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SAFETY DATA SHEET

DRY PRESSED CERAMIC TILE WITH LOW WATER ABSORPTION

Edition 2
July 18, 2017

1. Product Identification

Series: **ZERODESIGN** Trademark: **PROVENZA**

Common Name: Dry-pressed ceramic tile with low water absorption
Synonyms: Porcelain Ceramic Tile
Chemical Name : None
Chemical Family: Natural inorganic products
Chemical Formula: Not applicable to tile
CAS Reg. No.: Not applicable to tile

Manufacturer: Emilceramica S.R.L. a socio unico
Via Ghiarola Nuova, 29 41042 Fiorano M.se (Mo) - Italy
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Competent person responsible for the safety data sheet: Fabrizio Buzzega - EH&S department

Recommended use: Building Material – Dry pressed ceramic tiles with low water absorption ($E \leq 0,5\%$), Group BIa annex G according with ISO13006.

This document has been prepared in accordance with the Occupational Safety and Health Administration (OSHA) Hazard Communication standard, 29 Code of Federal Regulations (CFR) 1910.1200(g), SDS.

According with REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals – EU Regulation 18/12/2006), ceramic tiles are classified as “ARTICLE: object with physical properties more important to its function than any chemical properties” so that, a SDS is not required/mandatory. Nevertheless, this SDS also complies with CLP Regulation EC1272/2008 (CLP).

2. Hazards identification

Tiles are mixtures of predominately Clays, Sands, Feldspar and other naturally-occurring mineral, that have been mixed with water and fired in a very high temperature kiln ($> 1200^{\circ}\text{C}$ - $> 2190^{\circ}\text{F}$).

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The finished, fired tiles are odorless, stable, non-flammable, and **pose no immediate hazard to health.**

If dust is produced by cutting tiles during installation or if dust is produced by any other operations (including demolition/removal projects) respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates; only in this particular case an hazard to health could arise due to breathable crystalline silica.

Emergency Overview (dust/breathable crystalline silica): Danger! Lung injury and Cancer Hazard
GHS Classification (Global Harmonized Standard Classification):

- Carcinogenicity Category 1A (H350)
- Specific target organ toxicity, single exposure; Respiratory tract irritation - Category 3 (H335)
- Specific target organ toxicity, repeated exposure - Category 1A (H372)

GHS Label, Hazards and Precautionary Statements GHS Pictogram:

Crystalline Silica:  Category 3 (Respiratory tract irritation) (H335)
 Category 1A (Carcinogenicity) (H372)

Label Signal Word: Danger

Hazard Statements:

- (H350) May cause CANCER (inhalation)
- (H335) May cause respiratory irritation
- (H372) Causes damage to organs (lung/respiratory) through prolonged or repeated exposure (inhalation)

3. Composition/information on ingredients

Tiles are mixtures of predominately Clays, Sands, Feldspar and other naturally-occurring mineral, that have been mixed with water and fired in a very high temperature kiln (> 1200°C - >2190°F) Tiles are manufactured in various shapes, sizes, and colors. These products do not contain asbestos.

Under normal condition these products do not release hazardous materials after installation and are not considered hazardous waste should disposal be necessary.

Composition	CAS Number	Estimated % by Wt.
Silica vitreus	60676-86-0	75 - 85
Crystalline silica as quartz	14808-60-7	10 - 15
Mullite	1302-93-8	2.5 - 5
Plagioclase (Feldspar)	68476-25-5	1.5 - 4.5
K-Feldspar	68476-25-5	0 - 0.5

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4. First aid measures

Description of first aid measures

Following skin contact: Wash with plenty of soap and water.

Following eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice if irritation persists.

Following inhalation: Take the patient outdoors and keep them warm and still.

Most important symptoms and effects, both acute and delayed

During the floor installation process, cutting stage may produce breathable crystalline silica. Prolonged and/or large-scale inhalation of breathable crystalline silica dust may cause pulmonary fibrosis, commonly known as silicosis. The main symptoms of silicosis are coughing and shortness of breath. Occupational exposure to breathable crystalline silica dust must be monitored and controlled.

Indication of any immediate medical attention and special treatment needed

Treatment: None

5. Firefighting measures

Flash point (Method Used):	Not Applicable
Flammable limits:	LEL-Not Applicable UEL- Not Applicable
Autoignition Temperature:	Not Applicable
Fire Extinguishing Media:	Non Required – Non Flammable
Special Fire Fighting Procedures:	None required
Fire and Exposition hazards:	None required

6. Accidental release measures

Avoid creating excessive dust. Clean up dust with a vacuum system with a High-efficiency particulate (HEPA) air filter vacuum or damp sweeping. See Section 8 of this SDS concerning PPE information for clean-up.

7. Handling and storage

When cutting, grinding or removing, use equipment with integral dust collection and/or use local exhaust ventilation. ***Use wet cutting methods to reduce generation of dust.*** Use respiratory protection in the absence of effective engineering controls.

Do not store near acids. If tiles contact some acids, damage/discoloration to the surface may occur. Shelf life is unlimited.

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8. Exposure controls/personal protection

Control parameters (ACGH)

Total dust (TLV/TWA)
TLV TWA - 10 mg/m³
TLV STEL - n.d.
Breathable Dust fraction (TLV-TWA)
TLV TWA - 3 mg/m³
TLV STEL - n.d.
Crystalline Sylica as QUARTZ – Brethable fraction:
TLV TWA - 0.025 mg/m³
TLV STEL - n.d.

Exposure controls

Ventilation: Use adequate ventilation to keep exposure to dust below recommended exposure levels. Avoid inhalation of dust. The highest probability of silica exposure occurs during installation using dry cutting methods or during removal of installed tile.

Wet cutting methods are recommended.

Eye protection: Not required for normal use. In the absence of effective engineering controls, se dust-proof goggles or safety glasses with side shields. Contact lenses may absorb irritants. Do not wear contact lenses in work areas.

Hand/Skin protection: When cutting this product, cotton or leather work gloves should be worn to minimize skin exposure to dust and/or cuts. Wash hands prior to eating, drinking, or smoking, and at the end of the work shift, after cutting operations are conducted.

Respiratory protection: In the event of exposure levels higher than those stated in point 8.1, wearing a respiratory protection device compliant with national legal requirements is mandatory. Use of proper PPE it is still always recommended during tiles cutting, grinding and removing stages.

9. Physical and chemical properties

Appearance and colour:	brittle solid, color may vary
Odour:	odourless
Melting point/freezing point:	N.A. (> 2200°F)
Initial boiling point and boiling range:	N.A.
Flammability (solid/gas):	not flammable
Upper/lower flammability or explosive limit:	N.A.
Vapour density:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.

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Vapour pressure:	N.A.
Solubility in water:	insoluble
Specific Gravity (H ₂ O = 1)	> 2
Solubility in oil:	N.A.
Partition coefficient: n-octanol/water:	N.A.
Auto-ignition temperature:	not self-inflammatory
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidising properties:	N.A.
Volatility:	0 g/L Volatile Organic Comp.(VOCs)

10. Stability and reactivity

Reactivity :	Inert
Chemical stability:	Stable in normal conditions
Conditions to avoid:	Contact with acid
Stability:	Stable in normal conditions
Incompatible materials:	Acid (e.g. hydrofluoridric)
Hazardous decomp. products:	None
Hazardous Polymerization:	None

11. Toxicological information

Tile products are mixtures of predominately Clays, Sands, Feldspar and other naturally-occurring mineral, that have been mixed with water and fired in a high temperature kiln. Tiles are odorless, stable, non-flammable, and pose no immediate hazard to health.

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.

Primary Routes of Exposure

None for intact tile.

Inhalation and potential eye exposure to eyes, hands, or other body parts 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.

Acute Effects

No acute effects from exposure to intact tile are known.

Working with broken or cutted 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.



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In very rare cases, symptoms of acute silicosis, a form of silicosis (a nodular pulmonary fibrosis) associated with exposure to respirable crystalline silica, may develop following acute exposure to extremely dusty environments generated from tile dust.

Signs such as labored breathing and early fatigue may indicate silicosis; however, these symptoms can arise from many other causes.

Chronic Effects

No chronic effects are known for exposure to intact tile.

Long-term, continual exposure to respirable crystalline silica at or above allowable occupational exposure limits may lead to the development of silicosis (a nodular pulmonary fibrosis), and are associated with pulmonary tuberculosis, bronchitis, emphysema, and other airway diseases.

This type of exposure may also be related to the development of autoimmune disorders, chronic renal disease, and other adverse health effects.

Recent epidemiologic studies demonstrate that workers exposed to elevated silica concentrations have a significant risk of developing chronic silicosis. Signs such as labored breathing and early fatigue may indicate silicosis; however, these symptoms can arise from many other causes.

Potential Adverse Interactions

Silicosis may be complicated by severe mycobacterial or fungal infections and result in tuberculosis (TB). Epidemiologic studies have established that silicosis is a risk factor for developing TB. Any existing respiratory or pulmonary diseases may be complicated by exposure to respirable crystalline silica. Smoking may increase the risk of adverse effects if done in conjunction with occupational exposure to.

Carcinogen Status

Breathable crystalline silica is classified by the International Agency for Research on Cancer (IRAC) as a Group I Carcinogen (carcinogenic to humans). The National Toxicology Program (9th 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.

Overview of Animal Testing Data

Short term experimental studies of rats have found that intratracheal instillation of quartz particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters.

Oral (silica) Lethality

LD50 Rat oral >22,500 mg/kg

LD50 Mouse oral >15,000 mg/kg

LC50 Carp >10,000 mg/l (per 72 hr)



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12. Ecological information

Toxicity: Adopt good working practices and do not discharge the product into the environment.

Persistence and degradability : N.A.
Bioaccumulative potential : N.A.
Mobility in soil : N.A.
Other adverse effects : None

13. Disposal considerations

Ceramic tiles are building materials. Waste treatment methods: Recover if possible or dispose in a certified landfill authorized to accept such material in accordance with the relevant local and national legislation.

14. Transport information

D.O.T Shipping Name: Not applicable
Hazard Class: Non-regulated
(for disposal purposes material is non-hazardous Class III regulated material)
ID Number: Not applicable
Marking: Not applicable
Label: None
Placard: None
Hazardous Substance/RQ: Not applicable
Shipping Description: Porcelain/Ceramic Tiles
Packaging References: None

15. Regulatory information

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):



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<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	<input type="checkbox"/> Unstable
<input type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water
<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.

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.

16. Other information

NONE