1 Identification

· Product identifier
  · Trade name: Lumilux Blue LZ Concentrate
  · Article number: 71158
  · Index number: SDS 418-001.01

· Application of the substance / the mixture Internal Use Only

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    Ultradent Products
    505 W Ultradent Drive (10200 South)
    South Jordan, UT 84095
    Email: customerservice@ultradent.com
    Phone: 1-888-230-1420

· Information department: Customer Service

· Emergency telephone number:
  CHEMTREC (NORTH AMERICA) : (800) 424-9300
  (INTERNATIONAL) : +(703) 527-3887

2 Hazard(s) identification

· Classification of the substance or mixture
  
  !
  GHS07

  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:
  Triethylene Glycol Dimethacrylate

· Hazard statements
  May cause an allergic skin reaction.

· Precautionary statements
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Contaminated work clothing must not be allowed out of the workplace.
  Wear protective gloves.
  If on skin: Wash with plenty of water.
  If skin irritation or rash occurs: Get medical advice/attention.
  Specific treatment (see on this label).
  Wash contaminated clothing before reuse.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
Trade name: Lumilux Blue LZ Concentrate

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 1
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - HEALTH: Health = 0
    - FIRE: Fire = 1
    - REACTIVITY: 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:** Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Dangerous components</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7 BAO Glass 8235</td>
<td>&gt;50-≤100%</td>
</tr>
<tr>
<td>109-16-0 Triethylene Glycol Dimethacrylate</td>
<td>&gt;2.5-≤10%</td>
</tr>
<tr>
<td>658084-52-5 Lumilux Blue LZ</td>
<td>≤2.5%</td>
</tr>
</tbody>
</table>

### 4 First-aid measures

- **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:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** 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:** Use fire fighting measures that suit the environment.
- **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** Not required.
- **Environmental precautions:** 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).
- **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**
  - **PAC-1:**
    - 109-16-0 Triethylene Glycol Dimethacrylate 33 mg/m³
    - 1344-28-1 Aluminium Oxide 15 mg/m³
  - **PAC-2:**
    - 109-16-0 Triethylene Glycol Dimethacrylate 360 mg/m³
    - 1344-28-1 Aluminium Oxide 170 mg/m³
  - **PAC-3:**
    - 109-16-0 Triethylene Glycol Dimethacrylate 2,100 mg/m³
    - 1344-28-1 Aluminium Oxide 990 mg/m³

7 Handling and storage

- **Handling:**
  - **Precautions for safe handling** No special precautions are necessary if used correctly.
  - **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)** Internal Use Only

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:**
    - **0.7 BAO Glass 8235**
      - TLV Short-term value: 3* 10* mg/m³
    - **658084-52-5 Lumilux Blue LZ**
      - PEL Short-term value: 15* 5 mg/m³
      - TLV Short-term value: 10* 3* mg/m³
      - TWA Short-term value: 10* 3* mg/m³
  - **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:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· 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 cannot be calculated in advance and has therefore to be checked prior to the application.
· Penetration time of glove material
The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· Eye protection: Goggles recommended during refilling.
· Body protection: Protective work clothing

9 Physical and chemical properties
· Information on basic physical and chemical properties
· General Information
· Appearance:
  · Form: Liquid
  · Color: Light yellow
· Odor: Acrylic
· Odor threshold: Not determined.
· pH-value: Not applicable (non-aqueous)
· Change in condition
  · Melting point/Melting range: Undetermined.
  · Boiling point/Boiling range: Undetermined.
· Flash point: >150 °C
· 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.
**3.2.1.2**

- **Vapor pressure:** Not determined.
- **Density:** Not determined.
- **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 content:** 0.00 %
    - 0.0 g/l / 0.00 lb/gl
- **Solids content:** <80.0 %
- **Other information**
  - No further relevant information available.

### 10. Stability and reactivity

- **Reactivity**
  - No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** 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.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11. Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
  - **LD/LC50 values that are relevant for classification:**
    - **ATE (Acute Toxicity Estimate)**
      - Dermal LD50 >21,225 mg/kg (mouse)
    - **109-16-0 Triethylene Glycol Dimethacrylate**
      - Oral LD50 >5,000 mg/kg (rat)
      - LC50 Fish 16.4 mg/l (Fish) (Toxicity to fish)
    - **658084-52-5 Lumilux Blue LZ**
      - Oral LD50 >20,000 mg/kg (rat)
- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritating effect.
  - **Sensitization:** Sensitization possible through skin contact.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Lumilux Blue LZ Concentrate

(Contd. of page 5)

- 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)
    128-37-0 BHT 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:
    109-16-0 Triethylene Glycol Dimethacrylate
    Aqua toxicity 32 mg/l (daphnia) (No Observed Effect Concentration)
    EC50 >100 mg/l (Algae) (Toxicity to 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:
      Water hazard class 1 (Self-assessment): slightly hazardous for water
      Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - 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:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

14 Transport information

- UN-Number
  - DOT, ADN, IMDG, IATA: not regulated

- UN proper shipping name
  - DOT, ADN, IMDG, IATA: not regulated

(Contd. on page 7)
**Trade name: Lumilux Blue LZ Concentrate**

<table>
<thead>
<tr>
<th>15 Regulatory information</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Safety, health and environmental regulations/legislation specific for the substance or mixture</td>
</tr>
<tr>
<td>· Sara</td>
</tr>
<tr>
<td>· Section 355 (extremely hazardous substances): None of the ingredients is listed.</td>
</tr>
<tr>
<td>· Section 313 (Specific toxic chemical listings):  1344-28-1 Aluminium Oxide</td>
</tr>
<tr>
<td>· TSCA (Toxic Substances Control Act):  1565-94-2 Bisphenol A Diglycidyl Methacrylate (Bis GMA)  109-16-0 Triethylene Glycol Dimethacrylate  1344-28-1 Aluminium Oxide  10287-53-3 Ethyl-4-Dimethylamino Benzoate (EDMAB)  128-37-0 BHT  10373-78-1 Camphorquinone</td>
</tr>
<tr>
<td>· TSCA new (21st Century Act) (Substances not listed)  0.7 BAO Glass 8235  658084-52-5 Lumilux Blue LZ</td>
</tr>
<tr>
<td>· Proposition 65</td>
</tr>
<tr>
<td>· Chemicals known to cause cancer: None of the ingredients is listed.</td>
</tr>
<tr>
<td>· Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed.</td>
</tr>
<tr>
<td>· Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed.</td>
</tr>
<tr>
<td>· Chemicals known to cause developmental toxicity: None of the ingredients is listed.</td>
</tr>
<tr>
<td>· Carcinogenic categories</td>
</tr>
<tr>
<td>· EPA (Environmental Protection Agency) None of the ingredients is listed.</td>
</tr>
</tbody>
</table>
Trade name: Lumilux Blue LZ Concentrate

- **TLV (Threshold Limit Value established by ACGIH)**
  - 1344-28-1 Aluminium Oxide A4
  - 128-37-0 BHT A4

- **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**
  - GHS07

- **Signal word**
  - Warning

- **Hazard-determining components of labeling:**
  - Triethylene Glycol Dimethacrylate

- **Hazard statements**
  - May cause an allergic skin reaction.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapors/spray.
  - Contaminated work clothing must not be allowed out of the workplace.
  - Wear protective gloves.
  - If on skin: Wash with plenty of water.
  - If skin irritation or rash occurs: Get medical advice/attention.
  - Specific treatment (see on this label).
  - Wash contaminated clothing before reuse.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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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.

- **Department issuing SDS:** Regulatory Affairs
- **Contact:** Customer Service
- **Date of preparation / last revision** 04/05/2018 / -

- **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
  - 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)
  - 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
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health

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**Trade name:** Lumilux Blue LZ Concentrate

| TLV: Threshold Limit Value | PEL: Permissible Exposure Limit | REL: Recommended Exposure Limit | Skin Sens. 1: Skin sensitisation – Category 1 |