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

1.1 Product identifier
   - Trade name: Phosphate Cement liquid

1.2 Relevant identified uses of the substance or mixture and uses advised against
   - Application of the substance / the mixture: Dental cement

1.3 Details of the supplier of the safety data sheet
   - Manufacturer/Supplier: Kulzer GmbH
   - Leipziger Straße 2, 63450 Hanau (Germany)
   - Tel.: +49 (0)800 4372522
   - Informing department: E-Mail: msds@kulzer-dental.com

1.4 Emergency telephone number: Emergency CONTACT (24-Hour-Number): +49 (0)6132-84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   - Classification according to Regulation (EC) No 1272/2008
     - Skin Corr. 1B H314 Causes severe skin burns and eye damage.
     - Eye Dam. 1 H318 Causes serious eye damage.
     - Aquatic Chronic 2 H411 Toxic 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

     GHS05  GHS09

   - Signal word: Danger

   - Hazard-determining components of labelling: orthophosphoric acid

   - Hazard statements
     - H314 Causes severe skin burns and eye damage.
     - H411 Toxic to aquatic life with long lasting effects.

   - Precautionary statements
     - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
     - P303+P361+P353 IF ON SKIN (or hair): Remove/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.
     - P310 Immediately call a POISON CENTER/doctor.
     - P321 Specific treatment (see on this label).
     - P405 Store locked up.

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:

Dangerous components:

CAS: 7664-38-2
EINECS: 231-633-2
orthophosphoric acid
Skin Corr. 1B, H314
50-75%

zinc oxide
Aquatic Acute 1, H400; Aquatic Chronic 1, H410
10-25%

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
Instantly remove any clothing soiled by the product.

After skin contact
Instantly wash with water and soap and rinse thoroughly.

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

After swallowing
Drink copious amounts of water and provide fresh air. Instantly call for 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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

CO2, extinguishing powder or water jet. Fight larger fires with water jet 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.

Additional information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

6.2 Environmental precautions:

Inform respective authorities in case product reaches water or sewage system.

Dilute with much water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).

Use neutralising agent.

Dispose of contaminated material as waste according to item 13.
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep containers tightly sealed.
Ensure good ventilation/exhaustion at the workplace.

- Information about protection against explosions and fires: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities
- Storage
  · Requirements to be met by storerooms and containers: 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.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

8.2 Exposure controls

- General protective and hygienic measures
  Keep away from foodstuffs, beverages and food.
  Instantly remove any soiled and impregnated garments.
  Wash hands during breaks and at the end of the 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.

- 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 trough 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:
  PVC or PE gloves
· Eye protection: Protective goggles are recommended.
· Body protection: Light weight protective clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties
  · General Information
    · Appearance:
      · Form: Fluid
      · Colour: Colourless
      · Smell: Odourless
    · Change in condition
      · Melting point/Melting range: Not determined
      · Boiling point/Boiling range: > 100 °C
  · Flash point: Not applicable
  · Self-inflammability: Product is not selfigniting.
  · Danger of explosion: Product is not explosive.
  · Steam pressure at 20 °C: 23 hPa
  · Density at 20 °C: 1.800 g/cm³
  · Solubility in / Miscibility with
    · Water: Fully miscible
  · Solvent content:
    · Water: 25.5 %
    · VOC EU g/l
  · Solids content: 18.3 %
· 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
  · Conditions to be avoided: No decomposition if used and stored 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.
SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: Based on available data, the classification criteria are not met.
  - LD/LC50 values that are relevant for classification:
    - **7664-38-2 orthophosphoric acid**
      - Oral LD50: 1530 mg/kg (rat)
      - Dermal LD50: 2740 mg/kg (can)
      - Inhalative LC50/4 h: >850 mg/l (rat)

- Primary irritant effect:
  - Skin corrosion/irritation
    - Causes severe skin burns and eye damage.
  - Serious eye damage/irritation
    - Causes serious eye damage.

- Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
- CMR effects (carcinogenity, 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: Based on available data, the classification criteria are not met.
- STOT-repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

SECTION 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: Toxic for fish

Additional ecological information:
- General notes:
  - Do not allow product to reach ground water, water bodies or sewage system.
  - Must not reach sewage water or drainage ditch undiluted or unneutralised.
  - Danger to drinking water if even small quantities leak into soil.
  - Also poisonous for fish and plankton in water bodies.
  - Toxic for 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.
**SECTION 13: Disposal considerations**

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

- **European waste catalogue**
  18 01 06 chemicals consisting of or containing dangerous substances

  - **Uncleaned packagings:**
    - **Recommendation:** Disposal must be made according to official regulations.
    - **Recommended cleaning agent:** Water, if necessary with cleaning agent.

**SECTION 14: Transport information**

- **14.1 UN-Number**
  - ADR, IMDG, IATA 1805

- **14.2 UN proper shipping name**
  - ADR 1805 PHOSPHORIC ACID, LIQUID
  - IMDG, IATA PHOSPHORIC ACID SOLUTION

- **14.3 Transport hazard class(es)**
  - **ADR**
    - Class 8 (C1) Corrosive substances.
    - Label 8
  - **IMDG, IATA**
    - Class 8 Corrosive substances.
    - Label 8

- **14.4 Packing group**
  - ADR, IMDG, IATA III

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

- **14.6 Special precautions for user**
  - **Kemler Number:** 80

  (Contd. on page 7)
### Trade name:
Phosphate Cement liquid

<table>
<thead>
<tr>
<th><strong>EMS Number:</strong></th>
<th>F-A,S-B</th>
</tr>
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<tbody>
<tr>
<td><strong>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport/Additional information:</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>UN &quot;Model Regulation&quot;:</strong></td>
<td>UN1805, PHOSPHORIC ACID, SOLUTION, 8, III</td>
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## SECTION 15: Regulatory information

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

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**
  - H314 Causes severe skin burns and eye damage.
  - 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)
  - VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweiz (Swiss Ordinance on volatile organic compounds)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Skin Corr. 1B: Skin corrosion/iritation – Category 1B
  - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  - Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
  - Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
  - Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

* Data compared to the previous version altered.