# Safety Data Sheet

## Identification

- **Product identifier**
  - **Trade name:** Signum liquid
  - **Relevant identified uses of the substance or mixture and uses advised against**
    - No further relevant information available.
  - **Application of the substance / the mixture**
    - Auxiliary for manufacture of dental prothesis

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Heraeus Kulzer Australia Pty Ltd
    - Unit 32
    - 11 – 21 Underwood Rd
    - HOMEBUSH NSW 2140
    - Australia
    - Tel: +61 (0) 2 9764 5222
  - **Informing department:** see above
  - **Emergency telephone number:** Emergency contact number: 13 11 26 (24 hours)

## Hazard(s) Identification

- **Classification of the substance or mixture**
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Eye Irrit. 2A H319 Causes serious eye irritation.
  - Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
  - **GHS label elements**
    - The product is classified and labelled according to the Globally Harmonised System (GHS).
  - **Hazard pictograms**
    - ![](GHS07.png)

- **Signal word** Warning

- **Hazard-determining components of labelling:**
  - Diphenyl(2,4,6- trimethylbenzoyl)phosphine oxide

- **Hazard statements**
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause an allergic skin reaction.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Specific treatment (see on this label).
  - IF skin irritation or rash occurs: Get medical advice/attention.
  - Take off contaminated clothing and wash before reuse.

### Other hazards -

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

(Contd. on page 2)
Trade name: Signum liquid

3 Composition and Information on Ingredients

- Chemical characterisation: Mixtures
  - Description: Product based on methacrylates

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>28961-43-5</td>
<td>propylidynetrimethanol, ethoxylated, esters with acrylic acid</td>
<td>10-25%</td>
</tr>
<tr>
<td>2082-81-7</td>
<td>tetramethylene dimethacrylate</td>
<td>10-25%</td>
</tr>
<tr>
<td>75980-60-8</td>
<td>diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide</td>
<td>0-5%</td>
</tr>
</tbody>
</table>

- Dangerous components:
  - CAS: 28961-43-5 propylidynetrimethanol, ethoxylated, esters with acrylic acid
    - Eye Irrit. 2A, H319
  - CAS: 2082-81-7 tetramethylene dimethacrylate
    - Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335
  - CAS: 75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
    - Repr. 2, H361; Skin Sens. 1B, H317

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

4 First Aid Measures

- Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of symptoms.
  - After skin contact: Instantly rinse with water.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
  - After swallowing: Rinse out mouth and then drink plenty of water. In case of persistent symptoms 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, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
    - Use fire fighting measures that suit the environment.
  - Special hazards arising from the substance or mixture
    - Formation of toxic gases is possible during heating or in case of fire.
  - Advice for firefighters
    - Protective equipment: No special measures required.

- Additional information

6 Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Prevent material from reaching sewage system, holes and cellars.
- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
- Reference to other sections
  - No dangerous materials are released.
  - See Section 8 for information on personal protection equipment.
7 Handling and Storage

- Handling
  - Precautions for safe handling: Keep containers 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 containers: No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: Store cool (not above 25 °C).
  - Specific end use(s): No further relevant information available.

8 Exposure controls and personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
  - Components with critical 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 compilation were used as basis.
- Exposure controls
  - Personal protective equipment
    - General protective and hygienic measures
      Avoid contact with the eyes.
      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 necessary with efficient local exhaust. If exposition to vapours is possible, use breathing protective mask (filter A).
    - Protection of hands:
      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 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:
      Butyl rubber, BR
      Nitrile rubber, NBR
    - Eye protection: Protective goggles are recommended.
Trade name: Signum liquid

9 Physical and Chemical Properties

- General Information
  - Appearance: Fluid
  - Colour: Colourless
  - Smell: Ester-like
  - Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition
  - Melting point/freezing point: Not determined
  - Initial boiling point and boiling range: 100 °C

- Flash point: 136 °C

- Inflammability (solid, gaseous) Not applicable.

- Ignition temperature: 265.0 °C

- Decomposition temperature: Not determined.

- Self-inflammability: Product is not selfigniting.

- Explosive properties: Product is not explosive.

- Critical values for explosion:
  - Lower: Not determined.
  - Upper: Not determined.

- Steam pressure at 20 °C: 40 hPa

- Density at 20 °C
  - 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: Not determined.
  - kinematic: Not determined.

- Solvent content:
  - Solids content: 10.8 %
  - Other information: No further relevant information available.

10 Stability and Reactivity

- Reactivity: No further relevant information available.

- Chemical stability
  - Conditions to be avoided: No decomposition if used and stored according to specifications.

- Possibility of hazardous reactions: No dangerous reactions known
11 Toxicological Information

- Information on toxicological effects
  - Acute toxicity
    - LD/LC50 values that are relevant for classification:
      - 2530-85-0 3-trimethoxysilylpropyl methacrylate
        - Oral LD50 >2000 mg/kg (rat)
        - Dermal LD50 >2000 mg/kg (can)
      - 2082-81-7 tetramethylenedimethacrylate
        - Oral LD50 10120 mg/kg (rat)
      - 53879-55-3 penta erythritol, propoxylated, tetraacrylate
        - Oral LD50 >2000 mg/kg (rat)
      - 41137-60-4 diurethandimethacrylate
        - Oral LD50 >5000 mg/kg (rat)
      - amorphe Kieselsäure
        - Oral LD50 >5000 mg/kg (rat)
      - 75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
        - Oral LD50 >5000 mg/kg (rat)
  - Primary irritant effect:
    - Skin corrosion/irritation No irritant effect.
    - Serious eye damage/irritation Irritant effect.
    - Respiratory or skin sensitisation No sensitizing effect known.
  - Additional toxicological information:
    - The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version: Irritant

12 Ecological Information

- Toxicity
  - Aquatic toxicity:
    - 75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
      - EC50/48h 10 mg/l (algae)
      - 10 - 100 mg/l (daphnia)
  - Persistence and degradability No further relevant information available.
  - Behaviour in environmental systems:
    - Bioaccumulative potential No further relevant information available.
  - Mobility in soil No further relevant information available.
  - Additional ecological information:
    - General notes:
      - Do not allow product to reach ground water, water bodies or sewage system.
      - Danger to drinking water if even small quantities leak into soil.
**Trade name:** Signum liquid

- **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**
  - ADG, ADN, IMDG, IATA Void
- **UN proper shipping name**
  - ADG, ADN, IMDG, IATA Void
- **Transport hazard class(es)**
  - ADG, ADN, IMDG, IATA
  - **Class** Void
- **Packing group**
  - ADG, IMDG, IATA Void
- **Environmental hazards:**
  - **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
- **UN "Model Regulation":** Void

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **GHS label elements**
    The product is classified and labelled according to the Globally Harmonised System (GHS).
  - **Hazard pictograms**

  ![](GHS07)

  **Signal word** Warning
Trade name: Signum liquid

· Hazard-determining components of labelling:
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
· Hazard statements
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
· Precautionary statements
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
· 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
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.
· 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 Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· Data compared to the previous version altered.