1 Identification

· Product identifier
  · Trade name: Venus flow
  · 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)
    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 Sensitizer - Category 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:
  · triethylen glycol dimethacrylate

· Hazard statements
  · 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.
  · Contaminated work clothing should not be allowed out of the workplace.
  · Specific treatment (see on this label).
  · If skin irritation or rash occurs: Get medical advice/attention.
  · IF ON SKIN: Wash with plenty of water.

· Hazard description:
  · Canadian Hazard Symbols
    D2B - Toxic material causing other toxic effects

(Contd. on page 2)
Trade name: Venus flow

Classification system

- NFPA ratings for USA (scale 0-4)
  - Health = 1
  - Fire = 1
  - Reactivity = 0

- HMIS-Ratings (Scale 0-4)
  - Health = 1
  - Fire = 1
  - Reactivity = 0

Other hazards -

3 Composition/information on ingredients

- Chemical characterization: Mixtures
  - Description: Composition based on methacrylates

Dangerous components:

- 109-16-0 triethylen glycol dimethacrylate Skin Sensitizer - Category 1B, H317 10-25% w/w

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

4 First-aid measures

- Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Immediately 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 a doctor.
  - After swallowing: Rinse out mouth and then drink plenty of water.
    If symptoms persist 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 spray. Fight larger fires with water spray or alcohol resistant foam.
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:
  Do not allow product to reach sewage system or any water course.
  Do not allow to penetrate the ground/soil.
- Methods and material for containment and cleaning up:
  Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues).
- 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
    Wear protective equipment. Keep unprotected persons away.
    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: Keep cool, if possible (not above 25 °C).
- 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.
  - Additional information: The lists that were valid during the creation were used as basis.
- 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
Solvent resistant gloves
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 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:** Tightly sealed goggles.
- **Body protection:** Light weight protective clothing

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td>- <strong>Appearance:</strong></td>
</tr>
<tr>
<td>- <strong>Form:</strong></td>
</tr>
<tr>
<td>- <strong>Color:</strong></td>
</tr>
<tr>
<td>- <strong>Odor:</strong></td>
</tr>
<tr>
<td>- <strong>Odor threshold:</strong></td>
</tr>
<tr>
<td>- <strong>pH-value:</strong></td>
</tr>
<tr>
<td>- <strong>Change in condition</strong></td>
</tr>
<tr>
<td>- <strong>Melting point/Melting range:</strong></td>
</tr>
<tr>
<td>- <strong>Boiling point/Boiling range:</strong></td>
</tr>
<tr>
<td>- <strong>Flash point:</strong></td>
</tr>
<tr>
<td>- <strong>Flammability (solid, gaseous):</strong></td>
</tr>
<tr>
<td>- <strong>Ignition temperature:</strong></td>
</tr>
<tr>
<td>- <strong>Decomposition temperature:</strong></td>
</tr>
<tr>
<td>- <strong>Auto igniting:</strong></td>
</tr>
</tbody>
</table>

(Contd. on page 5)
Trade name: Venus flow

· **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):**
    - **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.
  - **Viscosity:**
    - **dynamic:** Not determined.
    - **kinematic:** Not determined.
  - **Solvent content:**
    - **VOC USA** 0.0 g/l / 0.00 lb/gl
  - **Solids content:** >60 %
  - **Other information** No further relevant information available.

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:**
  Product might polymerize after considerable exceeding of recommended storage time or temperature.

11 Toxicological information

· **Information on toxicological effects**
  - **Acute toxicity:**
    - **LD/LC50 values that are relevant for classification:**
      - **109-16-0 triethylene glycol dimethacrylate**
        - **Oral** LD50 > 5000 mg/kg (rat)
        - **Dermal** LD50 > 2000 mg/kg (mouse)
      - **24650-42-8 2,2-dimethoxy-1,2-diphenyleth-an-1-one**
        - **Oral** LD50 >6000 mg/kg (rat)
        - **Dermal** LD50 > 7100 mg/kg (rat)
Trade name: Venus flow

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Irritating effect.
- Sensitization: Guinea-Pig Maximisation Test (OECD 406): negative
- Additional toxicological information:
  - 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.

12 Ecological information

- Toxicity
  - Aquatic toxicity:
    109-16-0 triethylen glycol dimethacrylate
    EC50/72h > 100 mg/l (algae)
    Eigene Untersuchung von EVONIK
  - 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: Avoid transfer into the environment.
  - 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, TDG, ADN, IMDG, IATA: Void
### 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.

- **TSCA (Toxic Substances Control Act)**
  None of the ingredients is listed.

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

- **Hazard pictograms**

  ![GHS07](image)

- **Signal word**
  Warning

- **Hazard-determining components of labeling:**
  triethylen glycol dimethacrylate

- **Hazard statements**
  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.
  Contaminated work clothing should not be allowed out of the workplace.
  Specific treatment (see on this label).
  If skin irritation or rash occurs: Get medical advice/attention.

[Contd. on page 8]
IF ON SKIN: Wash with plenty of water.

· **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** 06/03/2017 / 2

· **Abbreviations and acronyms:**
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - 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)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - WHMIS: Workplace Hazardous Materials Information System (Canada)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative

· *Data compared to the previous version altered.*