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

1.1 Product identifier

Trade name: Tetric PowerFlow

1.2 Relevant identified uses of the substance or mixture and uses advised against

Application of the substance / the mixture: Light-curing, flowable, resin-based dental restorative

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Ivoclar Vivadent AG
Bendererstrasse 2
9494 Schaan
PRINCIPALITY OF LIECHTENSTEIN

Tel: +423 235 35 35
Fax: +423 235 33 60

Further information obtainable from:
Regulatory Affairs
sds@ivoclarvivadent.com

1.4 Emergency telephone number:
+423 / 235 33 13 (Ivoclar Vivadent AG, 9494 Schaan, Liechtenstein)

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.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07

Signal word Warning

Hazard-determining components of labelling:

Bis-GMA
tricyclodocane dimethanol dimethacrylate

Hazard statements

H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P333+/P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

Additional information:

Medical devices as defined in Directive 93/42/EEC and which are invasive or used in direct physical contact with the human body, are exempted from the provisions of Regulation (EC) No 1272/2008 (CLP/GHS) usually if they are in the finished state and intended for the final user.

(Contd. on page 2)
2.3 Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

SECTION 3: Composition/information on ingredients
- 3.2 Chemical characterisation: Mixtures
  - Description: Mixture of substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 41637-38-1</td>
<td>Bis-EMA</td>
</tr>
<tr>
<td>Reg.nr.: 01-2119980659-17-xxxx</td>
<td>Aquatic Chronic 4, H415</td>
</tr>
<tr>
<td>CAS: 36425-15-7</td>
<td>Bis-GMA</td>
</tr>
<tr>
<td>NLP: 500-089-0</td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317</td>
</tr>
<tr>
<td>CAS: 13760-80-0</td>
<td>ytterbium trifluoride</td>
</tr>
<tr>
<td>EINECS: 237-354-2</td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335</td>
</tr>
<tr>
<td>CAS: 43048-08-4</td>
<td>tricyclodocane dimethanol dimethacrylate</td>
</tr>
<tr>
<td>EINECS: 256-062-6</td>
<td>Aquatic Chronic 2, H411; Skin Sens. 1B, H317</td>
</tr>
</tbody>
</table>

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 and to be sure call for a doctor.
    In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact:
    Rinse with warm water.
    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.
- 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:
    CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture
  No further relevant information available.
- 5.3 Advice for firefighters
  - Protective equipment: No special measures required.

SECTION 6: Accidental release measures
- 6.1 Personal precautions, protective equipment and emergency procedures
  Not required.
- 6.2 Environmental precautions:
  Do not allow to enter sewers/ surface or ground water.
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Only adequately trained personnel should handle this product.
For use in dentistry only.

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
Information about storage in one common storage facility: Not required.
Further information about storage conditions:
Protect from exposure to the light.
Protect from heat and direct sunlight.
Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients 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 valid during the making were used as basis.

8.2 Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Usual hygienic measures for dental practice and dental laboratories.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Respiratory protection: Not required.
Protection of hands:

Protective gloves

After use of gloves apply skin-cleaning agents and skin cosmetics.
Material of gloves
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
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.

(Contd. on page 4)
Trade name: Tetric PowerFlow

- Not suitable are gloves made of the following materials:
  Commercial medical gloves do not provide protection against the sensitizing effect of methacrylates.
- Eye protection: Safety glasses

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Pasty
      - Colour: According to product specification
    - Odour: Characteristic
    - Odour threshold: Not determined.
  - pH-value: Not applicable.
  - Change in condition
    - Melting point/freezing point: Undetermined.
    - Initial boiling point and boiling range: Undetermined.
  - Flash point: Not applicable.
  - Flammability (solid, gas): Not determined.
  - Auto-ignition temperature: Product is not selfigniting.
  - Explosive properties: Product does not present an explosion hazard.
    - Explosion limits:
      - Lower: Not determined.
      - Upper: Not determined.
  - Vapour pressure: Not determined.
  - Density at 20 °C: 1.84 g/cm³
    - Relative density: Not determined.
    - Vapour density: Not determined.
    - Evaporation rate: Not determined.
  - Solubility in / Miscibility with water: Nearly insoluble.
  - Partition coefficient: n-octanol/water: Not determined.
  - Viscosity:
    - Dynamic: Not determined.
    - Kinematic: Not determined.
  - 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
  - Stable under normal handling and storage conditions.
  - Photoreactive (Danger of polymerization).
- 10.3 Decomposition / conditions to be avoided:
  - No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions
  - No dangerous reactions known.
- 10.4 Conditions to avoid
  - Protect from exposure to the light.
Trade name: Tetric PowerFlow

Keep away from heat and direct sunlight.

- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** None under normal conditions of storage and use.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
  - **Acute toxicity** Based on available data, the classification criteria are not met.
  - **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.
  - **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
  - **Carcinogenicity** Based on available data, the classification criteria are not met.
  - **Reproductive toxicity** Based on available data, the classification criteria are not met.
  - **STOT-single exposure** Based on available data, the classification criteria are not met.
  - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
  - **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
- **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:**
    - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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**
    - Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.
  - **Uncleaned packaging:**
    - **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- **14.1 UN-Number**
  - **ADR/RID/ADN, ADN, IMDG, IATA** Void
49.0

\[14.2\text{ UN proper shipping name} \]
ADR/RID/ADN, ADN, IMDG, IATA
Void

\[14.3\text{ Transport hazard class(es)} \]
ADR/RID/ADN, ADN, IMDG, IATA
Class
Void

\[14.4\text{ Packing group} \]
ADR/RID/ADN, IMDG, IATA
Void

\[14.5\text{ Environmental hazards:} \]
Not applicable.

\[14.6\text{ Special precautions for user} \]
Not applicable.

\[14.7\text{ Transport in bulk according to Annex II of Marpol and the IBC Code} \]
Not applicable.

\[\text{Transport/Additional information:} \]
Product is not classified as a dangerous good for transport (ADR, IMDG, IATA).

\[\text{UN "Model Regulation":} \]
Void

**SECTION 15: Regulatory information**

\[15.1\text{ Safety, health and environmental regulations/legislation specific for the substance or mixture} \]
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

\[15.2\text{ Chemical safety assessment:} \]
A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this 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.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

**Classification according to Regulation (EC) No 1272/2008**
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

**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)
Trade name: **Tetric PowerFlow**

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

* Data compared to the previous version altered.