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

- 1.1 Product identifier
  · Trade name: VENUS Pearl

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

- 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 Sens. 1 H317 May cause an allergic skin reaction.

- 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

  GHS07

  · Signal word Warning
  · Hazard-determining components of labelling:
    2-Propenoic acid, (octahydro-4,7-methano-1H-indene-5-diyI)bis(methyleneiminocarbonylexy-2,1-ethanediyl) ester.
    triethylen glycol dimethacrylate
  · Hazard statements
    H317 May cause an allergic skin reaction.
  · Precautionary statements
    P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
    P280 Wear protective gloves/protective clothing/eye protection/face protection.
    P321 Specific treatment (see on this label).
    P363 Wash contaminated clothing before reuse.
    P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
    P302+P352 IF ON SKIN: Wash with plenty of water.

- 2.3 Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures
  - Description:
  - Dangerous components:
    - CAS: 861437-11-8 2-Propenoic acid, (octahydro-4,7-methano-1H-indene-5-diy)bis(methyleneimino)carbonyloxy-2,1-ethanediyl) ester
      - Skin Sens. 1, H317; Aquatic Chronic 3, H412
      - 10-25%
    - CAS: 109-16-0 triethylen glycol dimethacrylate
      - Skin Sens. 1B, H317
      - 0-5%

- 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
  - After inhalation Supply fresh air; consult doctor in case of symptoms.
  - After skin contact
    - Instantly 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 doctor.
  - After swallowing
    - Rinse out mouth and then drink plenty of water.
    - In case of persistent symptoms consult 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
    - Use fire fighting measures that suit the environment.
    - 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
    - Formation of toxic gases is possible during heating or in case of fire.
  - 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
  - Wear protective equipment. Keep unprotected persons away.
Trade name: VENUS Pearl

6.2 Environmental precautions:
Do not allow to enter drainage system, surface or ground water.
Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).
Dispose of the material collected according to regulations.

6.4 Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
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
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.

DNELs

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-16-0 triethylen glycol dimethacrylate</td>
<td></td>
</tr>
<tr>
<td>Dermal worker industr., l.te., syst.</td>
<td>13.9 mg/Kg/d (nd)</td>
</tr>
<tr>
<td>Inhalative worker industr., l.te., syst.</td>
<td>48.5 mg/m3 (nd)</td>
</tr>
</tbody>
</table>

PNECs

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-16-0 triethylen glycol dimethacrylate</td>
<td></td>
</tr>
<tr>
<td>marine water</td>
<td>0.0164 mg/l (nd)</td>
</tr>
<tr>
<td>sedim., dw, fre.wat.</td>
<td>1.85 mg/Kg (nd)</td>
</tr>
<tr>
<td>sedim., dw, mar.wat.</td>
<td>0.185 mg/Kg (nd)</td>
</tr>
<tr>
<td>soil,dw</td>
<td>0.274 mg/Kg (nd)</td>
</tr>
</tbody>
</table>

Additional information: The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Personal protective equipment
General protective and hygienic measures
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Trade name: VENUS Pearl

- **Breathing equipment:** Not required.
- **Protection of hands:**
  If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
  Check protective gloves prior to each use for their proper condition.
  - **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:** not absolutely necessary
- **Body protection:** Light weight protective clothing

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**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Pasty
      - **Colour:** Different according to colour
    - **Smell:** Odourless
    - **Odour threshold:** Not determined.
  - **pH-value:** Not determined.
  - **Change in condition**
    - **Melting point/Melting range:** Not determined
    - **Boiling point/Boiling range:** > 250 °C
  - **Flash point:** > 165 °C
  - **Inflammability (solid, gaseous):** Not applicable.
  - **Ignition temperature:**
    - **Decomposition temperature:** Not determined.
  - **Self-inflammability:** Product is not selfigniting.
  - **Danger of explosion:** Product is not explosive.
  - **Critical values for explosion:**
    - **Lower:** Not determined.
    - **Upper:** Not determined.
Trade name: VENUS Pearl

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.

10.6 Hazardous decomposition products
None

Additional information:
-

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:

861437-11-8 Propenoic acid, (octahydro-4,7-methano-1H-indene-5-diyl) bis(methyleneiminocarbonyloxy-2,1-ethanediyl) ester
Oral LD50 >2000 mg/kg (rat)

41137-60-4 diurethandimethacrylate
Oral LD50 >5000 mg/kg (rat)

109-16-0 triethylen glycol dimethacrylate
Oral LD50 > 5000 mg/kg (rat)
Dermal LD50 > 2000 mg/kg (mouse)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation
May cause an allergic skin reaction.

(Contd. of page 4)
Trade name: VENUS Pearl

SECTION 12: Ecological information

12.1 Toxicity
   - Aquatic toxicity:
     - 861437-11-8  Propanoic acid, (octahydro-4,7-methano-1H-indene-5-diy1) bis(methyleneiminocarbonyloxy-2,1-ethanediyl) ester
       EC50/48h 24.9 mg/l (daphnia)
       EC50/72h > 100 mg/l (algae)
   - 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.
   - Additional ecological information:
     - General notes: Avoid transfer into the environment.
   - 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
     Small quantities can be polymerized by light 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.

SECTION 14: Transport information

14.1 UN-Number
   - ADR, ADN, IMDG, IATA: Void

14.2 UN proper shipping name
   - ADR: Void
   - ADN, IMDG, IATA: Void
Trade name: VENUS Pearl

14.3 Transport hazard class(es)
- ADR, ADN, IMDG, IATA
  - Class: Void

14.4 Packing group
- ADR, IMDG, IATA
  - Void

14.5 Environmental hazards:
- Marine pollutant: No

14.6 Special precautions for user
- Not applicable.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

UN "Model Regulation": Void

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:
  - H317 May cause an allergic skin reaction.
  - H412 Harmful 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)
  - DNEL: Derived No-Effect Level (REACH)
  - PNEC: Predicted No-Effect Concentration (REACH)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Skin Sens. 1: Skin sensitisation – Category 1
  - Skin Sens. 1B: Skin sensitisation – Category 1B
  - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

- * Data compared to the previous version altered.