



MATERIAL SAFETY DATA SHEET (Nr.33)

according Regulation EC No. 1907/2006 (REACH), Regulation EC No. 1272/2008 (CLP)
and Commission Regulation EU No. 2020/878

Date of issue: 2 January 2018

Page: 1/7

Revision date: 22.06.2023

Revision Nr.: 1

Product name: **SiC Bricks**

Product group: SiC

Quality class: PD – SiC 75

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Product name: **SiC-based Refractory Stones**

CAS no: n/a (mixture)

EC (EINECS) no: n/a (mixture)

Index no: n/a (mixture)

REACH registration no: N/A for mixtures

Other names: None.

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

Building industry – masonry lining of walls, vaults and other parts of thermal aggregates and other industrial facilities (cement industry, incinerator plants, chemical production etc.).

1.3 Details of the supplier of the safety data sheet:

Manufacturer: P-D Refractories CZ a.s.

Address: Nádražní 218, 679 63 Velké Opatovice

Phone: +420 516 493 111, Fax: +420 516 477 338

Email address of competent person responsible for material safety data sheet: Milan.Mazura@pd-group.com

1.4 Emergency telephone number:

Toxicological information centre -+420 224919293, 224915402

Na Bojišti 1, 128 08 PRAGUE 2

SECTION 2. HAZARD IDENTIFICATION

2.1 Classification of substance or mixture:

The product is not classified as hazardous under Regulation (EC) No. 1272/2008 of the European Parliament and of the Council.

2.2 Label elements:

The product is not subject to compulsory identification.

2.3 Other hazards:

The product does not meet the criteria for classification among PBT or vPvB substances.

SECTION 3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures

Shaped dense refractory material on the basis of silicone carbide with content of SiC 70 – 80% (CAS: 409-21-2, EC: 206-991-8) and of silicon nitride Si₃N₄ 18 – 21% (CAS: 12033-89-5, EC: 234-796-8) with vitrified bond created by sintering at temperature higher than 1000°C. Content of other components: Fe₂O₃ ≤ 0.8%, Si < 0.5%, Al₂O₃ < 1%.

Substances dangerous for health or the environment:

The product does not contain substances classified as dangerous in the sense of Regulation of the European Parliament and of the Council (EC) no. 1272/2008 CLP.

Substances with workplace exposure limits:

Does not contain any in the sold state, otherwise see data in 8.1.

Persistent, bio-accumulative and toxic, highly persistent and highly bio-accumulative substances:

The product does not contain PBT and vPvB type substances.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1 First aid instructions:

General instructions: Dust resulting from cutting, grinding, breaking etc. mainly consists of mixtures of silicon compounds (silicon carbide and nitride). Exposure to dust particles may cause irritation of eyes and upper respiratory tract. Dust particles may contain a small amount of crystalline silicon dioxide.

Immediate medical attention is not necessary.

Inhalation: Move the exposed person to the fresh air. Rinse the oral cavity with water and clear the nose to remove the inhaled dust.

Skin contact: First aid not needed, observe routine personal hygiene practice.

Eye contact: Wash with plenty of lukewarm water. After rinsing use a suitable eye lotion. Wash the eye surroundings with water too. In the case of eye injury seek medical attention.

Ingestion: Never evoke vomiting in unconscious person! Do not serve drinks to unconscious



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and Commission Regulation EU No. 2020/878

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Page: 2/7

Revision date: 22.06.2023

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Quality class: PD – SiC 75

person! Rinse the mouth with water carefully, drink a couple of glasses of water.

4.1.2 Additional data: a) Immediate medical attention is recommended in the case of swallowing.

b) In the case of inhalation moving the exposed person to fresh air is recommended.

c) Remove contaminated parts of clothing.

d) Recommended personal protective means to persons providing first aid: See section 8

4. Most important symptoms and effects, both acute and delayed:

Respiratory tract irritation.

Exposed eye irritation.

Temporary irritation of the digestive tract after swallowing the dust.

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

Visit a doctor in the case of nausea.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media: **Suitable:** Non-flammable. Packaging material used may be flammable, use appropriate extinguishing agent depending on the surrounding fire.

Non-suitable: None are specified.

5.2 Special hazards arising from the substance or mixture: None are known.

5.3 Advice for fire-fighters: Non-flammable material. Use equipment depending on the surrounding fire (separate breathing apparatus, fire protection clothing).

SECTION 6. PRECAUTIONS IN CASE OF ACCIDENTAL LEAK

The activity described below applies to leak of dust during mechanical destruction of the product or in case of excessive release of dust fractions when processing the product. There is no hazard during regular manipulation with the product.

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

Restrict unauthorised access to the exposed area until emergency elimination. In the case of large leaks secure the area against unauthorised access.

6.1.2 For emergency responders:

Prevent further dust spread through the air. In the case of dusty environment use personal protective equipment (see section 8). Other special precautions are not necessary.

6.2 Environmental precautions: No acute negative effects on the environment. Prevent further dust spread through the air. Place the devalued product in specified waste collection containers.

6.3 Methods and materials for containment and cleaning up:

; Sweep up the spilled product and place in specified waste collection containers. Prevent excessive dust formation during cleaning. Other special precautions are not necessary.

6.4 References to other sections: Personal protective equipment – section 8.

Waste disposal – section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

7.1.1 Particular recommendations: Prevent excessive (undesirable) dust formation during handling.

7.1.2 General hygienic instructions for work: Use personal protective equipment where necessary. Other special precautions are not necessary.

7.2 Conditions for safe storage, including any incompatibilities: Store in a dry place. Prevent dust formation.

Storage limits: None are specified.

7.3 Specific end uses: No other requirements and instructions except for the data included in section 1.2.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: Governed by Government Regulation no 361/2007 Coll., stipulating conditions of occupational health protection, as amended, Annex 3:

No hygienic limits are specified for the product. Due to the nature of the mixture the following values may be applied:

The following applies to dusts with a mostly non-specific effect under Annex No. 3, Part A, Section 5:

5. When the dust contains less than 1% of crystalline SiO₂ and does not contain asbestos, it is considered to be dust with mostly non-specific effect.

For such dust with mostly non-specific effect, PELc 10 mg.m⁻³ applies.

**MATERIAL SAFETY DATA SHEET (Nr.33)**according Regulation EC No. 1907/2006 (REACH), Regulation EC No. 1272/2008 (CLP)
and Commission Regulation EU No. 2020/878

Date of issue: 2 January 2018

Page: 3/7

Revision date: 22.06.2023

Revision Nr.: 1

Product name: **SiC Bricks**

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8.2 Exposure controls:**8.2.1 Appropriate engineering controls:** Ventilation – Where dust content in the air may be controlled with technical methods (local exhaustion, ventilation etc.)**8.2.2 Individual protective measures such as personal protective equipment:****Hygienic conditions:**

Prevent eye contact, do not inhale.

Do not stay in places with higher dust concentrations without cause

Observe routine personal hygiene before eating, drinking, toilet use and after work.

Personal protective equipment:**Eye and face protection:** Use protective goggles with side pieces in the places of excessive dust formation.**Skin – hand protection:** Protective work gloves (for example leather).**Skin – other protection:** Work clothes and boots.**Respiratory tract protection:** In the case of exceeded NPK (exposure limit) use a respirator with filter against fibrogenic dust**Thermal hazard:** N/A**8.2.3 Environmental exposure controls:**

Prevent flying dust during cutting, grinding, breaking etc.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

The information relates to mixture.

9.1 Information about basic physical and chemical properties

- | | |
|--|--|
| a) Physical state: | Solid state – refractory moulded products, |
| b) Colour: | Different colours. |
| c) Odour: | None |
| d) Melting point/freezing point: | And 1650 °C |
| e) Boiling point or initial boiling point and boiling range: | Not specified. |
| f) Flammability (solid, gas) | Non-flammable. |
| g) Lower and upper explosion limit values: | |
| h) Flash point: | Non-flammable. |
| i) Auto-ignition temperature: | Non-flammable. |
| j)) Decomposition temperature | Not specified. |
| k) Ph: | Nor specified |
| l) Kinematic viscosity: | Not specified. |
| m) Solubility: | Non-soluble |
| n) Partition coefficient: n-octanol / water (logarithmic value): | Not specified. |
| o) Vapour pressure: | Not specified. |
| p) Density and/or relative density | 2,65 g/cm ³ (bulk density) |
| r) Relative vapour density | Not specified. |
| s) Particle characteristics (solids) | Not specified. |
| t) Evaporation rate: | Not specified. |
| t) Decomposition temperature: | Not specified. |
| u) Explosive properties: | None. |
| v) Oxidising properties: | None. |

9.2. Other information

Solvent content (VOC) 0% (according to definition of the air protection act)

9.2.1 Information with regard to physical hazard classes None.**9.2.2 Other safety characteristics** None.



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according Regulation EC No. 1907/2006 (REACH), Regulation EC No. 1272/2008 (CLP)
and Commission Regulation EU No. 2020/878

Date of issue: 2 January 2018

Page: 4/7

Revision date: 22.06.2023

Revision Nr.: 1

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Note:

"Not specified": irrelevant for the product

"None": not available for the product.

SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** No decomposition under appropriate storage and use conditions.
10.2 Chemical stability: The product is stable under normal conditions.
10.3 Possibility of hazardous reactions: None.
10.4 Conditions to avoid: None.
10.5 Incompatible materials: None.
10.6 Hazardous decomposition products: None.

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

The data described below applies to impact of dust during mechanical destruction of the product or in case of excessive release of dust fractions when processing the product. There is no hazard during regular manipulation with the product

Ways of entry to organism: No acute or chronic effects when entering through common ways of entry.

a) Acute toxicity

Ways of entry to organism: No acute or chronic effects when entering through common ways of entry.

Acute toxicity:

- LD₅₀, oral, rat (mg.kg⁻¹): not specified
- LD₅₀, dermal, rat or rabbit (mg.kg⁻¹): not specified
- LC₅₀, inhalation, rat, for aerosols or particles (mg.kg⁻¹): not specified
- LC₅₀, inhalation, rat, for gases and vapours (mg.kg⁻¹): not specified

b) Skin corrosion/irritation

Not classified.

c) Serious eye damage/irritation

particles in the eyes cause discomfort[LCI1]..

d) Respiratory or skin sensitisation

repeated contact with skin may cause skin irritation..

e) Germ cell mutagenicity

Not classified.

f) Carcinogenicity

Not classified.

g) Reproductive toxicity

Not classified.

h) STOT-single exposure

When inhaled: dust may irritate the respiratory system

i) STOT-repeated exposure

long or repeated inhalation of dust is harmful to the respiratory system. [LCI2]. Information about the product: no side effects when the conditions of recommended manipulation and use are observed

j) Aspiration hazard

Not classified. Inhalation: dust may irritate the respiratory system. When swallowed: the intake may stimulate the intestines, low oral toxicity. Swallowing may irritate the digestive system, low oral toxicity

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

They are not available.



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Page: 5/7

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11.2.2 Other information

Other information: The product may contain crystalline quartzite. Product dust inhalation is considered a source of minimum risk of lung fibrosis (silicosis). Chronic obstructive lung disorder is only suspected after very long exposition times (years) under exposure concentrations exceeding the permitted limits. Carcinogenicity of cristobalite for humans has not been unambiguously proved.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity for aqueous organisms: A natural material by origin, no assumed toxic effects on aqueous organisms.

12.2 Persistence and degradability: The product is inert and does not degrade.

12.3 Bioaccumulation potential: Data not available.

12.4 Mobility in soil: Data not available. Water insoluble.

12.5. Results of PBT and VPvB assessment: Not required. Does not contain PBT and vPvB substances.

12.6. Endocrine disrupting properties: Data not available.

12.7. Other unfavourable effects: The product is inert and other potential negative effects are connected with mechanical effects of dust formation.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Dumping on specified dumps. Disposal by release to sewerage: Excluded by the product nature.

Waste classification according to Decree 93/2016 Coll. (Waste Catalogue):

10 12 08 Waste ceramic goods, bricks, tiles and construction materials (after thermal processing), cat. O.

13.2 Methods of contaminated waste disposal: According to the nature of package construction material the waste is classified in group 15 01 Packaging materials (including separately collected communal waste packaging materials), cat. O. Empty package without content residues may be disposed of by procedures dictated by the construction material of the package (repurchase, recycling, dumping, incineration).

13.3 Waste legislation:

European waste catalogue

SECTION 14. TRANSPORT INFORMATION

14.1 UN number or ID number: -

Not subject to regulations for dangerous object transport.

14.2 UN proper shipping name:

Not subject to regulations for dangerous object transport.

14.3 Transport hazard class(es):

Not subject to regulations for dangerous object transport.

14.4 Packing group:

Not subject to regulations for dangerous object transport.

14.5 Environmental hazards:

Not subject to regulations for dangerous object transport.

14.6 Special precautions for user:

Not subject to regulations for dangerous object transport.

14.7 Maritime transport in bulk according to IMO instruments:

Not subject to regulations for dangerous object transport.

SECTION 15. REGULATORY INFORMATION

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

Relevant legislation European Union:

- Regulation (EC) No 1907/2006 of the European Parliament and of the ,concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)



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Date of issue: 2 January 2018

Page: 6/7

Revision date: 22.06.2023

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- Regulation EC No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work
- Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
- Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
- Commission Directive (EU) 2017/164 of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC
- European Waste Catalogue
- Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations
- Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products Text with EEA relevance

15.2 Chemical safety assessment

There are no available data for assessment of safety of chemical substances for this material.

SECTION 16. OTHER INFORMATION

Data on amendments and revisions:

Rev. no	Date	Amendment description
1.	22.06.2023	Modification of SDS according to Commission Regulation EU 2020/878. Update of legal regulations.

Important literature references and data sources: Data contained in this material safety data sheet were compiled from materials of the manufacturer and on the basis of effective CR and EU legislation.

In the case of mixture information about which information evaluation method according to Article 9 of Regulation (EC) no 1272/2008 was used for classification purposes:

Approximation according to hazards of components and physical nature of product.

List of relevant standard hazard statements and instructions for safe handling. The full text of all instructions, the full text of which is not given in sections 2 to 15:

None are included.

Instructions concerning all training courses for staff responsible for human health and environment protection:

Staff should be informed about the principles of work with the product and required personal protective equipment in the context of regular OHS training.

Recommended limitations for use: Use exclusively for purposes specified by the manufacturer.

Other information: This safety data sheet is issued by P-D Refractories CZ a.s. Velké Opatovice on request of customer. Regulation (EC) no 1907/2006 on Registration, Evaluation, Authorisation & Restriction of Chemicals and on Establishment of European Chemical Agency, as amended (REACH) does not apply to the product in question.

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End of safety data sheet.