

Caesarstone Outdoor Collection

Safety Data Sheet



1. Product and Company Identification

Product Name: Caesarstone® Outdoor

This Safety Data Sheet relates to the Caesarstone® Outdoor Collection.

SDS Preparation Date: October 2020

SDS Revision Date: October 2020

Product Use: Caesarstone® Outdoor quartz surfaces are designed for outdoor use, particularly kitchen worktops and other similar uses.

Avoided Uses: Do not fabricate the product by using dry processes which generate dust.

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Caesarstone South East Asia Pte Ltd.	10 Bukit Batok Crescent, #08-06, The Spire, Singapore 658079	+65-6316-1938
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2. Hazards Identification

The finished Caesarstone® is an inert, stable product that does not release hazardous materials in its fully intact form. However, dust derived from Fabrication Processes* contain respirable crystalline silica (SiO₂). Hence, workers involved in Fabricating Processes, whether at the fabrication workshop or upon installing and removing/demolishing Caesarstone® slabs are at risk for significant respirable crystalline silica exposure. During the Fabricating Process, it is necessary to consider the following information.

* “Fabrication Process/es” or “Fabricating” or “Fabrication” means cutting, grinding, chipping, sanding, drilling, polishing, etc. manufacturing processes, including during installation or removal of the product.

In this SDS Caesarstone® slabs are referred to also as “products”.

PLEASE READ CAREFULLY

The following relates to the formation of dust, e.g., during Fabrication Processes.

DANGER!



Category 1A
(Carcinogenicity) (H350, H372)






Category 3
(Respiratory tract irritation) (H335)

HAZARD STATEMENTS:¹

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

PREVENTION:¹

- P202 Do not handle until all safety precautions have been read and understood.
- P260+P261 Do not breathe dust generated during the Fabrication, installation and/or removing/demolishing processes.
- P264 Wash face and hands thoroughly after handling and fabricating. 
- P270 Do not eat, drink or smoke when using this product. 
- P284 Wear respiratory protection for particles (P3/N95 or higher). 

Refer to Section 7 for Handling and Storage and to Section 8 for dust Exposure Controls.

¹ Globally Harmonized System of Classification and Labelling of Chemicals (GHS)-UNECE- GHS (Rev.4) (2011).

I FIRST AID MEASURES:¹ 

P314 Get medical advice/attention if you feel unwell.

I DISPOSAL:¹

P501 Dispose of remains in accordance with local regulations.
REGULATION (EC) No 1272/2008.

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains chemicals, including silica and titanium dioxide, that become airborne and respirable when fabricating the product and are classified by the State of California as causing cancer and birth defects. For information see www.p65warnings.ca.gov.

Potential Health Effects

I INHALATION:

Do not breathe dust.

Workers who inhale very small crystalline silica particles are at risk for silicosis - an incurable, progressively disabling and sometimes fatal lung disease. Silicosis results in permanent lung damage. Silica dust particles become trapped in lung tissue, causing inflammation and scarring and reducing the lungs' ability to take in oxygen. Symptoms of silicosis can include shortness of breath, cough and fatigue, and may or may not be obviously attributable to silica. According to the USA OSHA alert of Feb 2015, workers exposed to airborne crystalline silica also are at increased risk for lung cancer, chronic obstructive pulmonary disease (COPD) and kidney disease, and according to certain medical schools of thought, such workers are also at increased risk for auto-immune diseases (for example rheumatoid arthritis).

I SKIN AND EYE CONTACT:

Mineral dust may produce transitory mechanical irritation to skin and eyes.

I AGGRAVATION OF PRE-EXISTING CONDITIONS:

Persons with impaired respiratory function and chronic respiratory disorders may be more susceptible to the effects of this substance and may be adversely affected by any airborne particulate matter exposure. Smoking can increase the risk of lung injury. Inhalation may increase the progression of tuberculosis. Persons with preexisting skin disorders may be more susceptible to the effects of this material.

¹ Globally Harmonized System of Classification and Labelling of Chemicals (GHS)-UNECE- GHS (Rev.4) (2011).

3. Composition/Information on Ingredients

INGREDIENT NAME	CAS NUMBER	% WEIGHT
Quartz/silica sand	14808-60-7	50-92
Cristobalite	14464-46-1	0-50
Feldspar	68476-25-5	0-15
Glass & mirror	N/A	0-43
*Acrylic resin	Mixture	7.0-15
Other material ²	N/A	0-4.5
Titanium dioxide	13463-67-7	< 4
Inorganic pigment mixture	N/A	< 1

*Concentrations of methyl methacrylate (MMA) during testing of the final product were well below OSHA’s definition of trace amount, or a non-reportable quantity, of 1% (<https://www.osha.gov/dsg/hazcom/ghd053107.html>). Free methyl methacrylate (MMA) is highly flammable.

Percentage refers to maximum possible per slab; presence and percentage depend on specific slab model.

² Up to 4.5% of material, the specific identity of which is a trade secret of Caesarstone. Exposure control of this material is treated under quartz/silica exposure and does not require additional protective means. Health Hazards related to this material according to OSHA: Carcinogenic Classification: International Agency for Research on Cancer (IARC): Group 3, not classifiable as to its carcinogenicity to humans. Potential Symptoms: Fibrotic pneumoconiosis. Health Effects: Pneumoconiosis. Affected Organs: Lungs, CVS.

4. First Aid Measures

■ EYE CONTACT WITH DUST:

Flush immediately with copious amounts of water for 15 minutes. Seek immediate medical attention.

■ SKIN CONTACT WITH DUST:

Wash affected area with soap and plenty of water. Seek medical attention if adverse effects occur.

■ INHALATION OF DUST:

Remove person to fresh air. If breathing has stopped, administer artificial respiration and seek immediate medical attention.

■ INGESTION OF DUST:

Product in its marketed form is inert. If large amounts are swallowed, seek medical attention.

5. Fire Fighting Measures

■ EXTINGUISHING MEDIA:

Water, dry chemical, CO₂ and foam.

■ SPECIAL FIRE FIGHTING PROCEDURES AND PERSONAL PROTECTIVE EQUIPMENT:

Keep personnel away and upwind of fire. Use self-contained breathing apparatus with full face mask.

■ UNUSUAL FIRE AND EXPLOSION HAZARDS:

Decomposition products resulting from the polymer and pigments degrading at elevated temperatures include various hydrocarbons, carbon dioxide, carbon monoxide and water. Fumes of metal oxides and mica particles could also be released.

Free methyl methacrylate (MMA) is highly flammable. Concentrations of methyl methacrylate (MMA) during testing of the final product were well below OSHA's definition of trace amount, or a non-reportable quantity, of 1% (<https://www.osha.gov/dsg/hazcom/ghd053107.html>).

6. Accidental Release Measures

The product does not represent a risk of spillage.

CLEANUP AND DISPOSAL OF SPILL:

Solid slabs can simply be gathered and disposed of as necessary. However, if large amounts of dust or waste are created by cutting during the Fabrication Process, use a HEPA vacuum system or dampen spilled material with water and sweep up wet material to avoid dust generation - DO NOT DRY SWEEP. Wear suitable respiratory protection and protective clothing (see Section 8). If large quantities of this material enter the waterways, contact the Federal, State, or local Waste Management Authority. Dispose of waste in accordance with local, state and federal regulations.

7. Handling and Storage

HANDLING:

Wear safety shoes and gloves during manual handling and storage operations of Caesarstone® slabs.³ The product is heavy and breakable; handle with care to avoid injury and prevent damage. Look for your local safety regulations related to handling and working with heavy material.

Avoid breathing dust when Fabricating, installing and removing/demolishing the product. Refer to Section 8 for Exposure Control/Personal Protection details.

STORAGE:

Store properly in a closed and covered place. Avoid strong impacts that may cause the material to break.

³ According to Standards for Gloves - EN 388: 2003.

8. Exposure Controls/Personal Protection

EXPOSURE GUIDELINES:

Permissible Exposure Limit (PEL)

There is no provision for any risk associated with the finished Caesarstone® product in the CLP (EC) regulation no. 1272/2008.

However, in Fabrication Processes of the product, dust containing crystalline silica (SiO₂), other minerals, and titanium dioxide may be generated. Safe Work Australia determined a total crystalline silica (SiO₂) WES (Workplace Exposure Standard) of 0.05 mg/m³.

Check the PELs applicable under the regulations of each country where you handle the product.

PELs for respirable crystalline silica and cristobalite, measured in mg/m³, 8 hours, TWA, are as follows: (These limits may be changed from time to time; you are required to follow local safety announcements.)

COUNTRY/AUTHORITY	CRYSTALLINE SILICA (SiO ₂)	CRISTOBALITE & TRIDYMITTE
Austria	0.15	0.15
Belgium	0.1	0.05
Czech Republic	0.1	0.1
Denmark	0.1	0.05
Finland	0.2	0.01
France	0.1	0.05
Germany ⁴	-	-
Greece	0.1	0.05
Ireland	0.05	0.05

⁴ Germany no longer uses a PEL for quartz, cristobalite and tridymite. Employers are obliged to minimise exposure as much as possible, and to follow certain protective measures.

COUNTRY/AUTHORITY	CRYSTALLINE SILICA (SiO ₂)	CRISTOBALITE & TRIDYMITTE
Israel	0.1	-
Italy	0.025	0.025
Netherlands	0.075	0.075
Norway	0.1	0.05
Poland	0.3	0.3
Portugal	0.025	0.025
Spain	0.1	0.05
Sweden	0.1	0.05
Switzerland	0.15	0.15
United Kingdom	0.1	0.1
Australia	0.05***	0.05***
South Africa	0.1	-
New Zealand	0.05	0.05
USA OSHA ^{5,6} , PEL	0.05 - general industry/ maritime 10 ÷ (%SiO ₂ + 2) - construction*	**
ACGIH (2019)	0.025	0.025
NIOSH	0.05	0.05

* Fabricators who work at construction sites (for example, installers) should apply the PEL for construction; others should apply the PEL for general industry.

** Use ½ the value calculated from the count or mass formulae for crystalline silica.

*** Safe Work Australia recommended Dec 2019. Please refer to your respective State regulator.

⁵ See OSHA - 29 CFR 1926.1153. Values are for: silica, crystalline, α-quartz.

⁶ Abbreviations: see Section 16.

Employers should consult with a trained occupational safety and health professional in order to monitor the air in their workplace and in order to determine worker exposures to hazardous dust.

Exposure Control

I MANUFACTURING AND INSTALLATION:

Dust derived from the Fabrication Processes contains crystalline silica (SiO₂). Exposure to SiO₂ dust without the use of suitable protection may cause serious diseases as detailed in Section 2 and Section 11.

Exposure to dust may be monitored and controlled with suitable control measures such as:

I ENGINEERING CONTROLS:

CNC machines and wet cutting methods are recommended to reduce generation of dust. When Fabricating the product, installing or removing/demolishing the installed product, use equipment with integral dust collection and/or use local exhaust ventilation in a safe manner to maintain the ambient workplace atmosphere below the relevant PEL.

I CLEANING AND MAINTENANCE:

Use HEPA vacuum and/or water cleaning systems. Never dry sweep or use compressed air.

I PREVENTIVE MAINTENANCE PROGRAMMES:

Preventive maintenance programmes should be developed to ensure a correct procedure for the cleaning and operation of work equipment.

Personal Protective Equipment

EYE/FACE PROTECTION:

During Fabrication operations use dust-proof goggles or safety glasses with side shields.⁷

HAND AND SKIN PROTECTION:

Cotton or leather work gloves⁸ and steel-toed shoes should be worn when handling and transporting the product. During the Fabrication Process protective clothing should be worn to minimise cuts and/or skin exposure to dust. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash thoroughly after work using soap and water. Promptly remove dusty clothing (which is a source of respirable silica) and launder safely, preferably on site, separately from other clothes, before reuse.

RESPIRATORY PROTECTION:

Properly fitted respiratory protection equipment approved by Australian Standards for eye, hand and full body protection for protection against organic vapours and dusts is necessary to avoid inhalation of crystalline silica during the Fabrication Process of the product, and other processes that generate dust. The appropriate respirator selection depends on the type and magnitude of exposure. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known, or under any other circumstance where air purifying respirators may not provide adequate protection.

MEDICAL SURVEILLANCE:

Each worker should undergo relevant health surveillance prior to exposure and at regular intervals thereafter.

⁷ According to 29CFR 1910.133 or European Standard EN166. Values are for: silica, crystalline, α -quartz.

⁸ According to Standards for Gloves - EN 388: 2003.

9. Physical and Chemical Properties

- **Appearance:** Multi-coloured solid engineered stone
- **Odour:** Odourless
- **pH:** N/A
- **Melting Point/Freezing Point:** N/A
- **Initial Boiling Point/Boiling Range:** N/A
- **Flash Point:** N/A
- **Evaporation Rate:** N/A
- **Flammability:** N/A
- **Upper and Lower Flammability/Explosive Limits:** N/A
- **Vapour Pressure:** N/A
- **Vapour Density:** N/A
- **Relative Density (EN-14617-1):** 2200-2500 kg/m³
- **Solubility:** Insoluble in water
- **Partition Coefficient of Thermal Expansion (EN-14617-11):** $3.7-4.2 \cdot 10^{-5} \text{ } ^\circ\text{C}^{-1}$
- **Auto-ignition Temperature:** N/A
- **Decomposition Temperature:** N/A
- **Viscosity:** N/A
- **By ASTM E-84:** Class A; Flame Spread Index (FSI): 10; Smoke Developed Index (SDI): 15

10. Stability and Reactivity

REACTIVITY:

The product is stable under normal conditions of use, storage and transport.

CHEMICAL STABILITY:

Stable at normal temperatures and storage conditions.

PHYSICAL STABILITY:

Avoid strong impacts that may cause the material to break.

INCOMPATIBILITY WITH OTHER MATERIALS:

This product is incompatible with hydrofluoric acid.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition can release various hydrocarbons, carbon dioxide, carbon monoxide and water. Fumes of metal oxides and mica particles could also be released.

HAZARDOUS POLYMERISATION:

Will not occur.

11. Toxicological Information

No acute or chronic effects are known from exposure to the intact product.

PRIMARY ROUTES OF EXPOSURE:

None for intact product. Inhalation and potential exposure to eyes, hands, lungs or other body parts if contact is made with dust emitted from the Fabrication Process.

ACUTE EFFECTS:

Breathing dust generated from the above processes may cause acute mechanical respiratory irritation, including coughing, wheezing or difficulty breathing.

SKIN CORROSION/IRRITATION:

Skin contact may cause mechanical irritation.

SERIOUS EYE DAMAGE/IRRITATION:

Eye contact may cause mechanical irritation.

RESPIRATORY EFFECTS

Crystalline Silica (SiO₂)

Repeated, long-term exposure to respirable crystalline particles of a very small size (less than 5 microns will have 87% penetration) may cause silicosis, an incurable, progressively disabling and sometimes fatal lung disease. Silica dust particles become trapped in lung tissue, causing inflammation and scarring and reducing the lungs' ability to take in oxygen. Symptoms of silicosis can include progressive shortness of breath, cough and fatigue. Safety measures including wet processing and the use of effective respiratory protection will reduce the burden of inhaled dust and prevent the disease.

Titanium Dioxide (TiO₂)

Exposure to respirable titanium dioxide particles may cause lung fibrosis and nuisance particulate accumulation in lungs. NIOSH recommends exposure limits of 2.4 mg/m³ for fine TiO₂ as time-weighted average (TWA) concentrations for up to 10 hours per day during a 40-hour work week. These recommendations represent levels that over a working lifetime are estimated to reduce risks of lung cancer to below 1 in 1,000.

Methyl Methacrylate (MMA)

Free methyl methacrylate (MMA) is highly flammable. Concentrations of methyl methacrylate (MMA) during testing of the final product were well below OSHA's definition of trace amount, or a non-reportable quantity, of 1% (<https://www.osha.gov/dsg/hazcom/ghd053107.html>).

I CARCINOGENICITY:

The following components are listed by IARC, NTP, OSHA or ACGIH as carcinogens.

MATERIAL	IARC	NTP	OSHA	ACGIH
Silica, Crystalline (quartz and cristobalite)	Group 1 carcinogenic to humans	Known to be a carcinogen	Yes regulates as carcinogen	A2 suspected human carcinogen

I TERATOGENICITY: No data.

I MUTAGENICITY: No data.

I NAME OF TOXICOLOGICALLY SYNERGISTIC PRODUCTS: No data.

I SPECIFIC TARGET ORGAN TOXICITY SINGLE AND REPEATED EXPOSURE:

Silicosis is caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic and accelerated (acute). Chronic silicosis is the most common form of silicosis and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple silicosis is characterised by lung lesions (shown as radiographic opacities) less than 1 centimetre in diameter, primarily in the upper lung zones. Simple silicosis may not be associated with symptoms, detectable changes in lung function, or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterised by lung lesions (shown as radiographic opacities) greater than 1 centimetre in diameter. Symptoms, if present, are shortness of breath, wheezing, cough, and sputum production.

I TOXICITY TESTING DATA:

Crystalline Silica

Inhalation (human) LCLo: 0.3 mg/m³/10Y

Inhalation (human) TCLo: 16 mppcf/8H/17,9Y

Intermittent; focal fibrosis, (pneumoconiosis), cough, dyspnea

Inhalation (rat) TCLo: 50 mg/m³/6H/71W

Intermittent; liver - tumours

Oral LD₅₀ RAT: 500 mg/kg

I SENSITISATION: No data.

I MUTAGENICITY: No data.

I REPRODUCTIVE EFFECTS: No data.

I DEVELOPMENTAL EFFECTS: No data.

12. Ecological Information

Ecotoxicity is expected to be low, based on the insolubility of the product and of the silica dust in water. Caesarstone® does not contain ecotoxins and also due to its physical-chemical nature, it is not conducive to the growth of micro-organisms on its surface.

ENVIRONMENTAL FATE: No data.

ENVIRONMENTAL TOXICITY:

No data is available regarding persistence and degradability, bioaccumulative potential, mobility in soil, or other adverse effects.

ISO 14001 CERTIFICATION:

Caesarstone® is ISO 14001 certified for Environmental Management Systems.

GREENGUARD CERTIFICATION:

Caesarstone® is compliant with the GREENGUARD standard.

Quartz (14808-60-7)

ENVIRONMENTAL FATE:

No data is available regarding persistence and degradability, bioaccumulative potential, mobility in soil, or other adverse effects.

ENVIRONMENTAL TOXICITY: No data.

13. Disposal Considerations

WASTE DISPOSAL METHOD:

Disposal of product should be done in accordance with local regulations. All disposal must be carried out in accordance with all the laws, requirements and guidelines applicable in the location of the user of Caesarstone® products.

14. Transportation Information

None Allocated.

15. Regulatory Information

None Allocated.

16. Other Information

None Allocated.

Key Legend Information:

ACGIH	American Conference of Governmental Industrial Hygienists
IARC	International Agency for Research on Cancer
OSHA	Occupational Safety and Health Administration
NA	Not Applicable
NTP	National Toxicology Program
PEL (OSHA)	Permissible Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health

References

- Registry for Toxic Effects of Chemical Substances (RTECS), 2006.
- OSHA/NIOSH Worker Exposure to Silica during Countertop Manufacturing, Finishing and Installation, 2015
<http://www.cdc.gov/niosh/docs/2015-106/pdfs/2015-106.pdf>
- Centers for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Reports, Silicosis mortality trends and new exposures to respirable crystalline silica - U.S., 2001-2010. (February 13, 2015).
- NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica, April 2002.
- NTP Eleventh Report on Carcinogens, 2005.
- IARC Monograph Volume 68, Silica, Some Silicates and Organic Fibres, 1997.
- IARC Monograph; 14th Report on Carcinogens. 2016. Silica, Crystalline (Respirable Size)
<https://ntp.niehs.nih.gov/pubhealth/roc/index-1.html#toc1>
- Hazardous Substances Data Bank (HSDB), 2004, 2006.
- Documentation of the TLV – Silica, Crystalline: α -Quartz and Cristobalite, American Conference of Governmental Industrial Hygienists, 2006.
- International silica standards_ Countries must update exposure limits _ 2018-10-08 _ ISHN, published May 2019

The information contained herein is believed to be correct and represents the best information currently available for Caesarstone®. However, Caesarstone makes no warranties, expressed or implied, of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from the use thereof. Under no circumstances does the data contained in this Safety Data Sheet constitute a guarantee of specific properties other than such properties explicitly mentioned in this SDS or create any contractual relationship. The user of the product only is responsible for determining the suitability of Caesarstone's products for its particular application.

It is the exclusive responsibility of the recipient of our product to find out the applicable laws, rules, practices and regulations prior to using the product and to comply with them in all respects. You should note that applicable national and international regulations and laws may change from time to time and it is your responsibility to follow such changes.

The contents of this Safety Data Sheet must not be interpreted as a recommendation to use any product in violation of the laws or safety practices.

Further information is available at <https://www.osha.gov/silica> and at <http://www.nepsi.eu> and in the *Guide to Good Practice for the Agreement on Workers' Health Protection Through the Good Handling and Use of Crystalline Silica and Products Containing It*, published by NEPSI. See also the Caesarstone website for safety instructions and recommendations at: mos.caesarstone.com.au.

