

SAFETY DATA SHEET
 according to Regulation (EC) No. 453/2010
 Dental Use



Date Issued : 10/24/2012
 SDS No : 317-001.2
 Date Revised : 07/16/2015
 Revision No : 1

Valo® Cordless Rechargeable Battery

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

1.1. Product identifier

Product name : Valo® Cordless Rechargeable Battery

Product description : Rechargeable Lithium Battery

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

Relevant identified uses : Rechargeable battery for use in Valo Cordless.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Ultradent Products, Inc.
 505 W. 10200 S.
 South Jordan, UT 84095

Distributor

Ultradent Products GmbH
 Am Westhoven Berg 30
 51149 Cologne Germany
 Email: infoDE@ultradent.com

Emergency Phone : +49(0)2203-35-92-0

1.4. Emergency telephone number

CHEMTREC (NORTH AMERICA) : (800) 424 - 9300
(INTERNATIONAL) : +1(703) 527 - 3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 1999/45/EC

: The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

R phrases

: R14,R21/22,R41,R42/43

Classification according to Regulation (EC) No 1272/2008 [CLP]

Health

: Eye Damage
 Skin Corrosion
 Acute Toxicity (Oral)

Physical

: Water-reactivity, Category 1
 Flammable Solids, Category 1

2.2. Label elements

R&S statement(s)

: R14: Reacts violently with water.
 R21/22: Harmful in contact with skin and if swallowed.
 R41: Risk of serious damage to eyes.
 R42/43: May cause sensitization by inhalation and skin contact.

Classification according to Regulation (EC) No 1272/2008 [CLP]

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Hazard pictogram(s)



Flame

Hazard statement(s)

: H261: In contact with water releases flammable gas.
 H228: Flammable solid.

Precautionary statement(s)

Prevention : P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

: P305: IF IN EYES:
 P351: Rinse cautiously with water for several minutes.
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P301: IF SWALLOWED:
 P315: Get immediate medical advice/attention.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

: P273: Avoid release to the environment.
 P103: Read label before use.

Disposal

: P501: Dispose of in compliance with governmental regulation.(EC 1975L0442-10/11/2003)

2.3. Other hazards

Immediate concerns

: The Lithium-ion Cylindrical battery described in this SDS are sealed units which are not hazardous when used according to the recommendations of the manufacturer. Under normal conditions of use, the solid electrode materials and liquid electrolyte they contain are non-reactive provided the battery integrity is maintained and seals remain intact. Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of the safety valve and/or the rupture of the battery container. Electrolyte leakage, electrode materials reaction with moisture/water or battery vent/explosion/fire may follow, depending upon the circumstances.

SECTION 3: Composition / information on ingredients

3.1. Substances

Not Applicable

3.2. Mixtures

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Chemical Name	CAS	EINECS No.	Wt.%	Classification according to Directive 67/548/EEC	Classification according to Regulation (EC) No 1272/2008 [CLP]
Lithium Iron Phosphate	15365-14-7	N/A	≤ 40	Not classified	Not classified
Graphite	7440-44-0	231-153-3	≤ 30	R36	Not classified
Copper	7440-50-8	231-159-6	≤ 5	Xi; R36/37/38; R22	Not classified
Aluminum	7429-90-5	231-072-3	≤ 5	F; R11; R15; R17; R38	Flam. Sol., Cat. 1; Water-react., Cat. 2; H228; H261

For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Following eyes : Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Get immediate medical attention.

Following skin : Remove all contaminated clothing and flush affected areas with plenty of water and soap for at least 15 minutes. Do not apply grease or ointment

Following ingestion : Induce vomiting immediately. Take to a doctor depending on the symptoms.

Following inhalation : Make the victim blow his/her nose and gargle. Seek medical attention if necessary.

4.2. Most important symptoms and effects, both acute and delayed

Eyes : Electrolyte steam irritates the eyes and can cause injury.

Skin : Electrolyte steam irritates skin and can cause injury.

Ingestion : Harmful if swallowed.

Inhalation : Electrolyte steam can irritate the respiratory tract.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician : Not Applicable

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Extinguishing media : Please see Fire Fighting Equipment under Section 5.3.

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5.2. Special hazards arising from the substance or mixture

General hazard	: Corrosive gas may be emitted during fire.
Explosion hazards	: The batteries can leak and/or spout vaporized or decomposed and combustible electrolyte fumes in case of exposure above 60°C resulting from inappropriate use or from the environment. Possible formation of hydrogen fluoride (HF) and phosphorous oxides during fire. LiPF6 salt contained in the electrolyte releases hydrogen fluoride (HF) in contact with water.
Fire explosion	: Not Determined
Sensitive to static discharge	: Not Determined
Sensitivity to impact	: Not Determined

5.3. Advice for firefighters

Fire fighting procedures	: General: Evacuate all personnel; use protective equipment for fire-fighting. Use self-contained breathing apparatus when the product is involved in fire.
Fire fighting equipment	: Plenty of water, CO2, Nitrogen Gas, Chemical powder, and foam.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General procedures	: Refer to Section 8 for Personal Protective Equipment.
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6.2. Environmental precautions

Water spill	: Do not allow to enter sewers or drains that may lead to waterways.
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6.3. Methods and material for containment and cleaning up

Small spill	: Spilled materials, such as electrolyte leaked from the battery cell, should be carefully dealt with. Precautions for human body: Remove spilled materials with protective equipment (protective eye wear and gloves). Do not inhale the gas. Avoid touching the spilled material as much as possible. Put the spilled materials into a container. Wipe leaks with a dry cloth.
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6.4. Reference to other sections

Reference to other sections	: Not Applicable
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	: Do not damage or remove the external tube. Specific safe handling advice: Never throw out cells in a fire or expose to high temperatures. Do not soak cells in water or seawater. Do not expose to strong oxidizers. Do not give a strong mechanical shock or fling. Never disassemble, modify or deform. Do not connect the positive terminal to the negative terminal with electrically conductive material. In case of charging, use
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only dedicated charger or charge according to the conditions specified by the manufacturer.

Storage : See product labeling.

7.2. Conditions for safe storage, including any incompatibilities

Shelf life : See product labeling

7.3. Specific end use(s)

Specific end use(s) : Rechargeable battery for use in Valo cordless

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Control parameters : Not Determined

8.2. Exposure controls

Eye/face protection : Wear eye protection if handling a damaged or leaking battery.

Skin protection : Wear suitable protective clothing and gloves if handling a damaged or leaking battery.

Other precautions : No specific hazards are encountered under normal product use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Metal squares, hermetically sealed and fitted with an external plastic box

Colour : Metallic

Odour : Odorless or no characteristic odor

9.2. Other information

Percent volatile : Not Determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity : Stable

10.2. Chemical stability

Chemical stability : Stable when stored and handled under recommended conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization : None

10.4. Conditions to avoid

Conditions to avoid : When a battery cell is exposed to an external short-circuit, crushes, deformation, high temperature above 100 degrees Celsius, it will be the cause of heat generation and ignition. Do not put under direct

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sunlight and high humidity.

10.5. Incompatible materials

Incompatible materials : Conductive materials, water, seawater, strong oxidizers and strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products : Corrosive/Irritant Hydrogen fluoride (HF) is produced in case of reaction of lithium hexafluorophosphate with water. Combustible vapors and formation of Hydrogen fluoride (HF) and phosphorous oxides during fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute

Dermal LD₅₀ : Not Determined
Oral LD₅₀ : Not Determined
Inhalation LC₅₀ : Not Determined

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity (acute)

96-hour LC₅₀ : Not Determined
48-hour EC₅₀ : Not Determined
96-hour EC₅₀ : Not Determined

12.2. Persistence and degradability

Persistence and degradability : Not Determined

12.3. Bioaccumulative potential

Bioaccumulative potential : Not Determined

12.4. Mobility in soil

Mobility in soil : Not Determined

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : Not Determined

12.6. Other adverse effects

Environmental data : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal method : It is recommended that Rechargeable Batteries be recycled. Please check with your local governmental regulations for recycling.

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General comments	: Lithium-Ion batteries should have their terminals insulated and be preferably wrapped in plastic bags prior to disposal. Incineration should never be performed by battery users but eventually by trained professionals in authorized facilities with proper gas and fumes treatment.
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SECTION 14: Transport information

14.1. UN number

UN number : N/A

14.2. UN proper shipping name

UN proper shipping name : Not Dangerous Goods

14.3. Transport hazard class(es)

Hazard classification : N/A

14.4. Packing group

Packing group : N/A

14.5. Environmental hazards

Marine pollutant #1 : N/A

14.6. Special precautions for user

ADR - road : Not Dangerous Goods

RID - rail : Not Dangerous Goods

IMDG - sea : Not Dangerous Goods

IATA - air : Not Dangerous Goods

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk : Not Dangerous Goods

Additional information : In the case of transportation, avoid exposure to high temperature and prevent the formation of any condensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting the cell. Please refer to Section 7-HANDLING AND STORAGE also.
 UN classification: However this product's shipping name is "Lithium batteries" (or "Lithium Batteries packed with equipment" or "Lithium Batteries contained in equipment"), it is not recognized as "DANGEROUS GOODS" when in transport condition accords with "packing instructions 965 section II of IATA-DGR" (or "packing instructions 966 section II" or packing instructions 967 section II) or "special provision 188 of IMO-IMDG Code".

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

RoHS : Please refer to Medical Devices Directive 93/42/EEC

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15.2. Chemical safety assessment

Chemical safety assessment : Not Determined

Additional information : The transport of rechargeable Lithium-ion Cylindrical battery is regulated by various bodies (IATA, IMO, ADR, US-DOT) that follow the United Nations "Recommendations on the Transport of Dangerous Goods, Model Regulations, 13th Revised edition-2003 - Ref. ST/SG/AC.10/1 Rev. 13". Depending on their lithium metal equivalent weight content, design, and ability to pass safety tests defined by the UN in the "Recommendations on the Transport of Dangerous Goods- Manual of Tests and Criteria- 3rd Revised edition- 2002- Ref. ST/SG/AC.10/11 Rev.3 Amendment 1 «Lithium Batteries»", the lithium-ion cells and battery packs with respectively less than 1.5 and 8 grams of equivalent lithium metal content that pass the UN-defined safety test, are not restricted for transport (1.0 Ah of declared nominal capacity = 0.3 gram of Li equivalent weight content).
 This product is not considered dangerous for transportation.

SECTION 16: Other information

Relevant R-phrases and/or H-statements (number and full text) : R11: Highly flammable.
 R15: Contact with water liberates extremely flammable gases.
 R17: Spontaneously flammable in air.
 R22: Harmful if swallowed.
 R36/37/38: Irritating to eyes, respiratory system and skin.
 R36: Irritating to eyes.
 R38: Irritating to skin.
 Flam. Sol., Cat. 1: Flammable Solids, Category 1
 Water-react, Cat. 2: Water-reactivity, Category 2
 H228: Flammable solid.
 H261: In contact with water releases flammable gas.

Prepared by : Anu Kattoju

Revision summary : This SDS replaces the 10/24/2012 SDS. Revised: **Section 1:** GENERAL USE, PREPARED BY. **Section 2:** . **Section 3:** Wt. %. **Section 4:** EYES, INGESTION, INHALATION, NOTES TO PHYSICIAN, SIGNS AND SYMPTOMS OF OVEREXPOSURE (INGESTION, INHALATION, SKIN). **Section 5:** EXTINGUISHING MEDIA, FIRE EXPLOSION, FIRE FIGHTING EQUIPMENT, GENERAL HAZARD, SENSITIVE TO STATIC DISCHARGE, SENSITIVITY TO IMPACT. **Section 6:** GENERAL PROCEDURES, WATER SPILL, . **Section 7:** SHELF LIFE, STORAGE, . **Section 8:** . **Section 9:** COLOR, ODOR, PERCENT VOLATILE, PHYSICAL STATE. **Section 10:** HAZARDOUS POLYMERIZATION, INCOMPATIBLE MATERIALS, STABILITY, STABLE. **Section 11:** ACUTE (ORAL LD₅₀ (rat), INHALATION LC₅₀ (rat)), GENERAL COMMENTS. **Section 12:** CHEMICAL FATE INFORMATION, DISTRIBUTION, ENVIRONMENTAL DATA, BIOACCUMULATION/ACCUMULATION, AQUATIC TOXICITY (ACUTE) (48-HOUR EC₅₀, 96-HOUR EC₅₀), SECTION 12: Ecological

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information. **Section 14:** COMMENTS, ROAD AND RAIL (ADR/RID) (ROAD AND RAIL (ADR/RID), MARINE POLLUTANT #1), ROAD AND RAIL (UK only) (CDG) - SPECIAL PROVISIONS SECTION 14: Transport information, UN number, Packing group, ADR - road, IMDG - sea, IATA - air. **Section 15:** RoHS, SECTION 15: Regulatory information. **Section 16:** Revision Summary, GENERAL STATEMENTS.

General statements

: N/A= Not Applicable

Additional SDS information

: Revision #:1

Manufacturer disclaimer

: Use as directed. The information and recommendations are taken from sources (raw material SDS(s) and manufacturer's knowledge) believed to be accurate; however, the manufacturer, makes no warranty with respect to the accuracy of the information or the suitability of the recommendation and assumes no liability to any user thereof. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.