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 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:
  - 2-Propenoic acid, 1,1’-[(octahydro-4,7-methano-1H-indene-5,8-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/vapours/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)
    - Health = 0
    - Fire = 1
    - Reactivity = 0

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

- Other hazards

3 Composition/Information on ingredients
- Chemical characterization: Mixtures
  - Description:
  - Dangerous components:
    - 945566-78-0 2-Propenoic acid, 1,1’-[(octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methyleneoxy carbonylamino-2,1-ethanediyl)] ester
      - Skin Sensitizer - Category 1, H317
      - 10-25% w/w * 
    - 72869-86-4 diurethandimethacrylate
      - Skin Sensitizer - Category 1B, H317
      - ≥1-s5% w/w * 
    - 109-16-0 triethylen glycol dimethacrylate
      - Skin Sensitizer - Category 1B, H317
      - ≥1-s5% w/w * 
  * Actual concentration ranges are withheld as a trade secret.

- 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
    - Protective equipment: No special measures required.
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.
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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 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

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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.

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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:
      | Substance                      | LD50/LC50 (mg/kg or mg/l) |
      |--------------------------------|--------------------------|
      | 72869-86-4 diurethandimethacrylate | Oral: >5,000 (rat) (OECD 401); Dermal: >2,000 (rat) (OECD 402) |
      | 109-16-0 triethylen glycol dimethacrylate | Oral: >8,300 (rat) (weight of evidence); Dermal: >2,000 (mouse) |
  - 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.
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer)
      | Substance                              | Carcinogenicity |
      |----------------------------------------|-----------------|
      | 7631-86-9 silicon dioxide, chemically prepared | 3               |
      | 128-37-0 Butylated hydroxytoluene       | 3               |
    - NTP (National Toxicology Program)
      None of the ingredients is listed.

12 Ecological information
- Toxicity
  - Aquatic toxicity:
    | Substance                      | LC50/LC50 (mg/l) |
    |--------------------------------|-----------------|
    | 72869-86-4 diurethandimethacrylate | 10.1 (fish)     |
    |----------------------------------|-----------------|
    | SDB von Nanocryl XP 21/4316 von Hanse Chemie vom 17.08.2007 |
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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:
    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/TDG, ADR, ADN, IMDG, IATA Void
- UN proper shipping name
  - DOT/TDG, ADR, ADN, IMDG, IATA Void
- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA
    - Class Void
- Packing group
  - DOT/TDG, 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
Trade name: Venus Diamond

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.

- 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 the latest revision of the safety data sheet 07/09/2020 / 3

- 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)
  - 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.