

according to 1907/2006/EC, Article 31  
 Revision: 05.06.2018

Version number 3

page 1 of 6  
 Date of issue: 14.02.2019

**Silaform® hardener**

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

- 1.1 Identification of the substance or preparation:  
 Commercial product name: Silaform® hardener
- 1.2 Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available.
- Application of the substance / the mixture: Hardener for impression material, technology product
- 1.3 Details of the supplier of the safety data sheet  
 Manufacturer/Supplier: SILADENT Dr. Böhme & Schöps GmbH  
 Street / mailbox: Im Klei 26  
 Country code. / postal code / city: DE - 38644 Goslar  
 Phone: Tel.: +49 (0) 53 21 / 37 79 – 0  
 Fax: Fax: +49 (0) 53 21 / 38 96 32  
 E-mail / Website: [info@siladent.de](mailto:info@siladent.de) - [www.siladent.de](http://www.siladent.de)  
 Further information obtainable from: SILADENT Dr. Böhme & Schöps GmbH
- 1.4 Emergency telephone number  
 SILADENT Dr. Böhme & Schöps GmbH: +49 (0) 53 21 / 37 79 - 0 (Mon-Fri. 8 a.m. – 4 p.m.)

**2. Hazards identification**

- 2.1 Classification of the substance or mixture  
 Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

STOT SE 2 H371 May cause damage to the immune system. Route of exposure: Oral.  
 STOT RE 2 H373 May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.  
 Skin Sens. 1 H317 May cause an allergic skin reaction.  
 Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- 2.2 Label elements  
 Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.  
 Hazard pictograms



GHS07 GHS08

Signal word Warning  
 Hazard-determining components of labelling: Diocetylzinnacetylacetonat (CAS 54068-28-9)  
 Tetrakis(2-butoxyethoxy)silane (CAS 18765-38-3)  
 Aroma Gemisch

Hazard statements

H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H371 May cause damage to the immune system. Route of exposure: Oral.  
 H373 May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.  
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves.

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards










Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

**3. Composition/ information on ingredients** \*

3.1 Chemical characterisation: Mixtures  
 Description: Mixture of substances listed below with nonhazardous additions.  
 Dangerous components:

	Tetrakis(2-butoxyethoxy)silane (CAS 18765-38-3)	10-25%
	 STOT RE 2, H373;  Skin Irrit. 2, H315	
EINECS: 222-883-3 Reg.nr.: 01-2119979527-19-0000	Diocetylzinnilaurat (CAS 3648-18-8)	>2.5-<10%
	 STOT SE 2, H371	
	Diocetylzinnacetylacetonat (CAS 54068-28-9)	>2.5-<10%
	 STOT SE 2, H371;  Skin Sens. 1, H317	
	aroma mixture	>0.25-<1%
	 Flam. Liq. 3, H226;  Asp. Tox. 1, H304;	
	 Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Skin Irrit. 2, H315; Skin Sens. 1, H317	

Additional information: For the wording of the listed risk phrases refer to section 16.

**4. First aid measures:** \*

4.1 Description of first aid measures

General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation: Supply fresh air and to be sure call for a doctor.  
 In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.  
 After eye contact: Rinse opened eye for several minutes under running water.  
 After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

**5. Fire Fighting measures:** \*

5.1 Extinguishing media

Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment: No special measures required.

**6. Accidental release measures:** \*

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

6.2 Environmental precautions:

Inform respective authorities in case of seepage into water


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- 6.3 Methods and material for containment and cleaning up: course or sewage system. Do not allow to enter sewers/ surface or ground water. Do not allow product to reach sewage system or any water course. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.
- 6.4 Reference to other sections: See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

**7. Handling and Storage:** \*

- 7.1 Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Information about fire - and explosion protection: No special measures required.
- 7.2 Conditions for safe storage, including any incompatibilities: Storage: Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Not required. Further information about storage conditions: None.
- 7.3 Specific end use(s): No further relevant information available.

**8. Exposure controls / Personal protection:**

- 8.1 Control parameters: Additional information about design of technical facilities: No further data; see item 7. Ingredients with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- 8.2 Exposure controls: Additional information: The lists valid during the making were used as basis. Personal protective equipment: General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the skin. Avoid contact with the eyes and skin. Respiratory protection: In case of intensive or longer exposure use self-contained respiratory protective device. Protection of hands:  Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. We recommend protective gloves of Nitril (EN 374). The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application. Material of gloves: Penetration time of glove material: Time of permeation (EN 374):

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long-term use: < 480 min  
short-term use: < 30 min  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

**9. Physical and chemical properties:**

9.1 Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Pasty
Colour:	Red
Odour:	Characteristic
Odour threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	> 70 °C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Self-igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapour pressure:	0.1 g/cm <sup>3</sup>
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	Not miscible or difficult to mix.
Partition coefficient (n- octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	0.00 %
VOC (EC)	0.00 %
Solids content:	91,6 %
9.2 Other information	No further relevant information available.

**10. Stability and reactivity**

10.1 Reactivity	No further relevant information available.
10.2 Chemical stability	
Thermal decomposition / conditions to be avoided:	No decomposition if used according to specifications.
10.3 Possibility of hazardous reactions	No dangerous reactions known.
10.4 Conditions to avoid	No further relevant information available.
10.5 Incompatible materials:	No further relevant information available.
10.6 Hazardous decomposition products:	No dangerous decomposition products known.

**11. Toxicological information**

11.1 Information on toxicological effects	
Acute toxicity	Based on available data, the classification criteria are not met.

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LD/LC50 values relevant for classification:		
Diocetylzinnilaurat (CAS 3648-18-8)		
Oral	LD50	6,450 mg/kg (rat)
Diocetylzinnacetylacetonat (CAS 54068-28-9)		
Oral	LD50	>2,500 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

Primary irritant effect:  
 Skin corrosion/irritation: Causes skin irritation.  
 Serious eye damage/irritation: Based on available data, the classification criteria are not met.  
 Respiratory or skin sensitisation: May cause an allergic skin reaction.  
 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)  
 Germ cell mutagenicity: Based on available data, the classification criteria are not met.  
 Carcinogenicity: Based on available data, the classification criteria are not met.  
 Reproductive toxicity: Based on available data, the classification criteria are not met.  
 STOT-single exposure: May cause damage to the immune system. Route of exposure: Oral.  
 STOT-repeated exposure: May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.  
 Aspiration hazard: Based on available data, the classification criteria are not met.

**12. Ecological information** \*

12.1 Toxicity  
 Aquatic toxicity: No further relevant information available.  
 12.2 Persistence and degradability: No further relevant information available.  
 12.3 Bioaccumulative potential: No further relevant information available.  
 12.4 Mobility in soil: No further relevant information available.  
 Ecotoxicological effects:  
 Remark: Harmful to fish  
 Additional ecological information:  
 General notes: Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Harmful to aquatic organisms  
 12.5 Results of PBT and vPvB assessment  
 PBT: Not applicable.  
 vPvB: Not applicable.  
 12.6 Other adverse effects: No further relevant information available.

**13. Disposal considerations**

13.1 Waste treatment methods  
 Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
 Uncleaned packaging:  
 Recommendation: Disposal must be made according to official regulations.

**14. Transport information**

14.1 UN-Number  
 ADR, ADN, IMDG, IATA Void  
 14.2 UN proper shipping name  
 ADR, ADN, IMDG, IATA Void  
 14.3 Transport hazard class(es)  
 ADR, ADN, IMDG, IATA  
 Class Void  
 14.4 Packing group  
 ADR, IMDG, IATA Void  
 14.5 Environmental hazards:

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Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code UN "Model Regulation":	Not applicable. Void

**15. Regulatory information** \*

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture:	No further relevant information available.
15.2 Chemical safety assessment:	A Chemical Safety Assessment has not been carried out.

**16. Other information** \*

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H371 May cause damage to the immune system. Route of exposure: Oral.
- H373 May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Asp. Tox. 1: Aspiration hazard, Hazard Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
- Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

\* Data compared to the previous version altered.