



Note: Non hazardous material, therefore it is not necessary to provide you with a safety data sheet according to Article 31 of the EC Regulation 1907/2006 (REACH).

1. Identification of the substance / the preparation / the product and identification of the company

1.1 Identification of the substance / the preparation / the product

Trade Name: **SiLibeads - Ceramicbeads Type ZS**

1.2 Application of the substance / the preparation / the product

To be used as: Grinding media in pearl mills for grinding colour pigments, paint, agro chemicals and minerals.

1.3 Company identification

Manufacturer / Supplier: Sigmund Lindner GmbH
Oberwarmensteinacher Str. 38
D-95485 Warmensteinach
Phone: (+49) 09277-9940
Fax: (+49) 09277-99499
Web: www.sili.eu
E-Mail: reach@sigmund-lindner.com

Information provided by: Mr. Michael Dressler (Quality and Innovation)
Mr. Reinhold Schneider (Quality Assurance)

1.4 Emergency Call

Emergency information: Phone: (+49) 09277-9940

This telephone number can be reached during Office Hours (CET):

Monday - Thursday: 7.00 AM - 4.30 PM

Friday: 7.00 AM – 1.00 PM

2. Possible dangers

Classification: Not required to be labelled according to the Preparation Guideline, respectively EU-directives 67/548/EEC or 1999/45/EC.

Additional danger advice: In case of inappropriate handling several kinds of injuries are possible - keep away from children!
Risk of slipping due to spillage of product!



3. Composition / detailed information on the ingredients

3.1 Chemical characteristics

Description: Beads made of Zirconium Silicate

3.2 Ingredients

| Name | Symbol, R-/S-phrases | Percentage % (w/w) | CAS-No. | EG-No. (EINECS) | REACH Reg.No. |
|---|-----------------------------------|--------------------|------------|-----------------|---------------|
| main components | | reference value | | | |
| Zirconium dioxide ZrO ₂ | Xi, R36/37, S26-39 | 64,00 % | 1314-23-4 | 215-227-2 | ---- |
| Hafnium dioxide HfO ₂ | no hazardous substances | | 12055-23-1 | 235-013-2 | ---- |
| Silicon dioxide SiO ₂ ⁽¹⁾ | amorphous, no hazardous substance | 33,00 % | 7631-86-9 | 231-545-4 | ---- |
| further ⁽²⁾ | | 3,00 % | | | |

⁽¹⁾ Silica glass, free from crystalline forms of silica

⁽²⁾ Further: Traces of radioactive components with natural origin (U + Th < 0,05 %)

The heavy metal content of SiLibeads Type ZS remain within the permitted limits of European Directive 2002/95/EC - RoHS

4. First-aid measures

General Advice: Remove soiled Clothes. In case of persisting discomfort please contact a physician. To helpers: Please protect yourself.

After Inhalation: Provide fresh air.

After Skin Contact: Clean Skin with water and soap.

After Eye Contact: Remove particle carefully from the affected eye. If need be, remove contact lense. Rinse eye thoroughly with plenty of water. Consult a physician if needed.

After Swallowing: Consult a physician after swallowing large quantities.

Advise to the physician: Irritation of skin, mucosa, eyes and to the respiratory system through dust are possible. Decontamination and symptomatic treatments are in most cases sufficient.

5. Fire fighting actions

Suitable extinguishing agents: The product itself is neither combustible nor explosive. extinguishing agents have to be coordinated with the surrounding fire.

For safety reason unsuitable extinguishing agents: Largely unknown

Special dangers: No information available

Special protective equipment: Protective equipment has to be coordinated with the surrounding fire

6. Measures by accidental release

Personal protection: Avoid the build up of dust. Do not inhale any dust.

Environmental measures: It is not necessary to take actions in respect of product. Disposal has to be done as specified in chapter 13.

Cleaning procedures and absorption: Dry absorption and if possible re-utilisation of the material.

7. Handling and storage

7.1 Handling

Safety advice: High risk of slipping due to spillage of product. Avoid dust.

Technical protective measures: No data available. The product itself is neither combustible nor explosive.

7.2 Storage

Storage class: LGK 13 (non-flammable solid materials)

Requirements for storage in rooms and containers: No special storage necessary. Store in tightly closed (original) containers.

Joint storage: No specially known incompatible materials

8. Exposure limits and personal protection

8.1 Exposure limits

The applicable limits which are to be complied with and monitored, particularly during mechanical processing with a risk of dust:

| Parameter | CAS-Number | EINECS | Value | Type of limit |
|-------------------------------------|------------|-----------|---|---|
| General dust limit | ---- | ---- | 10 mg/m ³ E 3 mg/m ³ A | Limit at work (AGW) according to the TRGS 900 Regulation |
| Zirconium silicate | 10101-52-7 | 233-252-7 | 1 mg/m ³ E | Limit at work (AGW) of insoluble zirconium compounds according to the TRGS 900 Regulation |
| Silica, amorphous (Silicon dioxide) | 7631-86-9 | 231-545-4 | 4 mg/m ³ E | Limit at work (AGW) according to the TRGS 900 Regulation |
| | | | | E = breathable dust A = alveolar dust |

Type ZS contain traces of radioactive components with natural origin (U + Th < 0.05 %). The radiation exposure is less than the limit of 6 mSv / year according to § 95 of the German Radiological Protection Ordinance for naturally occurring radioactive substances at working places. Under normal use conditions the effective dose limit of 1 mSv / year by radiation exposure for single persons of the population according to § 46 of the German Radiological Protection Legal Ordinance also will not be exceeded.

8.2.1 Exposure limits and monitoring in the workplace

An on-site extraction system is required in the event of gathered dust and thermal pollution from the product.

Respiratory protection:



Use respiratory protection in the event of dust exposure, e.g. a P1 dust mask that conforms to EN 143 or a half mask with particle filter FFP1 or PP2 conforms to EN 141. Caution! Limited wearing period.

Hand protection:



Protective gloves are generally not required. However, for constant skin contact it is necessary to use gloves of low mechanical and special material demands, e.g.
 Material: Butyl rubber Mat. thickness: min. 0.4 mm Penetration time: min. 30 min. acc. to EN 374

Eye protection:



Side-shielded safety goggles that conform to EN 166 are required when carrying out mechanical processing with exposure to dust.

Body protection:

Generally, normal working clothes are sufficient.

General work protection and hygiene measures:

Do not inhale dust. Avoid contact with eyes, skin and clothes. Do not eat, drink, smoke or snuff during work. Wash hands prior to breaks and after finishing work. Change soiled clothes. Protect skin by using e. g. skin lotions and -creams.

8.2.2 Restrictions and monitoring of the environmental exposure

There are no known properties of the product, that pose dangers to the environment. General operational measures are sufficient to protect the environment.

9. Physical and chemical properties

9.1 General details

| | |
|---------------------|---------------|
| Physical condition: | solid |
| Shape: | round (beads) |
| Odour: | odourless |
| Colour: | white |

9.2 Important details regarding health- / environmental protection as well as safety

| | |
|--|--|
| pH value: | Non-applicable |
| Softening point (temperature): | between 1850 - 2550 °C |
| Flash point: | Non-applicable |
| Self-ignition point (Solid/Gas): | Non-applicable |
| Blaze properties: | Non-applicable |
| Risk of explosion: | Non-applicable |
| Vapour pressure: | Non-applicable |
| Specific weight: | 4.10 kg/dm ³ |
| Bulk density: | between 2.39 - 2.50 kg/dm ³ |
| Water solubility: | Insoluble in water |
| Partition coefficient n-Octanol/ water: | Non-applicable |
| Viscosity: | Non-applicable |
| Vapour density: | Non-applicable |
| Evaporation speed: | Non-applicable |

9.3 Additional details

There are no further details required regarding safety-relevant parameters.

10. Stability and reactivity

In case of appropriate handling and storage no dangerous reactions will occur.

10.1 Conditions to be avoided

unknown

10.2 Dangerous decomposition products

unknown

11. Toxicological data

There is no toxicological data available.

Irritation of skin, mucosa, eyes and to respiratory system through dust are possible

12. Environmental details

Ecological respectively ecotoxicological data is not available.

According to our knowledge, the product does not cause any damages to the environment, if proper handled and the product has been applied as intended.



13. Disposal information

No waste is produced from the product, that would require special supervision according to the German "Closed Substance Waste Management Act" (Krw/-AbfG) respectively EU-directives 91/689/EEC and 2006/12/EC.

13.1 Product

Re-use product remainders again if possible

13.2 Uncleaned Packaging

Recommendation: Packaging can be used again if not contaminated. Cleaning agent: water

14. Transport details

Non-hazardous materials in terms of ADR/GGVS, RID/GGVE, ICAO/IATA, IMDG.

15. Legal regulations

15.1 EU Regulations

Classification and labelling: None in accordance to the EU Directive 67/548/EEC (substance directive), 1999/45/EC (dangerous preparation directive) or in accordance to any other known EU regulations.

15.2 National Regulations (UK)

Classification and labelling: The product is not due to labelling according to UK regulations.

Other UK regulations and guidances:

- Health and Safety at Work Act 1974.
- The Management of Health and Safety at Work regulations 1992.
- L5 Control of substances hazardous to Health. The Control of Substances Hazardous to Health Regulations 2002.
- Approved codes of practice and guidance.
- Guidance Note EH40 - Occupational Exposure Limits.

**16. Additional information****16.1 Summary of the Risk-/Safety-Phrases (chapters 3.2)** (rating of independent substances)

| | |
|--------|---|
| R36/37 | Irritation to eyes and respiratory system |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| S39 | Wear eye/face protection. |

16.2 Recommended Limitations of Use

SiLibeads are not a toy and must therefore be stored away from children. A resale as toy requires the EC conformity evaluation and the distributor's compliance with the legal regulations. We expressly point out, that a conformity evaluation in this sense has not been carried out by us.

16.3 Further information

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| Company details: | Sigmund Lindner GmbH Oberwarmensteinacher Str. 38 D-95485 Warmensteinach Phone: (+49) 09277-9940 Fax: (+49) 09277-99499 Web: www.sili.eu |
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|------------------------------------|---|
| Technical contacts: information | Mr. Michael Dressler (Quality and Innovation) Mr. Reinhold Schneider (Quality Assurance) |
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All details noted in this data sheet correspond to our knowledge at the time this data sheet has been put into effect. This information should be used as a guideline for a safe treatment in accordance with the products mentioned in our material safety data sheet, during storage, production, transport and disposal. This information is not applicable to other products, to newly produced materials, if the product mentioned in this material safety data sheet is mixed or blended with other articles or when other transformations are made to it.

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|---------------------------------|---|
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