1 Identification

· Product identifier
· Trade name: VITA ENAMIC® GLAZE
· Article number: EENSTG20
· Application of the substance / the mixture Light-polymerising lacquer

· Details of the supplier of the safety data sheet
· Manufacturer/Supplier:
  VITA Zahnfabrik
  H. Rauter GmbH & Co. KG
  PO Box 1338
  D 79704 Bad Säckingen
  Tel.: +49 7761/562-0
  Fax: +49 7761/562 299

· Information department:
  VITA Zahnfabrik
  Tel.: +49 7761 562-0
  Fax: +49 7761 562 299
  e-mail: info@vita-zahnfabrik.com
· Emergency telephone number: Tel.: +49 761 19240

2 Hazard(s) identification

· Classification of the substance or mixture
  GHS02 Flame
  Flam. Liq. 2 H225 Highly flammable liquid and vapor.

  GHS08 Health hazard
  Repr. 2 H361 Suspected of damaging fertility or the unborn child.

  GHS05 Corrosion
  Eye Dam. 1 H318 Causes serious eye damage.

  GHS07
  Skin Irrit. 2 H315 Causes skin irritation.
  Skin Sens. 1 H317 May cause an allergic skin reaction.
  STOT SE 3 H335 May cause respiratory irritation.

· Label elements
· GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).
Safety Data Sheet
acc. to OSHA HCS

Trade name: VITA ENAMIC® GLAZE

- **Hazard pictograms**
  
  GHS02  GHS05  GHS07  GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - methyl methacrylate
  - 2-Propenoic acid, reaction product with Pentaerythrite
  - Diphenyl(2,4,6-trimethylbenzoyl)phosphinoxide
  - Acrylic resin

- **Hazard statements**
  - Highly flammable liquid and vapor.
  - Causes skin irritation.
  - Causes serious eye damage.
  - May cause an allergic skin reaction.
  - Suspected of damaging fertility or the unborn child.
  - May cause respiratory irritation.

- **Precautionary statements**
  - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Immediately call a poison center/doctor.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

  - **NFPA ratings (scale 0 - 4)**
    
    Health = 3  Fire = 3  Reactivity = 0

  - **HMIS-ratings (scale 0 - 4)**
    
    HEALTH  FIRE  REACTIVITY
    
    Health = *3  Fire = 3  Reactivity = 0

- **Other hazards**

  - Results of PBT and vPvB assessment
    
    - PBT: Not applicable.
    - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures

- **Description:** Preparation of methacrylates and amorphous silica.

- **Dangerous components:**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>25-50%</td>
</tr>
<tr>
<td>Acrylic resin</td>
<td>25-50%</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
4 First-aid measures

- Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - 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: 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: Do not induce vomiting. Call a doctor immediately.
  - Information for doctor: 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.
  - For safety reasons unsuitable extinguishing agents: Water with full jet
  - Special hazards arising from the substance or mixture
    - No further relevant information available.
  - Advice for firefighters
  - Protective equipment: No special measures required.

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.
    - Prevent seepage into sewage system, workpits and cellars.
    - Inform respective authorities in case of seepage into water course or sewage system.
    - Do not allow to enter sewers/ surface or ground water.

- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Use neutralizing agent.
  - Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

**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.

**Protective Action Criteria for Chemicals**

<table>
<thead>
<tr>
<th>PAC-1:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>17 ppm</td>
</tr>
<tr>
<td>79-10-7 acrylic acid</td>
<td>1.5 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>120 ppm</td>
</tr>
<tr>
<td>79-10-7 acrylic acid</td>
<td>46 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>570 ppm</td>
</tr>
<tr>
<td>79-10-7 acrylic acid</td>
<td>180 ppm</td>
</tr>
</tbody>
</table>

**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**
    Avoid contact with skin and eyes.
    Ensure good ventilation/exhaustion at the workplace.
    Open and handle receptacle with care.
    Prevent formation of aerosols.
  - **Information about protection against explosions and fires:**
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
    Keep respiratory protective device available.
  - **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:**
      Protect from heat and direct sunlight.
      Store in a cool location.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** Keep receptacle tightly sealed.
  - **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:**
    **80-62-6 methyl methacrylate**
    - **PEL** Long-term value: 410 mg/m³, 100 ppm
    - **REL** Long-term value: 410 mg/m³, 100 ppm
    - **TLV** Short-term value: 410 mg/m³, 100 ppm
    - **DSEN** Long-term value: 205 mg/m³, 50 ppm
· **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.
  Store protective clothing separately.
  Avoid contact with the eyes and skin.

· **Breathing equipment:**
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**

  ![Protective gloves](image)

  Protective gloves should be changed regularly, especially after intensive contact with the product. For every workplace a suitable type of protective gloves must be selected. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**
  Butyl rubber (0.7 mm) EN 374
  As there are many different conditions in every day work these indications can only serve as an aid to orientation for the selection of suitable gloves for the handling of chemical products. By no means they can replace qualifying examinations by the end-user.
  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.
  The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

· **Eye protection:**

  ![Tightly sealed goggles](image)

· **Body protection**: Protective work clothing

---

#### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**
  
  Form: Fluid

(Contd. on page 6)
47.0

Color: Colorless
Odor: Characteristic
Odor threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: >100 °C (>212 °F)

Flash point: 10 °C (50 °F)
Flammability (solid, gaseous): Not applicable.
Ignition temperature: 430 °C (806 °F)
Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.
Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion limits:
Lower: 2.1 Vol %
Upper: 12.5 Vol %
Oxidizing properties: Not determined
Vapor pressure at 20 °C (68 °F): 47 hPa (35.3 mm Hg)
Density at 20 °C (68 °F): 0.98 g/cm³ (8.1781 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.
Viscosity
Dynamic: Not determined.
Kinematic: Not determined.
Solvent content:
Solids content: 0.0 %
Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No dangerous reactions if used according to specifications
Chemical stability: Stable if used according to specifications
Thermal decomposition / conditions to be avoided:
Protect from heat and direct sunlight.
No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: No further relevant information available.
11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

<table>
<thead>
<tr>
<th>Substance Description</th>
<th>LD/LC50 Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenoic acid, reaction product with Pentaerythrite</td>
<td>Oral LD50 &gt;2,000 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>Dermal LD50 &gt;2,000 mg/kg (rabbit)</td>
</tr>
<tr>
<td></td>
<td>Inhalative LC50/4 h &gt;5 mg/l (rat)</td>
</tr>
<tr>
<td>Diphenyl(2,4,6-trimethylbenzoyl)phosphinoxide</td>
<td>Oral LD50 &gt;5,000 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>Dermal LD50 &gt;2,000 mg/kg (rat) ((OECD 402))</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Strong irritant with the danger of severe eye injury.
  - Sensitization: Sensitization possible through skin contact.

- Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
  - Irritant

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - 80-62-6 methyl methacrylate 3
    - 1330-20-7 xylene (mix) 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: No further relevant information available.
  - 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.
  - Ecotoxicological effects:
  - Remark: Harmful to fish

- Additional ecological information:
  - General notes:
    Do not allow product to reach ground water, water course or sewage system.
    Must not reach bodies of water or drainage ditch undiluted or unneutralized.
    Danger to drinking water if even small quantities leak into the ground.
    Harmful to aquatic organisms
### 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:**
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

- **Uncleaned packagings**
  - **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**
  - DOT, ADR, IMDG, IATA: UN1247

- **UN proper shipping name**
  - DOT, IMDG, IATA: METHYL METHACRYLATE MONOMER, STABILIZED, SOLUTION
  - ADR: 1247 METHYL METHACRYLAT, MONOMER, STABILISIERT, LOSUNG

- **Transport hazard class(es)**
  - **DOT**
    - Class: 3 Flammable liquids
      - Label: 3
  - **ADR, IMDG, IATA**
    - Class: 3 Flammable liquids
      - Label: 3

- **Packing group**
  - DOT, ADR, IMDG, IATA: II

- **Environmental hazards:**
  - Marine pollutant: No

- **Special precautions for user**
  - Warning: Flammable liquids
  - Danger code (Kemler): 339
  - EMS Number: F-E,S-D
  - Stowage Category: B
Trade name: VITA ENAMIC® GLAZE

- Stowage Code
  SW2 Clear of living quarters.

- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
  Not applicable.

- Transport/Additional information:
  - ADR
    - Excepted quantities (EQ)
      Code: E2
      Maximum net quantity per inner packaging: 30 ml
      Maximum net quantity per outer packaging: 500 ml
  - IMDG
    - Limited quantities (LQ)
      1L
    - Excepted quantities (EQ)
      Code: E2
      Maximum net quantity per inner packaging: 30 ml
      Maximum net quantity per outer packaging: 500 ml

- UN "Model Regulation":
  UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances):
      None of the ingredient is listed.
    - Section 313 (Specific toxic chemical listings):
      80-62-6 methyl methacrylate
      1330-20-7 xylene (mix)
    - TSCA (Toxic Substances Control Act):
      All ingredients are listed.
    - Proposition 65
      - 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)
    80-62-6 methyl methacrylate
    1330-20-7 xylene (mix) E, NL
  - TLV (Threshold Limit Value established by ACGIH)
    80-62-6 methyl methacrylate
    1330-20-7 xylene (mix) A4 (Contd. on page 10)
Trade name: VITA ENAMIC® GLAZE

- MAK (German Maximum Workplace Concentration)
  None of the ingredients is listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  None of the ingredients is listed.

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

  - Hazard pictograms
    GHS02  GHS05  GHS07  GHS08

- Signal word Danger

- Hazard-determining components of labeling:
  methyl methacrylate
  2-Propenoic acid, reaction product with Pentaerythrite
  Diphenyl(2,4,6-trimethylbenzoyl)phosphinoxide
  Acrylic resin

- Hazard statements
  Highly flammable liquid and vapor.
  Causes skin irritation.
  Causes serious eye damage.
  May cause an allergic skin reaction.
  Suspected of damaging fertility or the unborn child.
  May cause respiratory irritation.

- Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Immediately call a poison center/doctor.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

- Date of preparation / last revision 07/24/2018 / 2

- Abbreviations and acronyms:
  RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  ICAO: International Civil Aviation Organisation
  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
  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
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.