1 Identification

- **Product identifier**
  - **Trade name:** Phosphate Cement liquid
  - **Application of the substance / the mixture:** Dental cement

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Kulzer GmbH
    Leipziger Straße 2, 63450 Hanau (Germany)
    Tel.: +49 (0)800 4372522
  - **Emergency telephone 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**
  - Skin Corr. 1B H314 Causes severe skin burns and eye damage.
  - Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
  - **GHS label elements**
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
    - **Hazard pictograms**
      - GHS05

- **Signal word** Danger

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

- **Hazard statements**
  - Causes severe skin burns and eye damage.

- **Precautionary statements**
  - Do not breathe dusts or mists.
  - If on skin (or hair): 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.
  - Immediately call a POISON CENTER/doctor.
  - Specific treatment (see on this label).
  - Store locked up.

(Contd. on page 2)
Trade name: Phosphate Cement liquid

Classification system

- NFPA ratings for USA (scale 0-4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0

- HMIS-Ratings (Scale 0-4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0

Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: -

- Dangerous components:
  - 7664-38-2 orthophosphoric acid
    - Skin Corr. 1B, H314
    - 50-75%

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

First-aid measures

- Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water, then consult a doctor.
  - After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a 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.

Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture
  - No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

(Contd. on page 3)
6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system. Dilute with plenty of water.
- **Methods and material for containment and cleaning up:** Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues). Use neutralizing agent. Dispose contaminated material as waste according to item 13. 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

- **Handling**
  - **Precautions for safe handling** Keep receptacles tightly sealed.
  - **Information about protection against explosions and fires:** No special measures required.
- **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**

<table>
<thead>
<tr>
<th>7664-38-2 orthophosphoric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL ()</td>
</tr>
<tr>
<td>REL ()</td>
</tr>
<tr>
<td>TLV ()</td>
</tr>
</tbody>
</table>

**Additional information:** The lists that were valid during the creation were used as basis.
Trade name: Phosphate Cement liquid

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

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance: Fluid
    - Form: Colorless
    - Color: Odorless
  - Change in condition
    - Melting point/Melting range: undetermined  
      - Boiling point/Boiling range: > 100 °C (> 212 °F)
  - Flash point: Not applicable
  - Auto igniting: Product is not selfigniting.
  - Danger of explosion: Product does not present an explosion hazard.
  - Vapor pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)
  - Density at 20 °C (68 °F): 1.800 g/cm³ (15.021 lbs/gal)
### Trade name: Phosphate Cement liquid

<table>
<thead>
<tr>
<th>· Solubility in / Miscibility with</th>
<th>Fully miscible</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Solvent content:</td>
<td></td>
</tr>
<tr>
<td>· Water:</td>
<td>25.5 %</td>
</tr>
<tr>
<td>· Other information</td>
<td>18.3 %</td>
</tr>
</tbody>
</table>

### 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

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**:
  - **LD/LC50 values that are relevant for classification**:

<table>
<thead>
<tr>
<th>7664-38-2 orthophosphoric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
</tbody>
</table>

- **Primary irritant effect**:
  - **on the skin**: Caustic effect on skin and mucous membranes.
  - **on the eye**: Strong caustic 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:
- **Corrosive**
- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **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.
Trade name: Phosphate Cement liquid

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - 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.
  - Ecotoxicological effects:
    - Remark: Toxic for fish

- Additional ecological information:
  - General notes:
    Do not allow product to reach ground water, water course or sewage system.
    Must not reach bodies of water or drainage ditch undiluted or unneutralized.
    Danger to drinking water if even small quantities leak into the ground.
    Also poisonous for fish and plankton in water bodies.
    Toxic for aquatic organisms
  - 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.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT: UN1805
  - ADR, IMDG, IATA: 1805

- UN proper shipping name
  - ADR: 1805 PHOSPHORIC ACID, LIQUID
  - IMDG, IATA: PHOSPHORIC ACID SOLUTION
Trade name: Phosphate Cement liquid

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

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

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

- **Special precautions for user**
  - Warning: Corrosive substances 80
  - EMS Number: F-A,S-B

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

- **Transport/Additional information:** -

- **UN “Model Regulation”:** UN1805, PHOSPHORIC ACID, SOLUTION, 8, III
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.

· Cancerogenity categories
  - TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients is listed.

· GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    GHS05

  · Signal word Danger
  · Hazard-determining components of labeling:
    orthophosphoric acid
  · Hazard statements
    Causes severe skin burns and eye damage.
  · Precautionary statements
    Do not breathe dusts or mists.
    If on skin (or hair): 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.
    Immediately call a POISON CENTER/doctor.
    Specific treatment (see on this label).
    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
  - H314 Causes severe skin burns and eye damage.

· Date of preparation / last revision 06/03/2017 / 1

· 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)
**Trade name:** Phosphate Cement liquid

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association (USA)</td>
</tr>
<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System (USA)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>REL</td>
<td>Recommended Exposure Limit</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation – Category 1B</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation – Category 1</td>
</tr>
</tbody>
</table>

* Data compared to the previous version altered.