Material Safety Data Sheet

(1907/2006/EC

Reviewed on 04.12.2009

1. Name of substance

Trade name: Turbosil (blau)

Material number: **13203016/1303032/13202000/13201000**

Use of substance / preparation: Industrial elastomer products

Manufacturer/Supplier: Klasse 4 Dental GmbH
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Information: phone +49 (0) 821 608914-0
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2. Composition/information on ingredients

Chemical characterization (preparation): Chemical characteristics: Polydimethylsiloxane with functional groups + auxililiaries for addition cross-linking

3. Hazards identification

Classification: R-Phrase : -
This product is not a dangerous preparation within the meaning of Directive 1999/45/EC.

Further hazards to man and environment: Danger of oxyhydrogen gas formation with water, alcohols, acids, metallic salts, amines and alkalis.

4. First-aid measures

General information: In case of accident or if you feel unwell seek medical advice (show label or SDS where possible).
After inhalation: Provide fresh air.
After contact with the skin: Wipe off excess material with cloth or paper. Wash with plenty of water or water and soap. In the event of a visible skin change or other complaints, seek medical advice (show label or SDS where possible).
After contact with the eyes: Rinse immediately with plenty of water. Seek medical advice in case of continuous irritation.
After swallowing: Give several small portions of water to drink. Do not induce vomiting.

5. Fire-fighting measures

Suitable extinguishing media: alcohol-resistant foam, carbon dioxide, sand. Hydrogen gas can become trapped under foam blankets, so sources of ignition must be eliminated during the clean-up and recovery process.
Extinguishing media which must not be used for safety reasons: water, extinguishing powder, halones.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:
Special protective equipment for fire fighting: Use respiratory protection independent of recirculated air.

6. Accidental release measures:

Personal precautions: Secure the area. Wear personal protection equipment (see section 8) If material is released indicate risk of slipping.
Environmental precautions: Prevent material from entering sewers or surface waters, drains or sewers and soil. Contain any fluid that runs out using suitable material (e.g. earth). If safe to do so, stop the leak at its source.
Methods for cleaning up: For small amounts: Absorb with a neutral (non-acidic/non-basic) liquid binding material such as diatomaceous earth and dispose of according to government regulations. For large amounts: Liquids may be recovered using suction devices or pumps. Use only air driven or properly rated electrical equipment. Use vented recovery containers. Clean any slippery coating that remains using a detergent/soap solution or another biodegradable cleaner. Apply sand or other inert granular material to improve tractions.
Further information: Eliminate all sources of ignition. Material designated for disposal must be segregated from incompatible substances or materials specified in Sect. 10.2. Do not blend contaminated material with uncontaminated material. Observe notes under Sect. 7.

7. Handling and storage

Handling:
- **Precautions for safe handling**: Open and handle container with care. Ensure adequate ventilation. Keep container closed when not in use. Keep away from incompatible substances in accordance with section 10.2. Where possible, inert process equipment and blanket vessels, tanks and containers with nitrogen to reduce the available oxygen level. Contact Klasse 4 for additional publications on the safe Handling of SiH Products.
- **Precautions against fire and explosion**: Product can release hydrogen. In partly emptied containers formation of explosive mixtures is possible. Keep away from sources of ignition and do not smoke. Keep away from open flames, heat and sparks. Take precautionary measures against electrostatic charging.

Storage:
- **Conditions for storage rooms and vessels**: do not store in virgin glass containers with basic surface.
- **Advice for storage of incompatible materials**: do not store with: basic substances (e.g. alkalis, ammonia, amines), oxidizing agents, strong acids.
- **Further information for storage**: Protect against moisture. Store in a dry and cool place. Store container in a well ventilated place.

8. Exposure controls and personal protection equipment

Exposure limits:
Maximum airborne concentrations at the workplace: not applicable
-
Exposure limited and controlled
Exposure in the work place limited and controlled:
- **General protection and hygiene measures:** Do not eat or drink or smoke when handling. Wash hands at the end of work and before eating.

Personal protection equipment
- **Respiratory protection:** not required.
- **Hand protection:** Recommendation: Protective gloves made of butyl rubber, protective gloves coated with neoprene, PVC gloves. Gloves suitable for up to 60 minutes´ use
- **Eye protection:** protective goggles.

Exposure to the environment limited and controlled: Prevent material from entering surface waters and soil.

9. Physical and chemical properties

General information

Physical state/ form:	liquid
Colour:	blue
Odour:	odourless

Important information about the protection of health, safety and the environment Method: (67/548/EWG)

Melting point / melting range	not applicable
Boiling point / boiling range	not applicable
Flash point	> 250 °C
Ignition temperature	> 400 °C
Lower explosion limit (LEL)	not applicable
Upper explosion limit (UEL)	not applicable
Vapour pressure	not applicable
Density	1,1 g/cm³ at 23 °C at 1013 hPa
Water solubility / miscibility	virtually insoluble
pH-Value	not applicable
Viscosity (dynamic)	2600 mPa*s at 25 °C

Other information
According to previous experience spontaneous combustion temperature for polymer silocane with siH compounds is above 240 °C (464° F). On a catalytically active surface ignition may occur at much lower temperature. This applies to porous or fibrous substances including those with alkaline surfaces, such as thermal insulation and cementaceous insulating materials. Explosion limits for released hydrogen: 4 – 75.6%(V). Re 9.2 pH Value: Product displays neutral reaction.

10. Stability and reactivity

General information: Stable under normal conditions of use. In contact with incompatible substances this material may quickly generate a large column of flammable hydrogen gas.
Conditions to avoid: moisture, heat, open flames and other sources of ignition. Contact with contaminated piping or vessels or with corroded and rusty containers can increase the rate of hydrogen formation. Observe information in Sect. 7.
Materials to avoid: Reacts violently with: acids, basic substances (e.g. alkalis, ammonia, amines). Reacts with: Alcohols, water, moisture, oxidizing agents, catalyst. Reaction causes the formation of hydrogen.
Hazardous decomposition products: hydrogen. Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °C) through oxidation.

11. Toxicological information

General information: According to our present state of knowledge no damaging effect expected when treated in accordance with standard industrial practices and local regulations where applicable.
Toxicological tests:
Acute toxicity (LD50/LC50-valued relevant to classification):

Exposition	Value/Value range	Species	Source
Oral	**> 2000mg/kg**	**Rat**	**Conclusion by analogy**

- **Specific symptoms in animal test:** Animal test with a chemically similar product: By skin contact: Not irritating to skin. By eye contact: Slight irritation possible. Not sensitising to the skin.
- **Further information:** -

Experience with man: -
Further toxicological information: -

12. Ecologial information

Ecotoxicity

Species	Test method	Exp. Time	Result	Source
Rainbow trout (Oncorhynchus mykiss)	acute	96 h	> 100 mg/l (LC50)	Test report
Rainbow trout (Oncorhynchus mykiss)	acute	96 h	100 mg/l (NOEC)	Test report

No expected damaging effects to aquatic organisms.

Effects in sewage treatment plants (bacteria toxicity: respiration-/reproduction inhibition): According to current knowledge adverse effects on water purification plants are not expected.

Mobility: -

Persistence and degradability:
- **Biodegradation / further information:** Biologically not degradable. Polydimethylsiloxanes are degradable to a certain extent in abiotic processes.
- **Further information:** Elimination by adsorption to activated sludge.

Bio-accumulation potential: Bioaccumulation is not expected to occur.

Other harmful effects: none known

Additional information:
- **General information:** In cross-linked state not soluble in water. Easily separable from water by filtration.

13. Disposal considerations

Material
- **Recommendation**: Material that cannot be used or chemically reprocessed should be disposed of at an approved facility in accordance with any applicable governmental regulations. Material

designated for disposal must be segregated from incompatible substances or materials specified in Sect. 10. Wastes of this material should not be mixed with other wastes. Provide measures such as vented bungs to ensure pressure relief in the waste containers.

Uncleaned packaging

- **Recommendation:** Containers may contain hazardous quantities of hydrogen gas. Uncleaned containers should not be reused to hold another material due to the potential for reaction between residual product and incompatible materials. Uncleaned packaging should be treated with the same precautions as the material. Containers should be completely emptied before recycling as specified in government regulations.

14. Transport information

Land transport ADR and RID

- **Road ADR:**
  Valuation Not regulated for transport
- **Railway RID:**
  Valuation Not regulated for transport

Transport by sea IMDG-Code

Valuation Not regulated for transport

Air transport ICAO-TI/IATA-DGR

Valuation Not regulated for transport

Transport/further information

Informing dept. ref. to heading 14. Transport information:
Klasse4: Phone +49 (0) 821 608914-0
Fax +49 (0) 821 608914-10

15. Regulatory information

Warning label (EC)
R-Phrase: ---
S-Phrase: ---

National regulations:

National and local regulations must be observed.

Other international regulations

Details of international registration status
Listed on the following inventories:

AICS	Australia
IECSC	China
DSL	Canada
ECL	Korea
EINECS	Europe
ENCS	Japan
PICCS	Philippines

TSCA USA

16. Other information

Material
The above information describes exclusively the safety requirements of the product(s) and is based on our present-day knowledge. It does not represent a guarantee for the properties of the product(s) described in terms of the legal warranty regulations. Properties of the product are to be found in the respective product leaflet.

Further information:
Commas appearing in numerical data denote a decimal point.