



According to Regulation (EC) 1907/2006, (REACH), 1272/2008 (CLP) & 2015/830

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**Poliresin®**

**1. Identification of the substance / Preparation and Company:**

- 1.1 Product identifier  
 Commercial product name: Poliresin  
 Product description: Polishing material
- 1.2 Relevant identified uses of the substance or mixture and uses advised against  
 Relevant identified uses: Used as a carrier, a silica source, or as a functional additive for paint, cosmetics, plastics, rubber or other applications. Use as filter aid in industrial settings.  
 Used Advised Against: Anything other than the above.
- 1.3 Details of the supplier of the safety data sheet  
 Manufacturer/Supplier: ERNST HINRICHS Dental GmbH  
 Street / mailbox: Borsigstr. 1  
 Country code. / postal code / city: D - 38644 Goslar  
 Phone: 0 53 21 / 5 06 24  
 Fax: 0 53 21 / 5 08 81  
 E-mail / Website: info@hinrichs-dental.de / www.hinrichs-dental.de  
 Further information obtainable from: ERNST HINRICHS Dental GmbH
- 1.4 Emergency telephone number  
 ERNST HINRICHS Dental GmbH: +49 (0) 53 21 / 5 06 24 - 25 (Mon-Fri. 8 a.m. – 4 p.m.)

**2. Hazards Identification**

- 2.1 Classification of the substance or mixture:  
 This product contains cristobalite (fine fraction) at: < 1%. Depending on the type of handling and use (e.g. grinding, drying), airborne fine fraction crystalline silica dust may cause lung fibroses commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to fine fraction crystalline silica dust should be monitored and controlled.
- 2.1.1 Regulation (EC) No. 1272/2008 (CLP): Not classified as hazardous for supply/use.
- 2.2 Label elements:  
 According to Regulation (EC) No. 1272/2008 (CLP)  
 Contains: Diatomaceous Earth, Flux-Calcined (Kieselguhr) (< 1% Crystalline Silica - Cristabolite (Respirable Dust)  
 Hazard Pictogram(s): None assigned.  
 Signal Word(s): None assigned.  
 Hazard Statement(s): None assigned.  
 Precautionary Statement(s): None assigned.
- 2.3 Other hazards: None.

**3. Composition / Information on Ingredients**

- 3.1 Substances:  
 EC Classification Regulation (EC) No. 1272/2008 (CLP)
- | Chemical identity of the substance  | %W/W        | CAS. No.   | EC No.    |
|---|-------------|------------|-----------|
| Diatomaceous Earth, Flux-Calcined (Kieselguhr)  | approx. 100 | 68855-54-9 | 272-489-0 |
| Contains: Cristobalite (Respirable Dust), <1 Fine Fraction Crystalline Silica per SWeRF calculation | <1          | 14464-46-1 | 238-455-4 |
| Other components  |             |            |           |
| Cristobalite (Respirable)   | < 1%        | 14464-46-1 | 238-455-4 |
| Respirable crystalline silica per SWeRF calculation (particle size distribution)                    |             |            |           |
- 3.2 Mixtures: Not applicable.



**4. First aid measures**

4.1	Description of first aid measures Inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If irritations develops and persists, get medical attention. Blow nose to evacuate dust.
	Skin contact:	Remove clothing and wash thoroughly before use. Wash affected skin with soap and water. If skin irritation or rash occurs: Get medical advice/attention.
	Eye contact:	Flush eyes with water for at least 15 minutes while holding eyelids open. Get medical attention if eye irritation develops or persists.
4.2	Most important symptoms and effects, both acute and delayed:	Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. Acute inhalation can cause dryness of the nasal passage and lung congestion, coughing and general throat irritation. Chronic inhalation of dust should be avoided. May cause irritation to the respiratory system.
4.3	Indication of any immediate medical attention and special treatment needed:	Unlikely to be required but if necessary treat symptomatically. There is no specific antidote. Remove person to fresh air and keep comfortable for breathing.

**5. Fire-fighting measures**

5.1	Extinguishing media: Suitable extinguishing media:	Non-flammable. Extinguish with carbon dioxide, dry chemical, foam or water spray. As appropriate for surrounding fire.
	unsuitable extinguishing media:	None.
5.2	Special hazards arising from the substance or mixture:	Non-flammable, non-combustible, not explosive.
5.3	Advice for fire-fighters:	Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

**6. Accidental release measures**

6.1	Personal precautions, protective equipment and emergency procedures:	Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Wear appropriate personal protective equipment, avoid direct contact. Where engineering controls are not fitted or inadequate wear suitable respiratory protective equipment.
6.2	Environmental precautions:	No special requirements.
6.3	Methods and material for containment and cleaning up:	Sweep spilled substances into containers if appropriate moisten first to prevent dusting. Use vacuum equipment for collecting spilt materials, where practicable. Transfer to a container for disposal.
6.4	Reference to other sections:	See sections 8 and 13.

**7. Handling and Storage**

7.1	Precautions for safe handling:	Handle packaged products carefully to prevent accidental bursting. If you require advice on safe handling techniques, please contact your supplier or check the GOOD Practice Guide referred to in section 16. Avoid generation of dust. In case of inadequate ventilation wear respiratory protection. Do not breathe dust. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with the skin, eyes or clothing. Do not eat, drink or smoke when using this product.
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- 7.2 Conditions for safe storage, including any incompatibilities: Wash hands before breaks and after work. Atmospheric concentrations should be minimised and kept as low as reasonably practicable below the occupational exposure limit.
- Storage life: Stable under normal conditions. Store in dry place.
- Incompatible material: Keep away from Hydrofluoric Acid.
- 7.3 Specific end Use(s): See section 1.2.

**8. Exposure controls / Personal protection**

8.1 Control parameters

8.1.1 Occupational Exposure limits

Substance	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Silica, Respirable Crystalline	-	-	0.1	-	-	WEL: Workplace Exposure Limit (UK HSE EH40)
Nuisance Dust	-	-	10	-	-	Inhalable Dust. WEL: Workplace Exposure Limit (UK HSE EH40)
Nuisance Dust	-	-	4	-	-	Respirable Dust. WEL: Workplace Exposure Limit (UK HSE EH40)

Note: For the equivalent limits in other countries, please consult a competent occupational hygienist or the local regulatory authority.

8.1.2 Biological limit value:

Not established.

8.1.3 PNECs and DNELs:

Diatomaceous Earth (Kieselguhr): Not harmful to aquatic organisms. Insoluble in water. On the basis of the PNECs for the aquatic compartment have not been derived.

Diatomaceous Earth (Kieselguhr) DNELs	Oral	Inhalation	Dermal
Industry - Long Term - Systemic effects	-	0.05 mg/m <sup>3</sup>	-
Consumer - Long Term - Systemic effects	18.7 mg/kg bw/day	0.05 mg/m <sup>3</sup>	-

8.2 Exposure controls

8.2.1 Appropriate engineering controls:

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Avoid dust generation.

8.2.2 Individual protection measures, such as personal protective equipment (PPE):

Use personal protective equipment as required. Wash contaminated clothing before reuse. Avoid contact with skin and eyes. Do not breathe dust.

Eye/Face protection:

Wear eye protection with side protection (EN166)



Skin protection:

Use skin barrier cream before handling the product. Wear suitable gloves if prolonged skin contact is likely - Wear impervious gloves (EN374). Unsuitable glove materials.



Respiratory protection:

Atmospheric levels should be controlled in compliance with the occupational exposure limit. In case of inadequate ventilation wear respiratory protection. Recommended: Half-face mask (DIN EN 140), Filter type P2/P3 - efficiency of at least 90%.



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8.2.3 Thermal hazards: Not applicable.  
Environmental Exposure Control: Avoid wind dispersal.

**9. Physical and chemical properties**

9.1 Information on basic physical and chemical properties  
 Appearance: White powder  
 Odour: Odourless  
 Odour threshold: Not available.  
 ph (10% Suspension): 10  
 Melting point / freezing point: Not applicable.  
 Initial boiling point and boiling range: Decomposes below boiling point at (°C): >1300°C  
 Flash point: Non-flammable.  
 Evaporation rate: Not applicable.  
 Flammability (solid, gas): Non-flammable.  
 Upper/lower flammability or explosive limits: Non-flammable.  
 Vapour pressure: Not applicable.  
 Vapour density: Not applicable.  
 Relative density: 2.3 g/cm<sup>3</sup> (H<sub>2</sub>O = 1)  
 Solubility(ies): <1% Water  
 Soluble in: Hydrofluoric Acid  
 Partition coefficient: n-octanol/water: Not available.  
 Auto-ignition temperature: Not applicable.  
 Decomposition Temperature: Not available.  
 Viscosity: Not applicable, solid.  
 Explosive properties: Not explosive.  
 Oxidising properties: Not oxidising.  
 9.2 Other information: None.

**10. Stability and Reactivity**

10.1 Reactivity: Stable under normal conditions.  
 10.2 Chemical Stability: Stable under normal conditions.  
 10.3 Possibility of hazardous reactions: Stable under normal conditions.  
 10.4 Conditions to Avoid: Avoid contact with: Hydrofluoric Acid. Do not leave in enclosed spaces when mixed with highly flammable material, as heat can build up over long periods of time and flammable material may eventually ignite.  
 10.5 Incompatible Materials: Reacts violently with Hydrofluoric Acid.  
 10.6 Hazardous decomposition products: No hazardous decomposition products known.

**11. Toxicological information**

11.1 Information on toxicological effects  
 Acute toxicity: Based upon the available data, the classification criteria are not met.  
 Ingestion: Based upon the available data, the classification criteria are not met.  
 Inhalation: Based upon the available data, the classification criteria are not met.  
 Skin contact: Based upon the available data, the classification criteria are not met.



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Eye contact:	Based upon the available data, the classification criteria are not met.
Skin corrosion/irritation:	Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation:	Based upon the available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based upon the available data, the classification criteria are not met.
Germ Cell mutagenicity:	Based upon the available data, the classification criteria are not met.
Reproductive toxicity:	Based upon the available data, the classification criteria are not met.
STOT - single exposure:	Based upon the available data, the classification criteria are not met.
STOT - repeated exposure:	Based upon the available data, the classification criteria are not met.
Aspiration hazard:	Based upon the available data, the classification criteria are not met.
11.2 other information:	<p>Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.</p> <p>In 1997, IARC (the International Agency for research on Cancer) concluded the crystalline silica inhaled from occupational sources can cause lung cancer in humans (human carcinogen category 1). However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France). In 2009, in the Monographs 100 series, IARC confirmed its classification of Silica Dust, Crystalline in the form of Quartz and Cristobalite (IARC Monographs, Volume 100C, 2012). In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of fine fraction crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefor preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003). So there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. Worker protection against silicosis should be assured by respecting the existing regulatory occupational exposure limits and implementing additional risk management measures where required (see section 16 below).</p>

**12. Ecological information**

12.1	Toxicity:	Not classified as Marine Pollutant.
12.2	Persistence and degradability:	Not applicable.



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- 12.3 Bioaccumulative potential: The production has no potential for bioaccumulation. Some organisms accumulate Si(OH)<sub>4</sub>.
- 12.4 Mobility in soil: The product is predicted to have low mobility in soil.
- 12.5 Results of PBT and vPvB assessment: This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.
- 12.6 Other adverse effects: None known.

**13. Disposal considerations**

- 13.1 Waste treatment methods: Dispose of empty containers and waste safely. Dispose of contents in accordance with local, state or national legislation.
- 13.2 Additional information: Packaging waste: Remove all packaging for recovery or disposal. Make sure that packaging is completely empty before recycling. Inform consumer about possible hazards of unclean empty packaging for recycling or disposal.

**14. Transport information**

- Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods".
- ADR/RID / IMDG / ICAO/IATA
- 14.1 UN number: Not applicable.
  - 14.2 UN proper shipping name: Not applicable.
  - 14.3 Transport hazard class: Not applicable.
  - 14.4 Packaging group: Not applicable.
  - 14.5 Environmental hazards: Not classified as Marine Pollutant.
  - 14.6 Special precautions for users: Not applicable.
  - 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Diatomaceous Earth, no special measures are required.
  - 14.8 Additional information: None.

**15. Regulatory information**

- 15.1 Safety, Health and Environmental Regulations/Legislation specific for the substance or mixture
- 15.1.1 EU regulations
  - Authorisations and/or restrictions on use: None.
- 15.1.2 National regulations
  - Germany: Water hazard class: 1
- 15.2 Chemical safety assessment: Subject to REACH Registration. A chemical safety assessment has been carried out.

**16. Other information**

The following sections contain revisions or new statements: 1-16.

References: Existing Safety Data Sheet (SD), Existing ECHA registration(s) for Diatomaceous Earth (Kieselguhr), soda Fklux-Calcined (CAS# 68855-54-9).

Training  
 Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations. A multi-sectoral social dialogue agreement on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it was signed on 25<sup>th</sup> of April 2006. This autonomous agreement, which received the European Commission's financial support, is based on a GOOD Practice Guide. The requirements of the Agreement came into force on 25<sup>th</sup> of October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the agreement and its annexes, including the Good Practice Guide, are available from <http://www.nepsi.eu> and provide useful information and guidance for the handling of products containing fine fraction crystalline silica. Literature references are available on



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request from EUROSIL, the European Association of Industrial Silica Producers.

Legend

LTEL:	Long Term Exposure Limit
STEL:	Short Term Exposure Limit
DNEL:	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT:	Persistent, Bioaccumulative and Toxic
vPvB:	very Persistent and very bioaccumulative
OECD	Organisation for Economic Cooperation and Development
SCOEL:	The EU Scientific Committee on Occupational Exposure Limits.
IARS:	International Agency for Research on Cancer
SWeRF:	Size-Weighted Fine Fraction

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