

<p>P-D Refractories CZ a.s.</p>  <p>Nádražní 218 679 63 Velké Opatovice</p>	<p>MATERIAL SAFETY DATA SHEET (Nr. 34) according to the Regulation of the European Parliament and Council Regulation (EC) no. 1907/2006 (REACH), as amended by Commission Regulation (EU) No. 2015/830</p>	
	<p>Date of issue: 11 May 2020 Revision date:</p>	<p>Page: 1/6 Rev.: 0</p>
	<p>Product name: Refractory clay Product group: Clays Quality class: BVP, BNV, BX, FIa</p>	

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

1.1 Product identifier:

Business name: Refractory clays

Other names:

CAS number: n/a (mixture)

EC (EINECS) number: n/a (mixture)

Index number: n/a (mixture)

REACH registration number: N/A for mixtures.

Other names: None.

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

Building industry – production of shaped and non-shaped refractory materials used for lining of thermal unit parts.

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, +420 224915402

Na Bojišti 1, 128 08 PRAGUE 2

SECTION 2. HAZARD IDENTIFICATION

2.1 Classification of the 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:

Information is not provided.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures:

It is a natural material, only modified by grinding to the required fractions. Refractory clay is a natural refractory material on an aluminosilicates basis that is mined in surface clay deposits. These are grey to grey and brown freshwater Mesozoic Cenomanian rock clays with content of aluminium oxide Al_2O_3 (CAS: 1344-28-1, EC: 215-691-6), silicon dioxide SiO_2 (CAS: 14808-60-7, EC:238-878-4) and 0–5% ferric oxide Fe_2O_3 (CAS: 1309-37-1, EC: 215-168-2).

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:

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: Arising dust in a larger amount may irritate mucous membranes, conjunctiva and air passages. Observe hygiene rules at work. In the case of severe symptoms seek medical advice.

Immediate medical attention is not necessary.

Inhalation:

Move the exposed person to the fresh air. Rinse the oral cavity with water and clear the

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<u>Skin contact:</u>	nose to remove the inhaled dust.
<u>Eye contact:</u>	Remove the exposed person away from the source of contamination. Remove contaminated clothing and boots, clean both before further use. Quickly and carefully wash the exposed skin with warm water and soap or other skin cleansing agents and treat with a suitable cream.
<u>Ingestion:</u>	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.
<u>4.1.2 Additional data:</u>	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.
	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
<u>4.2 Most important symptoms and effects, both acute and delayed:</u>	Respiratory tract irritation. May irritate skin. Exposed eye irritation.
<u>4.3 Indication of any immediate medical attention and special treatment needed:</u>	When dust is swallowed, it may temporarily irritate the digestive tract and cause nausea and vomiting. Visit a doctor in the case of nausea.

SECTION 5. FIREFIGHTING MEASURES

- 5.1 Extinguishing media: **Suitable:** Does not burn. Packaging material used may be flammable, use appropriate extinguishing agent depending on the surrounding fire.
Unsuitable: None are specified.
- 5.2 Special hazards arising from the substance or mixture: None are known.
- 5.3 Advice for firefighters: Use equipment depending on the surrounding fire. Non-flammable material.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment 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.
 Attention: There is a risk of slipping when the surfaces contaminated with the product get wet!
- 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.
 Attention: There is a risk of slipping when the surfaces contaminated with the product get wet!
- 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 material 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: When handling the product, especially when loose, or when emptying packaging, prevent excessive (undesirable) dust formation.
- 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.

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7.3 Specific end use(s): 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:

For dust with prevailing fibrogenic effect:

Substance	PEL _r (mg.m ⁻³) (respirable fraction)	PEL _c (mg.m ⁻³) (total fraction)
Quartz, cristobalite	0.1	--
Substance	PEL (mg.m ⁻³) F _r ≤ 5% F _r > 5%	PEL _c (mg.m ⁻³)
Other silicates	2.0	10
(F _r = respirable fraction)	10 : F _r	
For dust with potential fibrogenic effect:		
Substance	PEL _c (mg.m ⁻³) (total fraction)	
Amorphous SiO ₂	4.0	
For dusts with mostly unspecific effect		
Substance	PEL (mg.m ⁻³)	
Aluminium and its oxides (except for gamma Al ₂ O ₃)	10	

8.2 Exposure controls:

8.2.1 Appropriate technical controls: Use procedures that minimise dust formation in preference. Ventilation – where possible, keep the dust content in the air under control using 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

8.2.3 Environmental exposure controls:

Prevent dispersion of the product during manipulation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

The information applies to the mixture.

9.1 Information on basic physical and chemical properties

- | | |
|--|--|
| a) Appearance | Solid state – loose mixture with grain size of 0-1 mm, or 0-20 mm (according to the quality) of various colours. |
| b) Odour | None. |
| c) Odour threshold | None. |
| d) pH | 6-8 |
| e) Melting point/freezing point | Not applicable. |
| f) Initial boiling point and boiling range | Not specified. |

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g) Flash point	Does not burn.
h) Evaporation rate	Not applicable.
i) Flammability (solid, gas)	Does not burn.
j) Upper/lower flammability or explosive limits	None.
k) Vapour pressure	Not specified.
l) Vapour density	Not applicable
m) Relative density	1.80-2.50 g/cm ³ (volume density)
n) Solubility	Insoluble
o) Partition coefficient: n-octanol/water	Not applicable.
p) Auto-ignition temperature	Does not burn.
q) Decomposition temperature	Not applicable.
r) Dynamic viscosity	Not specified.
s) Explosive properties	None.
t) Oxidisation properties	None.

9.2. Other information

Solvent content (VOC) 0% (under the definition of the Air Protection Act)

Note:

“Not applicable”: the information is not relevant to the product

“Not stated”: the information is not available.

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 toxicological effects:**

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

Ingestion: Not specified.**Effect on skin:**

Skin irritation: Not classified.

Effect on eyes:

Eye irritation: Not classified.

Respiratory or skin sensitisation:

Not classified.

Germ Cell mutagenicity:

Not classified.

Carcinogenicity:

Not classified.

Reproductive toxicity:

Not classified.

Toxicity for specific target organs – single exposure:**Toxicity for specific target organs – repeated exposure:** STOT – repeated exposure: not classified.**Aspiration hazard:**

Not classified.

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.

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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 Bioaccumulative potential: Data not available. Bioaccumulation is not expected considering the inorganic character of the material.
- 12.4 Mobility in soil: Data not available.
- 12.5. Results of PBT and vPvB assessment: Not required.
- 12.6. Other adverse 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 01 Waste ceramic material before thermal processing, cat. O.
- 13.2 Methods of contaminated package 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).
- 13.2 Suitable methods for substance and mixture disposal:
- 13.3 Waste legislation: Act no. 185/2001 Coll., on Waste
Decree no. 93/2016 Coll. (Waste Catalogue)
Decree no. 383/2001 Coll., on waste Disposal Details

SECTION 14. TRANSPORT INFORMATION

- 14.1 UN 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/classes :
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 safety precautions for users:
Not subject to regulations for dangerous object transport.
- 14.7 Bulk transport according to Annex II of MARPOL 73/78 and IBC Code:
Not subject to regulations for dangerous object transport.

SECTION 15. REGULATORY INFORMATION

- 15.1 Regulations concerning safety, health and environment/specific legislation concerning substance or mixture
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
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
Government Regulation no. 361/2007 Coll., as amended, stipulating conditions for occupational health, including PEL and NPK exposure limits (see 8 above).

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Regulation (EC) no. 1907/2006 on Registration, Evaluation, Authorisation & 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).

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

EU regulatory information:

Permission (REACH, Annex XIV): N/A

Substances of very high concern, SVHC (REACH, Article 59): 4: N/A

Restriction of use (REACH, Annex XVII): N/A

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
0.	11 May 2020	New material safety data sheet according to the Directive of the European Parliament and Council (EC) No. 1907/2006 (REACH) as amended by the Directive of the Commission (EU) No. 2015/830.

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 risk phrases and instructions for safe handling. Full wording of all phrases and instructions not included 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 restrictions of use:

Use exclusively for purposes specified by the manufacturer.

When handling the product, we recommend adhering to the following recommendations. The recommendations are stated in the form of precautionary statements in the interest of unification (instructions for safe handling):

P260 Do not breathe dust.

P262 Do not get in eyes, on skin, or on clothing.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Other information: This safety data sheet is issued by P-D Refractories CZ a.s. Velké Opatovice on request of customer.

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.

☞ **End of material safety data sheet.** ☞