and detergent was therefore considered. The values declared in this stage refer to a period of 1 year for residential use and described in the following table.

Residential use: 0.2 ml of detergent and 0.1 l of water are used to wash 1 m<sup>2</sup> of ceramic tiles once a week. The scenario of this stage is based on average data provided by several ceramic tile manufacturers in Europe.

Name	Value	Unit of Measure
Water consumption	0.1	l
Detergent	0.2	ml
Tile maintenance for walls and floors	52	Number/Year

## Repair, replacement and renovation (B3, B4, B5)

In general, the useful life of ceramic tiles is identical to the useful life of the building. No repair, replacement and renovation work is required for ceramic tiles.

### Use of operating energy and water (B6, B7):

These modules are not relevant to ceramic tiles.

## End of life (C1-C4)

C1: In accordance with the PCR developed by the European Federation of ceramic tile manufacturers, this module is not relevant for ceramic tiles.

C2: Ceramic tile demolition waste is transported from the building site to a container or treatment plant by truck and an average distance of 20 km is considered. The return journey will be included in the system. An average distance of 30 km from the container or treatment plant to the final destination can be considered.

C3-C4: The end-of-life scenario is described in the following table:

Name	Value	Unit of measure
Percentage of recycled material (C3)	70	%
Percentage of landfill material (C4)	30	%

## Benefits and loads that are beyond the product system limits (D):

Module D includes credits from recycling tile and packaging materials, energy credits from thermal recovery of packaging.

## EVIDENCE OF THE REQUIREMENTS

Ceramics are inert and therefore during use do not emit pollutants or substances harmful to the environment and to health. For this reason and according to the PCR, no evidence is required as it is not relevant for this product group.

## SECTION 6 - BIBLIOGRAPHY

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