

1. Identification of the product and of the company

Product identifier
Product Identity

Refractory cement

Use of the product

Application as high temperature
processing, lining of industrial
furnaces, thermal insulation of kilns,
etc...

Identification of the company

TIGER GMBH

Kaiser-Friedrich-Strasse 34 A
75172 Pforzheim
Tel. +49 (0) 7231 - 977 250
info@tiger-x.com

2. Hazard identification of the product

Irritation

Contains basic liquid which is irritating to skin

3. Composition/information on ingredients

Description

These products are very high temperature mortars

Composition				
COMPONENT	%	CAS NUMBER	Old symbol/new symbol	R PHRASES/ Hazard assessment
Alumino-silicate	30-70	215-106-4	N.A.	N.A.
Clay	5-40	N.A.	N.A.	N.A.
Sodium-silicate	20-30	65997-15-1	Irritant Warning	/ R36-37-38- R43/H315
Alumina	0-20	N.A.	N.A.	N.A.
Calcium oxide	0-5	N.A.	N.A.	N.A.
Water	<10	N.A.	N.A.	N.A.
Other surfactant and starch	<3	N.A.	N.A.	N.A.

None of the components are radioactive under the terms of European Directive Euratom 96/29.

4. First aid measures

Skin:

In case of skin irritation rinse affected areas with water and wash gently. Do not rub or scratch exposed skin.

Eyes:

In case of eye contact flush abundantly with water; have eye baths available. Do not rub eyes.

Nose and throat:

If these become irritated move to a dust free area, drink water and blow nose.

If symptoms persist, seek medical advice.

15. Regulatory information

Classification and labeling according to directive 1999/45/EC

Irritant Xi

R36/37/38 Irritating to eyes, respiratory system and skin.

Classification and labeling following regulation (EC) N° 1272/2008

GHS07 Label Warning; Skin irritant category 2

H315 Causes skin irritation

P302/P352 If on skin: Wash with plenty of soap and water.

P362 Take off contaminated clothing and wash before reuse.

Protection of workers

Shall be in accordance with several European Directives as amended and their implementations by the Member States:

a) Council Directive 89/391/EC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (Official Journal of the European Communities, L 183 dated 29 June 1989 and amendments).

b) Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (Official Journal of the European Communities L 131 dated 5 May 1998 as modified, and any Member State implementation).

Other possible regulations

Member states are in charge of implementing European directives into their own national regulation within a period of time normally given in the directive. Member states may impose more stringent requirements.

Please always refer to any national regulation.

16. Other information

Continuous use of these products at temperatures above 900° C may, as with many other refractories, lead to the formation of cristobalite (a type of crystalline silica).

Please refer to national regulation on crystalline silica.

Precautionary measures to be taken after service and upon removal

Because high concentrations of dust may be generated when after-service products are mechanically disturbed during operations such as wrecking, it is recommended that:

a) Control measures are taken to reduce dust emissions and

b) All personnel directly involved wear an appropriate respirator to minimise exposure and comply with local regulatory limits.

NOTA:

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However safe as provided by law, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorisation given or implied to practice any patented invention without a licence. In addition, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product (however, this shall not act to restrict the vendor's potential liability for negligence or under statute).

Information and trading of workers

Workers should be trained on good working practices and informed on applicable local regulations.

Environmental exposure controls

Refer to local, national or European applicable environmental permitted standards for air, water and soil. *For waste, refer to Section 13.*

9. Physical and chemical properties

Appearance	Grey powder
Boiling point	N.A.
Flash point	N.A.
Autoinflammability	N.A.
Oxidising properties	N.A.
Specific gravity	1-2 g/cm ³
Partition coefficient	N.A.
Odour	None
Melting point	> 1200°C
Flammability	N.A.
Explosive properties	N.A.
Vapour Pressure	N.A.
Solubility	N.A.
pH	N.A.

10. Stability and reactivity**Conditions or materials to avoid**

None

Decomposition Products

Upon heating above 900°C for sustained periods, this amorphous material begins to transform to mixtures of crystalline phases. For further information please refer to section 16.

11. Toxicological information

Available toxicological information is as follows:

Acute toxicity

Lethal dose 50% (LD50) / lethal concentration 50% (LC50): N.A.

12. Ecological information

These products are inert materials, which remain stable over the time.
No adverse effects of this material on the environment are anticipated.

13. Disposal considerations

Waste from these materials may be generally disposed of at a landfill, which has been licensed for this purpose. Please refer to the European list (Decision N° 2000/532/CE as modified) to identify your appropriate waste number, and ensure national and/or regional regulation are complied with.

Taking into account any possible contamination during use, expert guidance should be sought.

Unless wetted, such a waste is normally dusty and so should be properly disposed of in sealed plastic bags or containers. At some authorised disposal sites, dusty waste may be treated differently in order to ensure they are dealt with promptly to avoid them being wind blown. Check for national and/or regional regulations, which may apply.

14. Transport information

Not classified as dangerous goods under relevant international transport regulations (ADR, RID, IATA, IMDG, ADN).

5. Fire-fighting measures

Non combustible products.

Packaging and surrounding materials may be combustible.

Use extinguishing agent suitable for surrounding combustible materials.

6. Accidental release measures

Personal protection

Wear suitable goggles, gloves and protective clothing.

Methods for cleaning up

Contain spillage, absorb in earth or sand and shovel into suitable containers.

Environmental protection

Do not flush spillage to drain and prevent from entering natural watercourses.

For waste disposal refer to section 13.

7. Handling and storage

Storage

Store in original packaging. Avoid damaging the packaging. Use of plastic bucket is recommended.

Specific Use

Please refer to your local Thermal Ceramics' supplier.

8. Exposure controls and personal protection

Hygiene standards and exposure limits

Removing dried material after use may generate respirable dust.

Industrial hygiene standards and occupational exposure limits vary between countries and local jurisdictions.

Check which exposure levels apply to your facility and comply with local regulations. If no regulatory dust or other standards apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection. Examples of exposure limits for respirable dust (in January 2003) are given below:

COUNTRY	EXPOSURE LIMIT*				SOURCE
	Respirable Dust	Crystalline silica	Quartz	Cristobalite	
Germany	3mg/m ³				TRGS 900
France	5 mg/m ³		0,10 mg/m ³	0,05 mg/m ³	Décret 97-331 du 10 avril 1997
U.K.	4 mg/m ³	0,30 mg/m ³			HSE - EH40

* Gravimetric concentrations of respirable dust – 8-hour time weighted average.

Engineering controls

Review your applications in order to identify potential sources of dust exposure. If necessary, conduct personal air monitoring. Use technical and/or organisational means to comply with regulations.

Personal protective equipment

Skin protection:

Use of gloves and work clothes is recommended.

Soiled clothes should be cleaned before being taken off (e.g. use vacuum cleaning, not compressed air).

Eye protection:

As necessary wear goggles or safety glasses with side shields.

Respiratory protection:

For dust concentrations below the exposure limit value, RPE is not required but FFP2 respirators may be used on a voluntary basis.

For short-term operations where excursions are less than ten times the limit value use FFP2 respirators.

In case of higher concentrations or where the concentration is not known, please seek advice from your company and/or local Thermal Ceramics' supplier.