1 Identification

· Product identifier
  · Trade name: **Venus Diamond**

· Application of the substance / the mixture  Dental filling 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)
  ID  105860: (domestic) 1 800 535 5053 or international (001) 352 323 3500

2 Hazard(s) identification

· Classification of the substance or mixture
  Skin Sens. 1  H317  May cause an allergic skin reaction.

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

    ![GHS07]

· Signal word  Warning

· Hazard-determining components of labeling:
  2-Propanoic acid, 1,1’-[octahydro-4,7-methano-1H-indene-5,?-diyl]
  bis(methyleneoxy carbonylamino-2,1-ethanediyl)] ester
  diurethandimethacrylate
  triethylen glycol dimethacrylate

· Hazard statements
  May cause an allergic skin reaction.

· Precautionary statements
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Wear protective gloves.
  Take off contaminated clothing and wash it before reuse.
  If skin irritation or rash occurs: Get medical advice/attention.
  Specific treatment (see on this label).
  Wash contaminated clothing before reuse.

· Classification system
  · NFPA ratings for USA (scale 0-4)

  ![NFPA0100]
  Health = 0
  Fire = 1
  Reactivity = 0

(Contd. on page 2)
Safety Data Sheet
acc. to OSHA HCS

Trade name: Venus Diamond

HMIS-Ratings (Scale 0-4)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>U</td>
<td>FT</td>
</tr>
</tbody>
</table>

Health = 0
Fire = 1
Reactivity = 0

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- Dangerous components:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>945656-78-0 2-Propenoic acid, 1,1’-[octahydro-4,7-methano-1H-indene-5,7-diy]bis[methyleneoxy carbonylamino-2,1-ethanediyl] ester</td>
<td>10-25%</td>
</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td></td>
</tr>
<tr>
<td>72869-86-4 diurethandimethylacrylate</td>
<td>≥1-≤5%</td>
</tr>
<tr>
<td>Skin Sens. 1B, H317</td>
<td></td>
</tr>
<tr>
<td>109-16-0 triethylen glycol dimethacrylate</td>
<td>≥1-≤5%</td>
</tr>
<tr>
<td>Skin Sens. 1B, H317</td>
<td></td>
</tr>
</tbody>
</table>

- 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 complaints.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: Rinse out mouth and then drink plenty of water. If symptoms persist consult doctor. Seek immediate medical advice.

- 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 spray. Fight larger fires with water spray 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: No special measures required.
Trade name: Venus Diamond

6 Accidental release measures
- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: 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).
  Send for recovery or disposal in suitable receptacles.
- 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 disposal information.

7 Handling and storage
- Handling
  - Precautions for safe handling
    Please observe the additional instructions in the product’s instructions for use.
  - 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
  - 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.
    Not required.
  - Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
  - Personal protective equipment
    - General protective and hygienic measures
      Immediately remove all soiled and contaminated clothing
      Wash hands before breaks and at the end of work.
    - 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
      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.
Trade name: Venus Diamond

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

Eye protection: Safety glasses
Body protection: Light weight protective clothing

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Pasty
      - Color: White
      - Yellowish
    - Odor: Odorless
    - Odor threshold: Not determined.
  - pH-value: Not determined.

- Change in condition
  - Melting point/Melting range: undetermined
  - Boiling point/Boiling range: undetermined

- Flash point: > 165 °C (> 329 °F)

- Flammability (solid, gaseous) Not applicable.

- Decomposition temperature: Not determined.

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

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

- Vapor pressure: Not determined.

- Density at 20 °C (68 °F): 2.23 g/cm³ (18.60935 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.
Trade name: Venus Diamond

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:

      | Acute toxicity |
      |----------------|
      | LD50 | LC50 |
      |------|------|
      | Oral | 8,300 mg/kg (rat) |
      | Dermal | >2,000 mg/kg (mouse) |

      | Acute toxicity |
      |----------------|
      | LD50 |
      |------|
      | Oral | >5,000 mg/kg (rat) (OECD 401) |
      | Dermal | >2,000 mg/kg (rat) (OECD 402) |

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:
  - Irritant

  IARC (International Agency for Research on Cancer)
  - 7631-86-9 silicon dioxide, chemically prepared: 3
  - 128-37-0 Butylated hydroxytoluene: 3

  NTP (National Toxicology Program)
  - None of the ingredients is listed.

  OSHA-Ca (Occupational Safety & Health Administration)
  - None of the ingredients is listed.

12 Ecological information
- Toxicity
  - Aquatic toxicity:
    - 72869-86-4 diurethandimethacrylate
      - LC50/96h: 10.1 mg/l (fish)
Trade name: Venus Diamond

109-16-0 triethylene glycol dimethacrylate
EC50/72h >100 mg/l (algae)

- 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.
- 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:
    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.

14 Transport information

- UN-Number
  - DOT, ADR, ADN, IMDG, IATA: Void
- UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA: Void
- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA
    - Class: Void
- Packing group
  - DOT, ADR, IMDG, IATA: Void
- Environmental hazards:
  - Marine pollutant: No
- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.
- Transport/Additional information:
  - UN "Model Regulation": Void
### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
    - SARA Section 355 (extremely hazardous substances)
      - None of the ingredients is listed.
    - SARA Section 313 (specific toxic chemical listings)
      - None of the ingredients is listed.
    - **Proposition 65**
      - None of the ingredients is listed.
    - **Chemicals known to cause cancer**
      - None of the ingredients is listed.
    - **Chemicals known to cause reproductive toxicity for females**
      - None of the ingredients is listed.
    - **Chemicals known to cause reproductive toxicity for males**
      - None of the ingredients is listed.
    - **Chemicals known to cause developmental toxicity**
      - None of the ingredients is listed.
- **Cancerogenity categories**
  - **EPA (Environmental Protection Agency)**
    - None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 128-37-0 Butylated hydroxytoluene A4
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is listed.
- **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**
  - H317: May cause an allergic skin reaction.
- **Date of preparation / last revision** 07/09/2020 / 3
- **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
  - 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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
Trade name: Venus Diamond

REL: Recommended Exposure Limit
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
* Data compared to the previous version altered.