1 Identification

· Product identifier
  · Trade name: Xantopren function hardener 1

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

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier: Kulzer GmbH
    Leipziger Straße 2, 63450 Hanau (Germany) Tel.: +49 (0)800 4372522
  · Information department:
    Tel. +1 (800) 431-1785 Fax: +1 (800) 522-1545
    e-mail: customer.servicehkna@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
  Flammable Liquids - Category 3 H226 Flammable liquid and vapour.
  Skin Irritation - Category 2 H315 Causes skin irritation.
  Eye Irritation - Category 2A H319 Causes serious eye irritation.
  Specific Target Organ Toxicity - Single Exposure - Category 3 H335 May cause respiratory irritation.
  Specific Target Organ Toxicity - Repeated Exposure H373 May cause damage to organs through prolonged or repeated exposure.

· Label elements
  · GHS label elements
    The product is classified and labeled according to the Globally Harmonized System (GHS).
  · Hazard pictograms
    GHS02 GHS07 GHS08

· Signal word Warning

· Hazard-determining components of labeling:
  dibutyltin dilaurate
tetraethyl orthosilicate

· Hazard statements
  Flammable liquid and vapour.
  Causes skin irritation.
  Causes serious eye irritation.
  May cause respiratory irritation.
  May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements
  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  Use explosion-proof [electrical/ventilating/lighting] equipment.

(Contd. on page 2)
**Trade name:** Xantopren function hardener 1

Do not breathe dust/fume/gas/mist/vapours/spray.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.

**Hazard description:**
- **Canadian Hazard Symbols**  
  B2 - Flammable liquid  
  D2A - Very toxic material causing other toxic effects  
  D1B - Toxic material causing immediate and serious toxic effects  
  D2B - Toxic material causing other toxic effects

**Classification system**
- **NFPA ratings for USA (scale 0-4)**
  ![NFPA ratings](image)
  - Health = 2  
  - Fire = 3  
  - Reactivity = 0

- **HMIS-Ratings (Scale 0-4)**
  ![HMIS-Ratings](image)
  - Health = *2  
  - Fire = 3  
  - Reactivity = 0

**Other hazards -**

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### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures  
- **Description:** Activator for use with condensation curing silicone-based impression materials

**Dangerous components:**
- **78-10-4 tetraethyl orthosilicate**
  - Flammable Liquids - Category 3, H226  
  - Acute Toxicity (Inhalation) - Category 4, H332  
  - Eye Irritation - Category 2A, H319  
  - Specific Target Organ Toxicity - Single Exposure - Category 3, H335

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

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### 4 First-aid measures

- **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.
Trade name: **Xantopren function hardener 1**

- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** Rinse out mouth and then drink plenty of water. Immediately call a doctor. If symptoms persist consult doctor.
- **Information for doctor**
  - **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, sand, extinguishing powder. Do not use water.
  - **For safety reasons unsuitable extinguishing agents**
    - Water.
    - Water with full jet.
- **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).
  - Dispose contaminated material as waste according to item 13.
  - Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
  - See Section 8 for information on personal protection equipment.

### 7 Handling and storage

- **Handling**
  - **Precautions for safe handling**
    - Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.

- **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:** None.
  - **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:**
    - 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 that were valid during the creation were used as basis.

- **Exposure controls**
  - **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.
      - Avoid contact with the eyes and skin.
    - **Breathing equipment:** Not required.
    - **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
      - Solvent resistant gloves
      - Check protective gloves prior to each use for their proper condition.
    - **recommended**
      - **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.
      - **Penetration time of glove material**
        - 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 of a maximum of 15 minutes gloves made of the following materials are suitable:**
        - Butyl rubber, BR
        - Nitrile rubber, NBR
### 9 Physical and chemical properties

#### General Information
- **Appearance:**
  - Form: Fluid
  - Color: Light red
  - Odor: Aromatic
  - Odor threshold: Not determined.

- **pH-value:** Not determined.

- **Change in condition**
  - Melting point/Melting range: Undetermined
  - Boiling point/Boiling range: 170 °C (338 °F)

- **Flash point:** 36 °C (97 °F)

- **Flammability (solid, gaseous)** Not applicable.

- **Ignition temperature:** 265 °C (509 °F)

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure at 20 °C (68 °F):** 10 hPa (8 mm Hg)

- **Density at 20 °C (68 °F):** 0.974 g/cm³ (8.128 lbs/gal)
  - Relative density: Not determined.
  - Vapor 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.

- **Other information** No further relevant information available.
10 Stability and reactivity

- Reactivity: No further relevant information available.
- 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:
      | Oral   | LD50  | (rat) |
      |--------|-------|-------|
      |        | 6270  | mg/kg (rat) |
      |        | 5878  | mg/kg (can) |

78-10-4 tetraethyl orthosilicate

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
  The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  - Harmful
  - Irritant

- 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.

12 Ecological information

- Toxicity
  - Aquatic toxicity:
    78-10-4 tetraethyl orthosilicate
      - EC50/48h >844 mg/l (daphnia)
      - SDB Merck v. 25.08.2006
  - Persistence and degradability: No further relevant information available.
  - Behavior in environmental systems:
    - Bioaccumulative potential: No further relevant information available.
    - Mobility in soil: No further relevant information available.
**Trade name:** Xantopren function hardener 1

(Contd. of page 6)

- **Additional ecological information:**
  - **General notes:**
    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.
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.
  - **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation**
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings**
  - **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**
  - DOT, TDG, IMDG, IATA UN1993

- **UN proper shipping name**
  - **TDG** 1993 FLAMMABLE LIQUID, N.O.S., special provision
  - **IMDG** FLAMMABLE LIQUID, N.O.S. (TETRAETHYL SILICATE, dibutyltin dilaurate), MARINE POLLUTANT
  - **IATA** FLAMMABLE LIQUID, N.O.S. (TETRAETHYL SILICATE, dibutyltin dilaurate)

- **Transport hazard class(es)**
  - **DOT**
    - **Class** 3 Flammable liquids
    - **Label** 3
  - **TDG (Transport dangerous goods):**
    - **Class** 3 (F1) Flammable liquids

(Contd. on page 8)
Trade name: Xantopren function hardener 1

- **Label**
  - IMDG
  - IMGS
  - Class 3
  - Label 3 Flammable liquids

- **IATA**
  - Class 3
  - Label 3 Flammable liquids

- **Packing group**
  - DOT, TDG, IMDG, IATA
  - DOT, TDG, IMDG, IATA

- **Environmental hazards:**
  - Marine pollutant:
    - Yes
  - Special marking (TDG):
    - Symbol (fish and tree)

- **Special precautions for user**
  - Warning: Flammable liquids
  - Danger code (Kemler): 30

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.

- **Transport/Additional information**
  - DOT
  - Remarks:
    - Special marking with the symbol (fish and tree).

- **UN “Model Regulation”**
  - UN1993, Flammable liquids, n.o.s., special provision 640E (Tetraethyl silicate, dibutyltin dilaurate), 3, III

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**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.

- **GHS label elements**
  - The product is classified and labeled according to the Globally Harmonized System (GHS). (Contd. on page 9)
Trade name: Xantopren function hardener 1

Hazard pictograms

- GHS02
- GHS07
- GHS08

Signal word: Warning

Hazard-determining components of labeling:
- dibutyltin dilaurate
- tetraethyl orthosilicate

Hazard statements
- Flammable liquid and vapour.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause respiratory irritation.
- May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Use explosion-proof [electrical/ventilating/lighting] equipment.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.

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

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.

- Relevant phrases
  - H226 Flammable liquid and vapour.
  - H319 Causes serious eye irritation.
  - H332 Harmful if inhaled.
  - H335 May cause respiratory irritation.

- Date of preparation / last revision 06/03/2017 / 2

- Abbreviations and acronyms:
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - 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)
  - WHMIS: Workplace Hazardous Materials Information System (Canada)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative

- * Data compared to the previous version altered.