# Safety Data Sheet
**according to WHS Regulations**

Printing date 03.08.2023 Revision: 03.08.2023

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## 1 Identification

· **Product identifier**

· **Trade name: VALO™ Cordless 400mAh Rechargeable Battery**

· **Article number:** SDS 435-001.01R02, 1007761
· **Relevant identified uses of the substance or mixture and uses advised against**
RCR123A Rechargeable Lithium Iron Phosphate Battery
· **Application of the substance / the mixture** RCR123A Rechargeable Lithium Iron Phosphate Battery

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Ultradent Products, Inc.
505 W. Ultradent Drive (10200 S)
South Jordan, UT 84095-3942
USA
onlineordersupport@ultradent.com
Ultradent Australia Pty Ltd.
Level 22/2 Market Street
Sydney NSW 2000
Australia
Email: info.anz@ultradent.com
Toll Free: 1-800-290929

· **Further information obtainable from:** 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**
The product is not classified, according to the Globally Harmonised System (GHS).

· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void

## 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

| · **Dangerous components:** | | |
|---|---|---|
| 7440-50-8 | Copper Foil | ≥10-<30% |
| 7429-90-5 | Aluminum Foil | ≥0-<30% |
| | Flam. Sol. 1, H228; Water-react. 2, H261 | |

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| | | |
|---|---|---|
| 21324-40-3 | Lithium Hexaflurophosphate<br>Acute Tox. 3, H301; Acute Tox. 2, H310 | ≥0-<10% |
| 1120-71-4 | Propane Sultone (PS)<br>Carc. 1B, H350; Acute Tox. 4, H302; Acute Tox. 4, H312 | ≥0.01-<10% |

· **SVHC**

| | |
|---|---|
| 1120-71-4 | Propane Sultone (PS) |

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

## 4 First Aid Measures

· **General information:** No special measures required.
· **After inhalation:**
If contents of an opened battery are inhaled, remove source of contamination or move victim to fresh air. Obtain medical advice.
· **After skin contact:**
If skin contact with contents of an open battery occurs, as quickly as possible remove contaminated clothing, shoes and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
· **After eye contact:**
If eye contact with contents of an open battery occurs, immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility.
· **After swallowing:**
If ingestion of contents of an open battery occurs, never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 60 to 240 mL (2-8 oz.) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Quickly transport victim to an emergency care facility.
· **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

· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water
· **Special hazards arising from the substance or mixture**
In the event that this battery has been ruptured, the electrolyte solution contain within the battery would be flammable. Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.
Sensitivity to Mechanical Impact: This may result in rupture in extreme cases. Sensitivity to Static Discharge: Not Applicable
Fires involving the rechargeable battery are controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended to extinguish the fire.

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· **Protective equipment:**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Wear self-contained respiratory protective device.
Wear fully protective suit.

## 6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Keep unnecessary personnel away.
Keep people at a distance and stay on the windward side.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Collect all contaminated wash water for proper disposal.
Do not touch spilled material.
Stop the flow of material, if this is without risk.
Wipe up and discard in a suitable container.
Clean the affected area carefully; suitable cleaners are:
Warm water and cleansing agent
Do not flush with water or aqueous cleansing agents
· **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.

## 7 Handling and Storage

· **Handling:**
· **Precautions for safe handling:**
Use only in well ventilated areas.
Keep away from heat and direct sunlight.
Do not smoke.
Avoid damaging or rupturing battery.
No special measures required.
· **Information about fire - and explosion protection:** No special measures required.
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Store away from metals.
· **Further information about storage conditions:**
If the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically.
3 months: -10°C~+40°C, 45 to 85%RH
And recommended at 0°C~+35°C for long period storage.
The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more.
Do not store the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
Store in dry conditions.
See product labelling.
Store in cool, dry conditions in well - sealed receptacles.

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· **Specific end use(s)** RCR123A Rechargeable Lithium Iron Phosphate Battery

## 8 Exposure controls and personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

| · **Ingredients with limit values that require monitoring at the workplace:** | |
|---|---|
| **7440-50-8 Copper Foil** | |
| WES | Long-term value: 1* 0.2** mg/m³<br>*dust & mists (as Cu) **fume |
| **7429-90-5 Aluminum Foil** | |
| WES | Long-term value: 10* 5** mg/m³<br>*metal dust;**welding, pyro powders |

· **Additional information:** The lists valid during the making were used as basis.
· **Personal protective equipment:**
· **General protective and hygienic measures:** Do not eat or drink while working.
· **Respiratory protection:** Not required under normal conditions.
· **Protection of hands:**
Not necessary under normal conditions,
Hand protection: Wear neoprene or natural rubber material gloves if handling an open or leaking battery.
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**
Natural rubber, NR
Neoprene gloves
The selection of 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 breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**
Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery.
· **Body protection:** Not necessary under normal conditions,.

## 9 Physical and Chemical Properties

| | |
|---|---|
| · **General Information** | |
| · **Appearance:** | |
| · **Form:** | Solid |
| · **Colour:** | Silver-coloured |
| · **Odour:** | Odourless |
| · **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):** | Contact with water liberates extremely flammable gases. |

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| | |
|---|---|
| · **Decomposition temperature:** | Not determined. |
| · **Auto-ignition temperature:** | 130℃ |
| · **Explosive properties:** | Product does not present an explosion hazard. |
| · **Explosion limits:** | |
| · **Lower:** | Not determined. |
| · **Upper:** | Not determined. |
| · **Vapour pressure:** | Not applicable. |
| · **Density:** | Not determined. |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not applicable. |
| · **Evaporation rate** | Not applicable. |
| · **Solubility in / Miscibility with** | |
| · **water:** | Insoluble. |
| · **Partition coefficient: n-octanol/water:** | Not determined. |
| · **Viscosity:** | |
| · **Dynamic:** | Not applicable. |
| · **Kinematic:** | Not applicable. |
| · **Other information** | No further relevant information available. |

## 10 Stability and Reactivity

· **Reactivity** The product is stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions:**
Danger of explosion.
Danger of bursting.
Contact with water releases flammable gases.
· **Conditions to avoid:**
(e.g. static discharge, shock or vibration)
Do not subject the rechargeable battery to mechanical shock.
Vibration encountered during transportation does not cause leakage, fire or explosion.
Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Toxic fumes if burned or exposed to fire.

## 11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

**ATE (Acute Toxicity Estimates)**

| | | |
|---|---|---|
| Oral | LD50 | 1,786-10,000 mg/kg |
| Dermal | LD50 | 973-5,000 mg/kg |

· **Skin corrosion/irritation**
Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.
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.

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· **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.

## 12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** Not easily biodegradable
· **Behaviour 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 (German Regulation) (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**
Dispose of contents/container in accordance with international, federal, state, and local regulations.

· **Uncleaned packaging:**
· **Recommendation:**
Be aware discarded batteries may cause fire, tape the battery terminals to insulate them. Don't disassemble the battery. Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local, state and federal laws and regulations.

## 14 Transport information

| | |
|---|---|
| · **UN-Number** | |
| · **ADG, IMDG, IATA** | UN3480 |
| · **UN proper shipping name** | 3480 LITHIUM ION BATTERIES<br>3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT |
| · **ADG** | 3480 LITHIUM ION BATTERIES |
| · **IMDG, IATA** | LITHIUM ION BATTERIES |

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· **Transport hazard class(es)**

· **ADG, IMDG, IATA**


| | |
|---|---|
| · **Class** | 9 Miscellaneous dangerous substances and articles. |
| · **Label** | 9 |
| · **Packing group** | |
| · **ADG, IMDG, IATA** | not regulated |
| · **Environmental hazards:** | Not applicable. |
| · **Special precautions for user** | Warning: Miscellaneous dangerous substances and articles. |
| · **EMS Number:** | F-A,S-I |
| · **Stowage Category** | A |
| · **Stowage Code** | SW19 For batteries transported in accordance with SP 376 or SP 377 Category C, unless transported on a short international voyage. |
| · **Transport in bulk according to Annex II of Marpol and the IBC Code** | Not applicable. |
| · **Transport/Additional information:** | |
| · **ADG** | |
| · **Limited quantities (LQ)** | 0 |
| · **Excepted quantities (EQ)** | Code: E0<br>Not permitted as Excepted Quantity |
| · **Transport category** | 2 |
| · **Tunnel restriction code** | D/E |
| · **IMDG** | IMO-IMDG Code [special provision 188] |
| · **Limited quantities (LQ)** | 0 |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g |
| · **IATA** | |

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| | |
|---|---|
| · **Remarks:** | Lithium iron phosphate batteries comply with all applicable shipping regulations as prescribed by industry and legal standards which include UN Recommendations on the Transport of Dangeroud Goods; IATA Dangerous Goods regulations and US DOT requiremens. Cell and Batteries have been tested to section 38.3 of the UN Recommendations on the Transport of Dangerous Good Manual of Tests and Criteria. All of the batteries listed in this Safety Data Sheet are less than 100 Whrs; therefore, air shipment of up to 2 batteries without equipment in a package can be shipped as "excepted" quantity and does not require being shipped as a fully regulated Class 9 Hazardous Material. If more than 2 batteries without equipment are being shipped in one package a fully regulated shipment and must meet the more stringent documentation , marking, and labeling requirements. |
| · **UN "Model Regulation":** | UN 3480 LITHIUM ION BATTERIES, 9 |

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

| · **Australian Inventory of Industrial Chemicals** | |
|---|---|
| | Activated Carbon |
| 7440-50-8 | Copper Foil |
| 21324-40-3 | Lithium Hexaflurophosphate |
| 1120-71-4 | Propane Sultone (PS) |
| 24937-79-9 | Poly Vinylidene Fluoride (PVDF) |

| · **Standard for the Uniform Scheduling of Medicines and Poisons** |
|---|
| None of the ingredients is listed. |

| · **Australia: Priority Existing Chemicals** |
|---|
| None of the ingredients is listed. |

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

| · **Substances of very high concern (SVHC) according to REACH, Article 57** | |
|---|---|
| 1120-71-4 | Propane Sultone (PS) |

· **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.

· **Relevant phrases from Section 3**
H228 Flammable solid.
H261 In contact with water releases flammable gas.

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H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H312 Harmful in contact with skin.
H350 May cause cancer.

· **Department issuing SDS:** Environmental, Health, and Safety
· **Contact:** Customer Service
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international 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
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Sol. 1: Flammable solids – Category 1
Water-react. 2: Substances and mixtures which in contact with water emit flammable gases – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
· *** Data compared to the previous version altered.**