



Dent-e-con e.K.

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Material Safety Data Sheet according to 91/155/EC

Trade name: **CERALINER / CERATAPE**

Effective Date: 01.08.2004

01. Identification of the substance / preparation and of the company / undertaking

Product details:

Trade name: **CERALINER / CERATAPE**

Manufacturer/Supplier: **Dent-e-con**
Gartenstraße 19
D-89173 Lonsee

Information obtainable from:

Emergency info: +49 (0)7336 9213369

02. Composition / information on ingredients

Description: Synthetic vitreous aluminium silicate fibres (Ceramic fibres) with acrylic binder (5-15%).

Chemical composition: Al_2O_3 40-55%
 SiO_2 45-60%

CAS no.: 142 844-00-6
T (toxic)
R49: May cause cancer by inhalation
R38: Irritating to skin.

03. Hazards identification

Chronic respiratory health effects:

Refractory ceramic fibres belong to a group of fibres classified under directive 97/69/EC as a category 2 carcinogen ("substances which should be regarded as if they are carcinogenic to human").

In October 2001 the IARC (International Agency for Research on Cancer) confirmed that the category 2 (possibly carcinogenic to human) is valid as appropriate IARC-classification for RCF-fibres.

In case of fibre dust release it may cause a mild mechanical irritation to skin, eyes and upper respiratory organs.

04. First-aid measures

After skin contact: In case of irritation rinse affected areas with water and wash gently.

After eye contact: Flush abundantly with water; have eye bath available.

After inhalation: Supply fresh air; consult doctor in the case of complaints.

After swallowing: Do not induce vomiting. If symptoms persist consult doctor.

05. Fire-fighting measures

These materials are not combustibles once in use. However, virgin product binder may burn and produce gases and/or fumes. Packaging and surrounding materials may be combustible. Use extinguishing agent suitable for type of surrounding combustible materials. Wear self-contained breathing apparatus when entering in oxygen deficient areas.

06. Accidental release measures

Personal precautionary measures:

In case of accidental release or spillage likely to result in an abnormally high dust exposure, provide the workers with number appropriate protective equipment as detailed section 8. Restrict access to the areas to a minimum of workers. Restore the situation to normal as quickly as possible. Prevent further dust dispersion for example by damping the materials.

Measures for cleaning/collecting:

Pick up large pieces and use a vacuum cleaner fitted with high efficiency filter. If brushing is used, ensure that the area is wetted down first. Do not use compressed air for cleaning. For waste disposal refer to section 13.

Measures for environmental protection:

Do not allow to be wind blown. Do not flush spillage to drain and prevent from entering natural water courses. Check for local regulations which may apply.

Additional information:

No dangerous substances are released.

07. Handling and storage

Techniques to reduce dust emissions during handling:

Handling is a source of dust emission. Process should be designed to limit the amount of handling. Wherever possible regular good housekeeping will minimise secondary dust dispersal. Handling should be carried out under ventilation. The specially packaged product in a dispenser box will minimise dust emission.

Storage:

Keep the product in the visibly labelled carton. Avoid damaging the cartons. Emptied cartons which may contain debris should be cleaned carefully. Store the product dry.

08. Exposure controls / personal protection

Techniques to reduce dust exposure to a minimum:

- Review your RCF applications and assess situations with the potential for dust release.
- Where practical enclose dust sources and provide dust extraction at source.
- Delimit RCF work areas and restrict access to informed and trained workers.
- Use operating procedures which will limit dust production and exposure of workers.
- Keep the workplace clean.
- Use a vacuum cleaner fitted with a HEPA filter; avoid using brooms and compressed air.
- If necessary consult an industrial hygienist to design proper workplace controls.
- The specially packaged product in a dispenser box will minimise dust emission during handling.

Hygiene standards and exposure limits:

Hygiene standards and exposure limits may differ from country to country. Check those currently applying in your country and comply with regulations. Examples of exposure limits (in January 1998) are given below:

Country	Exposure Limit*	Source
Germany	0,5 F/ml	TRGS 900
France	0,6 F/ml	Circulaire DRT No 95-4 du 12.01.95
U.K.	2,0 F/ml	HSE – EH40 – Maximum Exposure Limit

*Time Weighted Average concentrations of airborne respirable ceramic fibres measured by the conventional membrane filter method.

Skin and eye protection:

- Wear gloves and overalls which are loose fitting at the neck and wrist in case.
- Wear goggles or safety glasses with side shields.
- After handling rinse exposed skin with water. Wash work clothing separately.

Respiratory Protection:

- Use appropriate respiratory protective equipment (RPE) against excessive concentrations of fibrous dust or other possible contaminant which could have been introduced.
- Fibre concentration clearly the limit value: Recommended to wear FFP2-mask.
- Fibre concentration short time above the limit value, however less than a factor of 10: FFP3-mask required.
- In case of higher concentrations, please contact your supplier for advice.

Information and training of workers:

Workers shall be informed on:

- The applications involving fibre-containing products;
- The potential risks to health resulting from the exposure to fibrous dust;
- The requirements regarding smoking, eating and drinking at the workplace;
- The requirements for protective equipment and clothing.

Workers shall be trained on:

- The good working practices to limit dust emissions;
- The proper use of protective equipment.

Further recommendations:

We refer to information documents for working procedures and for maintenance of industrial health and safety standards released from the European Ceramic Fibres Industry Association (ECFIA).

09. Physical and chemical properties

External characteristics:

Form: Paper strips.
Colour: White.
Odour: Odourless.

Safety-related data:

Melting point: > 1650°C
Flash point: Not applicable.
Danger of explosion: None.
Density: 200-300 Kg/m³
Oxidizing characteristics: None.

10. Stability and reactivity

Conditions or materials to be avoided:

Avoid contact with hydrofluoric acid, phosphoric acid and concentrated alkali.

Dangerous decomposition products:

Continuous use of these products at temperature above 900°C may lead to the formation of several crystalline phases. If crystalline silica is present, follow corresponding hygiene standards and national regulations.
Oxidation products from the organic binder might be emitted in a temperature range from to ventilate the room until all gases and fumes have disappeared.
Avoid exposure to high concentration of gas or fumes.

Dangerous reactions: No dangerous reactions known.

11. Toxicological information

Irritant properties:

When tested using approved methods (Directive 67/548/EC, Annex 5, Method B4), Fibre contained in this material gives negative results. All man made mineral fibres, like some natural fibres, can produce a mild irritation resulting in itching or rarely, in some sensitive individuals, in a slight reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by mechanical effects.

Human data on chronic respiratory health effects:

No known disease associated with exposure to refractory ceramic fibre even though these fibres have been used for nearly 40 years. Pulmonary morbidity studies were carried out among the production workers in Europe and USA. In the American study pleural plaques were reported in 2,9% of workers examined. Plaques do not cause any symptoms and do not develop into disease.

Inhalation toxicology data in animals:

In earlier studies RCF together with other man-made mineral fibres were regarded as inert. In the 70's and 80's tumours were produced in animals after intrapleural or intraperitoneal injection but the several inhalation experiments conducted were inconclusive. In 1990 inhalation studies known as the "RCC experiments" were conducted with size selected fibres. Fibrosis, lung tumours and mesotheliomas were produced in animals exposed to very high concentrations. It was then discovered that the size selection process led to a serious contamination of the test samples by non-fibrous particles. The inhaled particles may have decreased the rate of fibre clearance leading to a condition sometimes referred to as pulmonary overload. Experts are still analysing the significance of the RCC results. In further tests, uncontaminated fibres samples have proved to be largely less biologically active.

12. Ecological information

No ecological concerns have been identified.
Water endangerment category 0 (Self-assessment)

13. Disposal considerations

Waste from this material is not classified as hazardous waste under EU regulation and may generally be disposed of at a normal tipping site which has been licensed for the disposal of industrial waste. Unless wetted, such a waste is normally dusty and so should be properly sealed in clearly and visibly labelled containers for disposal. At some tip sites dusty waste may be treated differently in order to ensure they are dealt with promptly to avoid them being wind blown.
Check for local regulations which may apply.

EWC-Code for mineral fibre waste:
101 299

14. Transport information

No dangerous good. Ensure that dust is not wind blown during transportation. Keep dry.

15. Regulatory information

According to directive 97/69/EC fibres contained in this product belong to the group of man-made vitreous (silicate-) fibres with random orientation with alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O} + \text{K}_2\text{O} + \text{CaO} + \text{MgO} + \text{BaO}$) content $\leq 18\%$ by weight.

Fibres included in this product are classified according to directive 97/69/EC:



T = Toxic
Carcinogen Category 2



Xi = Irritant

R phrases:

R38: Irritating to skin.
R49: May cause cancer by inhalation.

S phrases:

S45: In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible.)
S53: Avoid exposure - obtain special instructions before use.

Protection of workers:

Protection measures shall be in accordance with Council Directive 90/394/EEC "on the protection of workers from the risk related to exposure to carcinogens at work".
Protection measures shall be in accordance with Council Directive 89/391/EEC "on the introduction of measures to encourage improvements in the at safety and health of workers work".
Comply with hygiene standards and any applicable regulation.

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 national Member States regulations.

16. Other information

Useful References:

Hazards from the use of Refractory Ceramic Fibre.
Health and Safety Executive: Information document, HSE 267/(1998)

ECFIA: Working Safely With Refractory Ceramic Fibre Products; Code of Practice
(February 1998).

TRGS 521: "Faserstäube"
TRGS 900: "Luftgrenzwerte"

Commission Directive 97/69/EC of December 05th, 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances. Official Journal of the European Communities, December 13th, 1997, and its national adaptations.

Maxim LD et al (1998).
CARE – A European programme for monitoring and reducing refractory ceramic fibre dust at the workplace, initial results.
Gefahrstoffe – Reinhaltung der Luft, 58 : 3, 97-103.

Care programme („Controlled and reduced exposure“)
The European Ceramic Fibres Industry Association (ECFIA) has undertaken an extensive hygiene programme for refractory ceramic fibres (RCF). The objectives are twofold : (i) to monitor workplace dust concentrations at both manufacturers' and customers' premises, and (ii) to document manufacturing and use of RCF products from an industrial hygiene perspective in order to establish appropriate recommendations to reduce exposures. The initial results of the programme have been published (see Maxim et al referenced above). If you wish to participate in the CARE programme, contact ECFIA or your supplier.

Note:

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.