

**Safety Data Sheet
acc. to OSHA HCS**

Printing date 05/12/2015

Reviewed on 05/12/2015

1 Identification

· **Product identifier**

· **Trade name: Cuttersil Hardener Universal Plus liquid**

· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** Activator for dental impression material

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Heraeus Kulzer GmbH
Grüner Weg 11, D-63450 Hanau

Tel.: 0800 4372522

· **Information department:**

Marc Henn
Tel. +1 (574) 2995444 / Fax: +1 (574) 2912542
e-mail: marc.henn@kulzer-dental.com

· **Emergency telephone number:**

Emergency CONTACT (24-Hour-Number)
GBK/Infotrac ID 105860: (domestic) 1 800 535 5053 or international (001) 352 323 3500

2 Hazard(s) identification

· **Classification of the substance or mixture**

Flam. Liq. 3 H226 Flammable liquid and vapour.

Acute Tox. 3 H331 Toxic if inhaled.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS06 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

tetraethyl orthosilicate
dioctyltin oxide
tetramethyl orthosilicate

· **Hazard statements**

Flammable liquid and vapour.

Toxic if inhaled.

Causes serious eye irritation.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

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

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

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Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system**

- **NFPA ratings for USA (scale 0-4)**



- **HMIS-Ratings (Scale 0-4)**



- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** -

- **Dangerous components:**

78-10-4	tetraethyl orthosilicate	25-50%
870-08-6	dioctyltin oxide	25-50%
681-84-5	tetramethyl orthosilicate	< 1%

4 First-aid measures

- **Description of first aid measures**

- **After inhalation** Supply fresh air; consult doctor in case of complaints.

- **After skin contact**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing**

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents**

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

- **For safety reasons unsuitable extinguishing agents** Water with full jet.

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- **Special hazards arising from the substance or mixture**
Can form explosive gas-air mixtures.
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
 - **Protective equipment:** Mount respiratory protective device.
 - **Additional information -**

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**
Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues).
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections**
See Section 13 for disposal information.
See Section 8 for information on personal protection equipment.
-

7 Handling and storage

- **Precautions for safe handling**
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Please observe the additional instructions in the product's instructions for use.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **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:**
Store in dry conditions.
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:	
78-10-4 tetraethyl orthosilicate	
PEL	850 mg/m ³ , 100 ppm
REL	85 mg/m ³ , 10 ppm
TLV	85 mg/m ³ , 10 ppm
681-84-5 tetramethyl orthosilicate	
REL	6 mg/m ³ , 1 ppm

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TLV | 6 mg/m³, 1 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Not necessary with efficient local exhaust. If exposition to vapours is possible, use breathing protective mask (filter A).

· **Protection of hands:** Impervious gloves

· **Material of gloves**

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.

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Fluorocarbon rubber (Viton)

Natural rubber, NR

· **Eye protection:** Safety glasses

· **Body protection:** Protective work clothing.

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:** Fluid

· **Color:** Red

· **Odor:** Aromatic

· **Change in condition**

· **Melting point/Melting range:** undetermined

· **Boiling point/Boiling range:** 110 °C (230 °F)

· **Flash point:** > 48 °C (> 118 °F)

· **Ignition temperature:** 345 °C (653 °F)

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Vapor pressure at 20 °C (68 °F):** 42 hPa (32 mm Hg)

· **Density at 20 °C (68 °F):** 1.06 g/cm³ (8.846 lbs/gal)

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix

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

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10 Stability and reactivity

- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** none
- **Additional information:** -

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

78-10-4 tetraethyl orthosilicate

Oral LD50 6270 mg/kg (rat)

Dermal LD50 5878 mg/kg (can)

870-08-6 dioctyltin oxide

Oral LD50 >4000 mg/kg (rat)

681-84-5 tetramethyl orthosilicate

Oral LD50 700 mg/kg (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** Irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:** Harmful

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

78-10-4 tetraethyl orthosilicate

EC50/48h >844 mg/l (daphnia)

870-08-6 dioctyltin oxide

EC50/48h 6.9 mg/l (daphnia)

LC50/96h 13 mg/l (fish)

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Avoid transfer into the environment.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Small quantities can be polymerized with the matching system component(s) and the cured solid material can be disposed of with the regular garbage. Larger quantities must be disposed of following the regulations of the local authorities.

· **Uncleaned packagings:**

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

14 Transport information

· **UN-Number**

· DOT, ADR, IMDG, IATA

UN1993

· **UN proper shipping name**

· ADR

1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (TETRAETHYL SILICATE)
FLAMMABLE LIQUID, N.O.S. (TETRAETHYL SILICATE)

· IMDG, IATA

· **Transport hazard class(es)**

· DOT



· Class
· Label

3 Flammable liquids
3

· ADR



· Class
· Label

3 (F1) Flammable liquids
3

· IMDG, IATA



· Class
· Label

3 Flammable liquids
3

· **Packing group**

· DOT, ADR, IMDG, IATA

III

· **Environmental hazards:**

· **Marine pollutant:**

No

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- | | |
|---|--|
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: | <p>Warning: <i>Flammable liquids</i>
30
F-E, S-E</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN1993, FLAMMABLE LIQUID, N.O.S., 3, III</p> |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act)** Medical devices are exempted from TSCA.

- **Carcinogenicity categories**

- **TLV (Threshold Limit Value established by ACGIH)**

870-08-6 dioctyltin oxide

A4

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS06 GHS08

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

tetraethyl orthosilicate
dioctyltin oxide
tetramethyl orthosilicate

- **Hazard statements**

Flammable liquid and vapour.
Toxic if inhaled.
Causes serious eye irritation.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 05/12/2015 / -

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 3: Acute toxicity, Hazard Category 3

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

· *** Data compared to the previous version altered.**

USA