



Note: The product is an object defined as an article in the Regulation (EC) No. 1907/2006 (REACH) Art. 3 Par. 3, not classified as dangerous or not containing substances classified as dangerous, so there is no obligation to issue a safety data sheet according to the Regulation (EC) No. 1907/2006 Art. 31 (Requirements for safety data sheets). The following information complies with the obligation according to Art. 32 (for substances on their own or in preparations for which a safety data sheet is not required), and was issued following the structure by Annex II.

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 example milling of colour pigments, paints, thermal paper coatings and agro chemicals.

1.3 Company identification

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

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

1.4 Emergency Call

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

We can be reached during office hours (Central European Time):

Monday - Thursday: 7.00 AM - 4.30 PM

Friday: 7.00 AM - 1.00 PM

2. Possible dangers

Classification: No requirement to label according to the Preparation Guideline, respectively European Directives 67/548/EEC (Dangerous substances Directive) or 1999/45/EC (Dangerous preparations Directive).

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

It is not necessary that the product has to be labelled according to the European Directives.



3. Composition / detailed information on the ingredients

3.1 Chemical characteristics

Description: Ceramicbeads made of Zirconium Silicate

3.2 Ingredients

Name	EC/GHS Classification	Amount	CAS N°	EC N°	REACH Registry	TSCA Registry
main components						
Zirconium dioxide ZrO_2 ⁽¹⁾	not classified	59.0 %	1314-23-4	215-227-2	----	TSCA 8(b) Inventory: Zirconium oxide ----
Hafnium dioxide HfO_2 ⁽¹⁾	not classified		12055-23-1	235-013-2	----	
Silicon dioxide SiO_2 ⁽¹⁾⁽²⁾	amorphous, no hazardous substance	35.0 %	7631-86-9	231-545-4	----	----
others		6.0 %				

⁽¹⁾ Traces of naturally occurring uranium (U) and thorium (Th) are present in concentrations of < 0.05 %.

⁽²⁾ Silica glass, free from crystalline forms of silica.

Note: Possession of this material is exempt from NRC regulation under 10 CFR 40.13(a) "Unimportant quantities of Source material" and equivalent state regulations.

The heavy metal content of SiLibeads Type ZS remains within the permitted limits of European Directive 2002/95/EC – RoHS (Restriction of use of certain hazardous substances in electrical and electronic equipment).

4. First-aid measures

General Advice: Remove soiled clothes. In case of persisted discomfort contact a physician.

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 necessary, remove contact lenses. Rinse eyes thoroughly with plenty of water. Consult a physician if needed.

After Swallowing: Consult a physician after swallowing.

Advice for the physician: Irritations of skin, mucosa, eyes and the respiratory system by dust are possible. In most cases decontamination and symptomatic treatments are 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: Unknown.

Special dangers: No information available.

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

6. Measures by accidental release

Cleaning procedures and absorption: Risk of slipping if the product is spilled on the floor. Isolate the area and sweep the floor by vacuum in order to collect the beads to avoid slipping on the beads.

Environmental measures: No special actions necessary. Disposal look at chapter 13.

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

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

Joint storage: No specially known incompatible materials.

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

8. Exposure limits and personal protection

8.1 Exposure limits

Mechanical dry processing of the product can generate a risk of dust: The local limits of dust concentration at the work have to be considered.

Parameter	CAS-Number	EINECS	Limit values dust	
General limit value	----	----	10 mg/m ³ E 3 mg/m ³ A	Limit at work (AGW) according to the TRGS 900 Regulation
Zirconium and compounds insoluble in water	7440-67-7	231-176-9	1 mg/m ³ E	Limit at work (AGW) of insoluble zirconium compounds according to the TRGS 900 Regulation
Silica, amorphous	7631-86-9	231-545-4	4 mg/m ³ E	Limit at work (AGW) according to the TRGS 900 Regulation
E = inhalable fraction / A = respirable fraction				

SiLibeads Type ZS contain traces of naturally occurring uranium (U) and thorium (Th) in concentrations of < 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

General work protection

Do not inhale dust. Avoid contact with eyes and skin.

In addition it is recommend to wear hand-, skin- and mouth protections.

Hygiene measure:

Do not eat, drink, smoke or snuff during work.
Wash hands prior to breaks and after finishing work.
Change soiled clothes.

Technological protection measure:

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

Respiratory protection:



Mask filter is required when mechanical processing is done with 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
or
an N-95 NIOSH-certified dust mask or better. Voluntary respirator use is permitted by OSHA in 29 CFR 1910.134(c)(2)(i) and Appendix D.

Hand protection:



Suitable protective gloves are recommended, e.g.

Material: Mat. thickness Penetration time:

Butyl rubber min. 0.4 mm min. 30 min. acc. to
EN 374

Eye protection:

Side-shielded safety glasses or goggles that conform
to EN 166

or

29 CFR 1910.133(a)(2) are required when carrying out
mechanical processing with exposure to dust. Safety
glasses or goggles must meet the requirements of
ANSI Z87.1–2003, “American National Standard
Practice for Occupational and Educational Eye and
Face Protection.”

Body protection:

Generally, normal working clothes are sufficient.

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

Physical condition: solid
Shape: round (beads)
Odor: odorless
Color: 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/l
Bulk density: between 2.39 - 2.50 kg/l
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 respiratory system are possible by dust.

12. Environmental details

Ecological respectively ecotoxicological data is not available.

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

or

under the Resource Conservation and Recovery Act (RCRA).

Please consult national laws and local regulations in force for disposal or landfill.

Depending on the type of application, products after use may contain other chemicals on their surface. For specific application check rules on a case by case basis.

13.1 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 and USDOT.



15. Legal regulations

15.1 EU Regulations

Classification and labelling: None in accordance to European Directive 67/548/EEC (Substance Directive), Directive 1999/45/EC (Dangerous Preparation Directive) or in accordance to any other known regulations.

Compliance according to legal regulations: SiLibeads Type ZS comply with the requirements of the European Regulation 1907/2006/EC on the registration, evaluation, authorisation and restriction of chemical substances (REACH) and the Regulation 1272/2008/EC on the classification, labelling and packaging of chemical substances (CLP).

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 Recommended Limitations of Use

SiLibeads Type ZS 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 valid regulations. We expressly point out, that a conformity evaluation in this sense has not been carried out by Sigmund Lindner GmbH.

**16.2 Further information**

Company details:

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Technical contact/
information

Mr. Udo Weber (Product Manager Ceramic Beads)

All noted details in this data sheet correspond to our knowledge at the time when the data sheet has been put into effect. This information should be used as a guideline for a safe treatment of the mentioned product during storage, production, transport and disposal. This information is not applicable for any other products and if this material is mixed with other products or is transformed into new products.

Date of the current version:

2013-07-04

Reason for the current version:

Chapter 3 – chemical composition

Replaced issue:

MSDS SiLibeads Type ZS; Version 14/2013