

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 11.03.2020

Version number 1

Revision: 06.03.2020

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

- **1.1 Product identifier**
- **Trade name:** **Lithium-Ion-Batteries or Lithium-Polymer-Batteries for Bluephase LED polymerization lights**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Auxiliary for manufacture of dental prothesis
- **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**  
The product is not classified, according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **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** Rechargeable Lithium-Ion-Batteries or Lithium-Polymer-Batteries
- **Description:**  
The materials contained in the battery may only become a hazard if the battery or the cell is damaged or if the battery is physically or electrically abused.
- **Dangerous components:** Void

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
- **General information:**  
In case of contact with the materials from a damaged or ruptured cell or battery see the following first aid measures:

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- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Rinse with 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.  
Seek medical treatment.
- **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:**  
Fire-extinguishing powder  
Carbon dioxide
- **5.2 Special hazards arising from the substance or mixture**  
Toxic gases will be formed if cells or battery are involved in a fire. Cells or battery may flame or leak potentially hazardous organic vapor if exposed to excessive heat, fire or over-voltage conditions. Damaged or opened cells or batteries may result in rapid heat and the release of flammable vapors.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Should a battery unintentionally be crushed, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid inhalation of any vapors that may be emitted.
- **6.2 Environmental precautions:** No special measures required.
- **6.3 Methods and material for containment and cleaning up:**  
The material contained within the batteries would only be expelled under abusive conditions.  
Spilled substances with dry sand or vermiculite.
- **6.4 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.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Only adequately trained personnel should handle this product.  
For use in dentistry only.  
Do not store batteries in a manner that allows terminals to short circuit.
- **Information about fire - and explosion protection:**  
Please note that lithium-polymer batteries may react with explosion, fire, and smoke development if handled improperly or mechanically damaged.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Do not store at temperatures above 40 °C / 104 °F (or 60 °C / 140 °F for a short period).
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **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:** Under normal conditions release of ingredients does not occur.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Usual hygienic measures for dental practice and dental laboratories.
- **Respiratory protection:**  
Not required.  
If the battery is damaged:  
In case of battery rupture and fumes, use self-contained full-face respiratory equipment.
- **Protection of hands:**  
Not required.  
If the battery is damaged:



Protective gloves

- **Material of gloves**  
Butyl rubber, BR  
Fluorocarbon rubber (Viton)  
Chloroprene rubber, CR
- **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.
- **Eye protection:**  
Not required.  
If the battery is damaged:



Tightly sealed goggles

Wear safety goggles or glasses with side shields if handling a leaking or ruptured battery.

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### SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Solid
· <b>Colour:</b>	Not determined.
· <b>Odour:</b>	Odourless
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

· <b>Melting point/freezing point:</b>	Not applicable.
· <b>Initial boiling point and boiling range:</b>	Not applicable.

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Product is not flammable.

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Not determined.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapour pressure:** Not applicable.

· **Density:** Not applicable.

· **Relative density** Not determined.

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with  
water:**

Not applicable.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

· **Dynamic:** Not applicable.

· **Kinematic:** Not applicable.

· **Solvent content:**

· **Solids content:** 100.0 %

· **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.

· **Thermal decomposition / conditions to be avoided:**

Do not short circuit battery.

Do not store at temperatures above 40 °C / 104 °F (or 60 °C / 140 °F for a short period).

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.

· **10.4 Conditions to avoid** No further relevant information available.

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- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
The electrolytes and electrolyte fumes released during explosion, fire, and smoke development are toxic and corrosive.  
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** Based on available data, the classification criteria are not met.
- **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.
- **Other information:**  
When properly used or disposed rechargeable Lithium-Ion/Polymer-Batteries do not present environmental hazard.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **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**  
Disposal must be made according to official regulations.  
May explode if disposed of in fire.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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### SECTION 14: Transport information

<ul style="list-style-type: none"> <li>· 14.1 UN-Number</li> <li>· ADR/RID/ADN, IMDG, IATA</li> </ul>	UN3480
<ul style="list-style-type: none"> <li>· 14.2 UN proper shipping name</li> <li>· ADR/RID/ADN</li> <li>· IMDG, IATA</li> </ul>	3480 LITHIUM ION BATTERIES LITHIUM ION BATTERIES
<ul style="list-style-type: none"> <li>· 14.3 Transport hazard class(es)</li> <li>· ADR/RID/ADN</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	9 (M4) Miscellaneous dangerous substances and articles. 9
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	9 Miscellaneous dangerous substances and articles. 9A
<ul style="list-style-type: none"> <li>· 14.4 Packing group</li> <li>· ADR/RID/ADN, IMDG, IATA</li> </ul>	Void
<ul style="list-style-type: none"> <li>· 14.5 Environmental hazards:</li> <li>· Marine pollutant:</li> </ul>	No
<ul style="list-style-type: none"> <li>· 14.6 Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> </ul>	Warning: Miscellaneous dangerous substances and articles. - F-A,S-I
<ul style="list-style-type: none"> <li>· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>	The batteries meets all the requirements of special provisions ADR 188, IMDG 188 and IATA DGR packaging instructions 965 Section IB.
<ul style="list-style-type: none"> <li>· ADR/RID/ADN</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> <li>· Transport category</li> <li>· Tunnel restriction code</li> </ul>	0 Code: E0 Not permitted as Excepted Quantity 2 E
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	0 Code: E0 Not permitted as Excepted Quantity

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· **UN "Model Regulation":** UN 3480 LITHIUM ION BATTERIES, 9

### **SECTION 15: Regulatory information**

- **15.1 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.
- **15.2 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.*

· **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)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*