

<p><b>P-D Refractories CZ a.s.</b></p>  <p>Nádražní 218 679 63 Velké Opatovice</p>	<p><b>MATERIAL SAFETY DATA SHEET / USA (Nr.07)</b>  Pursuant to Regulation of the European Parliament and of the Council (EC) no 1907/2006  ( REACH )  as amended by Commission (EU) Directive No. 2015/830</p>	
	Date of issue: 14 February 2014	Page: 1/10
	Revision date: 10. Januar 2018	Rev. 3/USA
<p>Product name: <b>Silica Bricks and bricks based on fused silica</b>  Product group: DISIL, FUSIL  Quality class: <b>DSS, DSSB, DSA, DU, DKN, DKD, DKS, DS 30, VZ, DOX, DOLL, DOLL14, DOLL17, DOML14, DML17, DHKS, DHKD, KS96, KS98F, KS99</b>  <b>PD-Si96, PD-Si97LF, PD-Si97LL17, PD-Si95HBS, PD-Si95KN, PD-Si95KD, PD-Si95KS, PD-Si97LL, PD-Si100NL</b></p>		

## SECTION 1. SUBSTANCE/MIXTURE AND MANUFACTURER IDENTIFICATION

### 1.1 Product identifier:

#### Business name: Silica Bricks

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 Designed applications of substance or mixture and non-recommended applications:

Building industry – masonry lining of walls, vaults and other parts of thermal aggregates.

### 1.3 Detailed data of material safety data sheet supplier:

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.ccom

### 1.4 Emergency phone for CZ:

Toxicological information centre ++420 224919293, 224915402

Na Bojišti 1, 128 08 PRAGUE 2

### 1.4 Emergency phone for USA:

General Phone: 412-375-6600

CHEMTREC 24 HOUR EMERGENCY # 1-800-424-9300

## SECTION 2. HAZARD IDENTIFICATION

### 2.1 Classification of substance or mixture:

The product is not classified as hazardous pursuant to Regulation of the European Parliament and of the Council (EC) no 1272/2008 CLP.

### 2.2 Identification elements:

The product is not subject to compulsory identification.

### 2.3 Other hazards:

This product contains various forms of crystalline silica. Finished GREFCO refractory bricks do not present any unusual health or safety hazards. However, if this product is used in such a way as to generate airborne particulate, health hazards can arise from chronic exposure to the airborne particulate. Also, these refractory bricks may be contaminated with other compounds during their use in industrial applications. End users of this product are responsible for determining additional hazards that may arise after this product is used in their specific industrial application. Other More detailed information is provided in section 4.2

## SECTION 3. COMPOSITION/COMPONENT INFORMATION

### 3.1. Substances:

Not to be completed.

### 3.2. Mixtures:

Moulded dense refractory material based on silicates with SiO<sub>2</sub> content over 93%, content of silicon dioxide – silica below 3% (CAS: 14808-60-7, EC:238-878-4) and 50–70% of cristobalite (CAS: 14464-46-1, EC: 238-455-4) and 30-50% of tridymite.

### Substances dangerous for health or the environment:

The product does not contain substances classified as dangerous in the sense of Act no 350/2011 Coll., or in the sense of Dangerous Preparation Directive (1999/45/EC) or Regulation of the European Parliament and of the Council (EC) no. 1272/2008 CLP.

Note: The mentioned chromic oxide contains chromium in oxidation level III.

### Substances with workplace exposure limits:

Does not contain any in the solid 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.

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## SECTION 4. FIRST AID INSTRUCTIONS

### 4.1 First aid description:

#### 4.1.1 First aid instructions:

General instructions: Dust resulting from cutting, grinding, breaking etc. mainly consists of a mixture of aluminium-silicates. 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.

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

### 4.2 Major acute and delayed symptoms and effects:

Respiratory tract irritation.

Exposed eye irritation.

Temporary irritation of the digestive tract after swallowing the dust.

#### 4.2.1 Symptoms of exposure to crystalline silica:

- a) Inhalation: Silicosis: Chronic exposure to respirable crystalline silica can cause silicosis, a fibrous scarring of the lungs. Silicosis may be progressive and may lead to disability and death. Lung Cancer: Crystalline silica in ha led from occupational sources is classified as carcinogenic to humans by IARC and NTP. Tuberculosis: Silicosis increases the risk of tuberculosis. Autoimmune Disease: There is evidence that exposure to crystalline silica (without silicosis) or the disease silicosis may be associated with the increased incidence of several autoimmune disorders including scleroderma, systematic lupus, and rheumatoid arthritis. Kidney Disease: There is evidence that exposure to crystalline silica (without silicosis) or that the disease silicosis is associated with the increased risk of kidney diseases, including end stage renal disease. Non-malignant Respiratory Disease: There is evidence that exposure to crystalline silica is associated with an increased incidence of chronic bronchitis and emphysema.
- b) Eye Contact: Crystalline silica may cause abrasion of the cornea.
- c) Skin Contact: May cause abrasion to skin.
- d) Ingestion: Unlikely route of occupational exposure. No known effects
- e) Acute Effects: Very high exposures to crystalline silica over periods as short as a few months can result in acute silicosis. Symptoms include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal
- f) Chronic Effects: The adverse health effects listed above, silicosis, lung cancer, kidney diseases, tuberculosis, and non-malignant respiratory disease are chronic effects from prolonged exposure to crystalline silica.
- g) Signs and Symptoms of Exposure: There are generally no immediate signs and symptoms of exposure to crystalline other than minor respiratory and/or eye irritation.
- h) Medical Conditions (Aggravated by Exposure): The condition of individuals with existing lung disease such as bronchitis, emphysema and chronic obstructive pulmonary disease (COPD) may be aggravated by exposure to crystalline silica.

#### 4.3 Instruction concerning immediate medical attention and special treatment:

Visit a doctor in the case of nausea.

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**SECTION 5. FIRE-FIGHTING MEASURES**

- 5.1 Extinguishing agents: **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 following from the substance or mixture: None are known.
- 5.3 Instructions for fire-fighters: Use equipment depending on the surrounding fire. Non-flammable material.

**SECTION 6. PRECAUTIONS IN CASE OF ACCIDENTAL LEAK**

- 6.1 Precautions for personnel protection, protective means and emergency procedures:
- 6.1.1 For staff except for emergency intervention staff  
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 intervention staff  
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 Environment protection measures: 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 leak minimisation and cleaning: 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. STORAGE AND HANDLING**

- 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: Store in a dry place. Prevent dust formation. Storage limits: None are specified.
- 7.3 Specific final application requirements: No other requirements and instructions except for the data included in section 1.2.

**SECTION 8. EXPOSURE LIMITATIONS/PERSONAL PROTECTIVE EQUIPMENT**

- 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:  
For dust with prevailing fibrogenic effect:

**US. ACGIH Threshold Limit values**

Substance	TWA (mg.m <sup>-3</sup> ) (respirable fraction)	TWA (mg.m <sup>-3</sup> ) (total concentration)
Cristobalite (14464-46-1)	0,025	--

Substance	TWA (mg.m <sup>-3</sup> ) (respirable fraction)	TWA (mg.m <sup>-3</sup> ) (total concentration)
Quarz (SiO <sub>2</sub> ) (14808-60-7)	0,025	--

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Substance	TWA (mg.m <sup>-3</sup> ) (respirable fraction)	TWA (mg.m <sup>-3</sup> ) (total concentration)
Cristobalite (14464-46-1)	0,05 1,2 (mppcf)	0,15 --

Substance	TWA (mg.m <sup>-3</sup> ) (respirable fraction)	TWA (mg.m <sup>-3</sup> ) (total concentration)
Quarz (SiO <sub>2</sub> ) (14808-60-7)	0,1 2,4 (mppcf)	0,3 --

Substance	PEL (mg.m <sup>-3</sup> ) F <sub>r</sub> ≤ 5%    F <sub>r</sub> > 5%	PEL <sub>c</sub> (mg.m <sup>-3</sup> )
Other silicates (F <sub>r</sub> = respirable fraction)	2.0    10 : F <sub>r</sub>	10

For dust with potential fibrogenic effect:

Substance	PEL <sub>c</sub> (mg.m <sup>-3</sup> ) (total fraction)
Amorphous SiO <sub>2</sub>	4.0

For dust with prevailing non-specific effect

Substance	PEL (mg.m <sup>-3</sup> )
Aluminium and its oxides (except for gamma Al <sub>2</sub> O <sub>3</sub> )	10

**8.2 Exposure limitations:****8.2.1 Appropriate technical controls:** Ventilation – Where dust content in the air may be controlled with technical methods (local exhaust, ventilation etc.)**8.2.2 Individual protective measures including 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

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8.2.3 Limitations of environment exposure:

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) Appearance	Solid state – refractory moulded products, different colours.
b) Odour	None.
c) Odour threshold	Not specified.
d) pH	6 - 8
e) Melting / solidification point	Not specified.
f) Initial boiling point and range	Not specified.
g) Ignition point	Non-flammable.
h) Evaporation speed	Not specified.
i) Flammability (solid subst., gas)	Non-flammable.
j) Upper/lower limit of flammability or explosiveness	Not specified.
k) Vapour pressure	Not specified.
l) Vapour density	Not specified
m) Relative density	1.80 - 1.95 g/cm <sup>3</sup> (bulk density)
n) Solubility	Non-soluble
o) Differentiation coefficient: n-octanol/water	Not specified.
p) Self-ignition temperature	Non-flammable.
q) Decomposition temperature	Not specified.
r) Dynamic viscosity	Not specified.
s) Explosive properties	None.
t) Oxidisation properties	None.

9.2. Other information

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

Note:

"Not specified": irrelevant for the product

"None": not available for the product.

**SECTION 10. STABILITY AND REACTIVITY**

<u>10.1 Reactivity:</u>	No decomposition under appropriate storage and use conditions.
<u>10.2 Chemical stability:</u>	The product is stable under normal conditions.
<u>10.3 Possible dangerous reactions:</u>	None.
<u>10.4 Conditions to be avoided:</u>	None.
<u>10.5 Incompatible materials:</u>	None.
<u>10.6 Dangerous decomposition products:</u>	None.

**SECTION 11. TOXICOLOGICAL INFORMATION**

11.1) Toxicity Data:

11.1.1) Silicious: Sillcosis is the major concern associated with occupational exposure to crystalline silica. It is caused by inhalation and retention of respirable crystalline silica dust. Silicosis can exist in chronic (ordtnarv), accelerated, or acute forms.

The most common form of sillcosls is chronic (ordinary) silicosis, which can occur after many years of exposure to respirable silica parricles that exceed occupational exposure limits.

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Chronic silicosis can be further defined as either simple or complicated silicosis

Simple silicosis is characterized by small lung lesions primarily in the upper lung zones. People with simple silicosis often do not have health symptoms, detectable changes in lung function, or disability. However, simple silicosis may progress without additional silica exposure and may develop into complicated silicosis or progressive massive fibrosis (PMF).

Complicated silicosis or PMF is characterized by larger lung lesions. As with simple silicosis, there may be no symptoms associated with complicated silicosis or PMF. If symptoms do occur they can include: shortness of breath, wheezing, cough and sputum production. Complicated silicosis or PMF may also be associated with decreased lung function, and may be disabling.

Advanced complicated silicosis or PMF may lead to death, or heart disease secondary to the lung disease. Accelerated silicosis can result from exposure to high concentrations of respirable crystalline silica over a relatively short period. Lung lesions can appear within 5 years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis with the exception that lung lesions appear earlier and the progression is more rapid.

Acute silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, as short as a few months. Symptoms include progressive shortness of breath, fever, cough, and weight loss. Acute silicosis is fatal.

11.1.2) Cancer: IARC - The International Agency for Research on Cancer ("IARC") reports that there is "sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "sufficient evidence in experimental animals for the carcinogenicity of quartz and cristobalite". IARC's evaluation concluded that, "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans". However, it was noted that not all industrial circumstances studied show evidence of carcinogenicity because "carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs". For further information on IARC's evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates ..." (1997).

NTP - The National Toxicology Program, concluded in its Ninth Annual Report on Carcinogens, that respirable crystalline silica is known to be a human carcinogen. This was based on studies in humans, which provided sufficient evidence of carcinogenicity to indicate a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust.

OSHA - The Occupational Safety and Health Administration (OSHA) does not regulate crystalline silica as a carcinogen.

11.1.3) Autoimmune Diseases: There is evidence that exposure to respirable crystalline silica could be associated with the increased incidence of several autoimmune disorders such as: scleroderma, systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. These autoimmune diseases may occur in patients with or without existing silicosis.

11.1.4) Tuberculosis: Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if they are exposed to persons with tuberculosis.

11.1.5) Kidney disease: There is evidence that exposure to respirable crystalline silica (without silicosis), or silicosis, could be associated with an increased incidence of kidney diseases, including end stage renal disease.

The occupational exposure limit (OEL) for crystalline silica varies by individual.



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country. It is up to the individual users of this product to determine the legally enforceable OEL for its location. The American Conference of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV) of 0.025 mg/rn" for crystalline silica (respirable fraction). This TLV is an 8-hour time weighted average exposure level that is believed to be protective for most workers for a working lifetime.

**11.2 Occupational Exposure Limits:** Permissible Exposure Limits (PELs) mandated by the U.S Occupational Safety and Health Administration (OSHA) are listed below:

- Quartz - 10rnz/m' (respirable fraction) SiO<sub>2</sub> + 2
- Cristobalite - 5 mg/m<sup>3</sup>(respirable fraction) SiO<sub>2</sub> + 2
- Tridymite - 5 mg/m<sup>3</sup>(respirable fraction) SiO<sub>2</sub> + 2
- Quartz - 30 mg/m<sup>3</sup>(total particulate) SiO<sub>2</sub> + 2
- Cristobalite -15 mg/m<sup>3</sup>(total particulate) SiO<sub>2</sub> + 2
- Tridymite - 15 mg/m<sup>3</sup>(total particulate) SiO<sub>2</sub> + 2

**11.3 Suspected Cancer Agent:** OSHA- No  
NTP - Yes  
IARC – Yes

**ACGIH Carcinogens**

- |   |  |
|---|--|
| Cristobalite (CAS 14464-46-1)               | A2 Suspected human carcinogen.             |
| Kaolin (CAS 1332-58-7)                      | A4 Not classifiable as a human carcinogen. |
| Mullite (CAS 1302-93-8)                     | A4 Not classifiable as a human carcinogen. |
| Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7) | A2 Suspected human carcinogen.             |

**IARC Monographs. Overall Evaluation of Carcinogenicity**

- |   |                           |
|---|---------------------------|
| Cristobalite (CAS 14464-46-1)               | 1 Carcinogenic to humans. |
| Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7) | 1 Carcinogenic to humans. |

**US NTP Report on Carcinogens: Known carcinogen**

- |  |                               |
|--|-------------------------------|
| SILICA, CRYSTALLINE (RESPIRABLE SIZE) (CA 14464-46-1)  | Known To Be Human Carcinogen. |
| SILICA, CRYSTALLINE (RESPIRABLE SIZE) (CAS 14808-60-7) | Known To Be Human Carcinogen. |

**11.4 Irritatory of Product:** Product may cause irritation by inhalation and eye contact.

**11.5 Sensitization to the Product:** Not known to cause sensitization

**11.6 Reproductive Toxicity Information:** Not known to cause reproductive toxicity

**11.7 Medical Conditions Aggravated by Exposure:** The condition of individuals with existing lung disease such as bronchitis, emphysema and chronic obstructive pulmonary disease (COPD) may be aggravated by exposure to crystalline silica.

**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.

**12.5. Results of PBT and VPvB assessment:** Not required.

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

**SECTION 13. DISPOSAL INSTRUCTIONS**

**13.1 Methods of waste disposal:** Dumping on specified dumps. Disposal by release to sewerage: Excluded by the product nature.

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<p>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.  <u>13.2 Methods of contaminated waste disposal:</u> 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).</p> <p><u>13.2 Appropriate methods of disposal of substance of mixture:</u></p> <p><u>13.3 Waste legislation:</u> Act no 185/2001 Coll., on Waste  Decree no 93/2016 Coll. (Waste Catalogue)  Decree no 383/2001 Coll. on waste Disposal Details</p> <p><u>13.4 Waste codes USA</u> Not applicable.</p> <p><u>13.5 Disposal instructions</u> This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste</p>	
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<p><b>SECTION 14. TRANSPORT INFORMATION</b></p> <p><u>14.1 UN no:</u>  Not subject to regulations for dangerous object transport.</p> <p><u>14.2 Official (UN) denomination for transportation:</u>  Not subject to regulations for dangerous object transport.</p> <p><u>14.3 Class/classes of dangers for transport:</u>  Not subject to regulations for dangerous object transport.</p> <p><u>14.4 Package group:</u>  Not subject to regulations for dangerous object transport.</p> <p><u>14.5 Environment hazards:</u>  Not subject to regulations for dangerous object transport.</p> <p><u>14.6 Special safety precautions for users:</u>  Not subject to regulations for dangerous object transport.</p> <p><u>14.7 Bulk transport according to Annex II MARPOL 73/78 and IBC regulation:</u>  Not subject to regulations for dangerous object transport.</p>	
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<p><b>SECTION 15. REGULATORY INFORMATION</b></p> <p><u>15.1 Regulations concerning safety, health and environment/specific legislation concerning substance or mixture</u>  Act no 254/2001 Coll. on Waters (Water Act), as amended  Act no 185/2001 Coll., on Waste, as amended  Act no 201/2012 Coll., on Air Protection, as amended by later regulations  Act no 258/2000 Coll., on Public Health Protection, as amended  Act no 350/2011 Coll. of 27 October 2011 on Chemical Substances and Mixtures and on amendment to certain other acts (Chemical Act), as amended by later regulations  ČSN 75 3415 Water Protection against Oil Substances. Objects for Oil Substance Handling and Storage  Government Regulation no 361/2007 Coll., as amended, stipulating conditions for occupational health, including PEL and NPK exposure limits (see 8 above).  Regulation (EC) no 1907/2006 on Registration, Evaluation, Authorisation &amp; Restriction of Chemicals and on Establishment of European Chemical Agency, as amended (REACH).  Regulation (EC) no 1272/2008 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 on amendment of Regulation (EC) no 907/2006 (CLP)</p>	
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<p>P-D Refractories CZ a.s.</p>  <p>Nádražní 218 679 63 Velké Opatovice</p>	<b>MATERIAL SAFETY DATA SHEET / USA (Nr.07)</b> Pursuant to Regulation of the European Parliament and of the Council (EC) no 1907/2006 (REACH) as amended by Commission (EU) Directive No. 2015/830	
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### 15.2 Chemical safety assessment

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

### 15.3 Regulatory Information for USA

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
CERCLA/SARA Hazardous Substances - Not applicable.  
All chemical substances in this product are listed on the TSCA chemical substance Inventory where required.

#### CERCLA (Superfund) reportable quantity

None

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

Section 302 extremely hazardous substance No

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

#### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cristobalite (CAS 14464-46-1) Listed: October 1, 1988 Carcinogenic.  
Quartz (SiO<sub>2</sub>) (CAS 14808-60-7) Listed: October 1, 1988 Carcinogenic.

#### US - New Jersey RTK - Substances: Listed substance

SILICA, CRISTOBALITE (CAS 14464-46-1) Listed.  
SILICA, QUARTZ (CAS 14808-60-7) Listed.

#### US - Pennsylvania RTK - Hazardous Substances: Listed substance

Cristobalite (SiO<sub>2</sub>) (CAS 14464-46-1) Listed.  
QUARTZ DUST (CAS 14808-60-7) Listed

## **SECTION 16. OTHER INFORMATION**

### Data on amendments and revisions:

Rev. no	Date	Amendment description
1	14.2.2014	Addition exposure limits, toxicology, recycling and emergency information for USA
2.	04.08.2017	Modification of the heading, Sec. 3, 14, 15, in compliance with Commission (EU) Directive No. 2015/830, regulation update
3.	10.01.2018	Addition of newly labeled qualities

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 R-phrases, standard risk phrases, safety phrases and/or instructions for safe handling. Full wording of all phrases and instructions not included in sections 2 to 15:

None are included.

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<p><u>Instructions concerning all training courses for staff responsible for human health and environment protection:</u>  Staff should be informed about the principles of work with the product and required personal protective equipment in the context of regular OHS training.</p>	
<p><u>Recommended limitations for use:</u> Use exclusively for purposes specified by the manufacturer.</p>	
<p><u>Recommended restrictions USA:</u> Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.</p>	
<p><u>HMIS® ratings</u></p>	<p>Health: 1*  Flammability: 0  Physical hazard: 0</p>
<p><u>NFPA ratings</u></p>	<p>Health: 1  Flammability: 0  Instability: 0</p>
<p><u>Other information:</u> 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 &amp; Restriction of Chemicals and on Establishment of European Chemical Agency, as amended (REACH) does not apply to the product in question.  The above data describe exclusively safety requirements for products and are based on current knowledge. They do not describe product properties in the sense of quality parameters and legislative regulations for warranty compliance.</p>	

**End of safety data sheet.**