

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017




Version number 1

Revision: 23.02.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** KKD Flüssighärter
- **Article number:** according to Catalog
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU20 Health services
- **Environmental release category** ERC2 Formulation into mixture
- **Application of the substance / the mixture** Dental material
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Kentzler-Kaschner Dental GmbH
Mühlgraben 36
D-73479 Ellwangen
Tel: +49/7961/90730
Fax: +49/7961/52031
E-Mail: info@kkd-topdent.de
- **Further information obtainable from:**
During normal business hours
Monday-Thursday 08:30 - 12:30 and 13:00 - 16:30 CET
Friday 08:30 - 12:30 and 13:00 - 15:00 CET
- **1.4 Emergency telephone number:** Vergiftungs-Informationen-Zentrale Freiburg, Tel. +49 761 19240

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
-  **GHS02 flame**
Flam. Liq. 3 H226 Flammable liquid and vapour.
-  **GHS08 health hazard**
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
-  **GHS07**
Acute Tox. 4 H332 Harmful if inhaled.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.
Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: **KKD Flüssighärter**

(Contd. of page 1)

· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Warning· **Hazard-determining components of labelling:**

tetraethyl silicate

Kieselsäure, Tetraethylester, Reaktionsprodukte mit Bis(acetyloxy)diocetylstanen

· **Hazard statements**

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

· **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.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting equipment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**· **Description:** Dental material· **Dangerous components:**

CAS: 78-10-4 EINECS: 201-083-8	tetraethyl silicate Flam. Liq. 3, H226; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	>60%
CAS: 93925-43-0 EC number: 300-346-0	Kieselsäure, Tetraethylester, Reaktionsprodukte mit Bis(acetyloxy)diocetylstanen STOT RE 2, H373; Aquatic Chronic 4, H413	<30%
CAS: 68299-15-0 EINECS: 269-595-4	Bis(neodecanoyloxy)diocetylstanen STOT RE 2, H373; Aquatic Chronic 4, H413	<5%

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: KKD Flüssighärter

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information:**

Take affected persons out of danger area and lay down.

Do not leave affected persons unattended.

Take affected persons out into the fresh air.

· **After inhalation:** Take affected persons into fresh air and keep quiet.

· **After skin contact:** If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Inform doctor. Do not give milk or fatty oils.

· **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.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture** Carbon dioxide (CO₂)

· 5.3 Advice for firefighters

· **Protective equipment:** No special measures required.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Not required.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· **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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.

· **Information about fire - and explosion protection:**

Do not spray onto a naked flame or any incandescent material.

· 7.2 Conditions for safe storage, including any incompatibilities

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:** None.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: KKD Flüssighärter

(Contd. of page 3)

- **Storage class:** VCI: 3 A
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **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.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Respiratory protection:**
DGUV 112-190 Breathing apparatus
Filter type A2
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
Fluorocarbon rubber (Viton)
Butyl rubber, BR
Recommended material thickness:
Butylkautschuk: 0,50 mm +/- 0,10 mm
Fluorkautschuk: 0,75 mm +/- 0,10 mm
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 can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
Basis: DGUV 212-007
Permeation (Fluorkautschuk): + Level 6 (> 240 min)
Permeation (Butykautschuk): + Level 6 (> 480 min)
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**
Fluorocarbon rubber (Viton)
Butyl rubber, BR
- **Not suitable are gloves made of the following materials:** PVC gloves
- **Eye protection:** Goggles recommended during refilling

GB

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: *KKD Flüssighärter*

(Contd. of page 4)

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Weak, characteristic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C

· **Flash point:** 34 °C (DIN 51755)

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 215 °C (DIN 51794)

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:	1.3 Vol %
Upper:	23.0 Vol %

· **Vapour pressure at 20 °C:** 12.5 hPa

Density at 20 °C:	1.02 g/cm ³
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 at 20 °C:	1.6 mm ² /s (DIN 51562)
Kinematic:	Not determined.

· **Solvent content:**

· **Organic solvents:** 0.0 %

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· **10.2 Chemical stability**

· **Thermal decomposition / conditions to be avoided:**

Temperatures >40 °C

Direct sunlight

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: **KKD Flüssighärter**

(Contd. of page 5)

- **10.4 Conditions to avoid** Open fire, hot surfaces, high temperatures
- **10.5 Incompatible materials:** oxidants, acids, bases
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

- **Acute toxicity**
Harmful if inhaled.

· LD/LC50 values relevant for classification:

78-10-4 tetraethyl silicate

Oral	LD50	6270 mg/kg (Ratte)
Dermal	LD50	5878 mg/kg (Kaninchen)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Subacute to chronic toxicity:**
97489-15-1 Sulfonsäure, C14-17, sec-alkan, Natriumsalz
Oral, NOAEL (28 d): 4000 mg/kg/d (Ratte)
- **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 respiratory irritation.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** n-Butylacetat, LC50 18-185 mg/L/96 h /REACH/GESTIS
- **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.
- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

GB

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: *KKD Flüssighärter*

(Contd. of page 6)

SECTION 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.

· **European waste catalogue**

08 04 11*	adhesive and sealant sludges containing organic solvents or other hazardous substances
15 01 10*	packaging containing residues of or contaminated by hazardous substances

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA** UN1292

· **14.2 UN proper shipping name**

· **ADR** 1292 TETRAETHYL SILICATE
· **IMDG, IATA** TETRAETHYL SILICATE

· **14.3 Transport hazard class(es)**

· **ADR**



· **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:** Not applicable.

· **14.6 Special precautions for user** Not applicable.

· **EMS Number:** F-E,S-D

· **Stowage Category** A

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: KKD Flüssighärter

(Contd. of page 7)

· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	(D/E)

· IMDG	
· Limited quantities (LQ)	5 L
· Excepted quantities (EQ)	Code: E 1
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H413 May cause long lasting harmful effects to aquatic life.
- **Department issuing SDS:**
LOGAR Günther Hasel e.K.
Baden-Airpark, Airport Boulevard B 210
D-77836 Rheinmünster
Tel: +49(0)7229-1868-163
Fax: +49(0)7229-1868-165
- **Contact:** info@logar.de
- **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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 23.02.2017

Version number 1

Revision: 23.02.2017

Trade name: KKD Flüssighärter*Flam. Liq. 3: Flammable liquids – Category 3**Acute Tox. 4: Acute toxicity – Category 4**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2**Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4*

(Contd. of page 8)

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