## SECTION 1: Identification of the product and company

### 1.1 Product identifier

| | |
|---|---|
| Luminaire | QBW428WL |
| Product | Self-contained emergency luminaire with LiFePO4 battery |
| Contained battery | LFPN3233.01 |
| Battery configuration | One assembled LiFePO4 cell (1S1P) |
| Nominal rating per battery | 3.2 V \| 3,300 mAh \| 10.56 Wh |

### 1.2 Uses

Electrical power supply in compatible equipment and luminaires. Use only with suitable charging electronics and in accordance with the product and equipment instructions. Do not open, dismantle, short-circuit or use outside the product specification.

### 1.3 Supplier

**RP-Technik GmbH**
Hermann-Staudinger-Str. 10-16, 63110 Rodgau, Germany
Telephone: +49 (6106) 660 28 - 0
Email: product@rp-group.com | info@rp-group.com
Contact: Francisco Goerke

### 1.4 Emergency contact

For an acute medical emergency or fire: **112 within the EU**. Following exposure, obtain medical advice or contact a poison centre. For product information, use the supplier contact in section 1.3.

## SECTION 2: Hazards identification

### 2.1 Product form and hazards

This sheet describes the safety of the sealed battery contained in the luminaire. When the cells remain intact and are used as intended, their contents are enclosed. Damage, overcharging, short-circuiting or excessive heat may cause electrolyte leakage, rupture, fire and release of hazardous gases.

### 2.2 Safety warnings / 2.3 Other hazards

Avoid contact with released cell contents. Electrolyte and fire gases may be harmful and may injure skin, eyes and the respiratory tract. Protect terminals against short circuits. Keep away from fire and heat. Do not continue to use or charge damaged, leaking or unusually warm batteries. See section 14 for transport marking.

## SECTION 3: Composition / information on ingredients

The chemical information concerns battery LFPN3233.01 contained in the identified luminaire. The table describes cell ingredients. Additional assembly and luminaire materials are not quantified separately. Using several identical cells does not change their percentage composition. The four electrolyte ingredients are specified as a combined mass fraction.

| Cell ingredient | CAS number | Mass fraction |
|---|---|---|
| Lithium iron phosphate | 15365-14-7 | 26-36 % |
| Graphite | 7782-42-5 | 12-18 % |
| Polyvinylidene fluoride (PVDF) | 24937-79-9 | ≤ 1 % |
| Electrolyte: ethylene carbonate, dimethyl carbonate, ethyl methyl carbonate and lithium hexafluorophosphate | 96-49-1; 616-38-6; 623-53-0; 21324-40-3 | 14-20 % |
| Aluminium | 7429-90-5 | 3-8 % |
| Copper | 7440-50-8 | 5-12 % |
| Iron | 7439-89-6 | 15-22 % |

The concentration ranges are data for the cells. The cell contents are not accessible when the product is undamaged.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

The following measures concern exposure to leaked contents or fire gases. Protect yourself and stop further exposure. Obtain prompt medical advice if symptoms occur or if in doubt; keep this sheet available.

| Exposure | Action |
|---|---|
| Eyes | Immediately rinse gently with plenty of running water for at least 15 minutes. Remove contact lenses if easy to do. Obtain medical attention. |
| Skin | Remove contaminated clothing. Rinse affected skin with plenty of water for at least 15 minutes. Obtain medical advice. |
| Inhalation | Move to fresh air only if safe to do so. Call emergency services immediately for breathing difficulty or impaired consciousness. Further measures should be provided by trained responders or medical personnel. |
| Ingestion of cell contents | Rinse the mouth with water if the person is conscious. Do not induce vomiting. Contact a physician or poison centre immediately. Give nothing by mouth to an unconscious person. |

### 4.2 Symptoms / 4.3 Medical treatment

Released contents may cause irritation or chemical burns; smoke may injure the respiratory tract. Treatment depends on the exposure route and medical assessment. For fire exposure, inform medical personnel of possible fluorine-containing decomposition products.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

The cell SDS specifies copious cold water for extinguishing and cooling; it also lists dry powder, sand or earth. It excludes warm/hot water and Halon. Adapt firefighting to site conditions. Firefighting should be carried out by appropriately equipped responders.

### 5.2 Specific hazards / 5.3 Protection of responders

Cells may rupture. Fire may release carbon monoxide, carbon dioxide, hydrogen fluoride (HF) and phosphorus fluorides. Wear self-contained breathing apparatus and full firefighter protective clothing. Avoid smoke inhalation and evacuate affected areas. Contain firefighting water where possible.

## SECTION 6: Accidental release measures

**6.1 Personal precautions:** Ventilate the area, keep ignition sources away and avoid skin/eye contact. Apply the protective measures in section 8.
**6.2 Environmental precautions:** Keep released contents out of drains, watercourses and soil.
**6.3 Clean-up:** Absorb leaked liquid with sand, earth or another inert absorbent and arrange suitable disposal. Do not handle hot, smoking or burning batteries; contact emergency responders.
**6.4 References:** See sections 5, 8 and 13.

## SECTION 7: Handling and storage

**7.1 Safe handling:** Prevent short circuits. Do not bridge terminals with conductive objects. Do not open, crush, puncture, throw into fire or mechanically damage. Follow charging and equipment instructions.
**7.2 Storage:** Store in a cool, dry, well-ventilated place. Protect from heat sources, direct sunlight, moisture and conductive objects. Keep apart from strong oxidising agents. Observe product-specific temperature and charging limits.
**7.3 End use:** Power supply for compatible equipment; see section 1.2.

## SECTION 8: Exposure controls / personal protection

**8.1 Control parameters:** Exposure to cell contents is not expected during intended handling of intact, sealed cells. If contents are released, apply local occupational exposure limits for the substances present.
**8.2 Protective measures:** Wear suitable chemical-resistant gloves and safety goggles when handling damaged cells. Provide ventilation; use appropriate respiratory protection based on the risk assessment if ventilation is inadequate or smoke is present. Select gloves for the substances and contact duration. Remove contaminated clothing. Wash hands after work.

## SECTION 9: Physical and chemical properties

| 9.1 Property | Information |
|---|---|
| Form of contained battery | One assembled LiFePO4 cell (1S1P) |
| Odour | Odourless when cells are intact |
| Nominal rating per battery | 3.2 V \| 3,300 mAh \| 10.56 Wh |
| Colour | According to product variant |
| pH, viscosity, vapour pressure | Not applicable to the sealed article |
| Other substance properties | Not determined for the article |

**9.2 Other information:** Electrolyte and other contents may be released if damaged. The solid exterior does not determine the fire hazard of the cell contents.

## SECTION 10: Stability and reactivity

**10.1/10.2 Reactivity and stability:** Stable under normal ambient conditions when used as intended.
**10.3 Hazardous reactions:** Misuse may cause heating, rupture and fire.
**10.4 Avoid:** Heat, open flames, short circuits, damage and water ingress.
**10.5 Incompatible materials:** Strong oxidising agents.
**10.6 Decomposition products:** Under fire conditions: CO, CO2, HF and phosphorus fluorides.

## SECTION 11: Toxicological information

**11.1 Exposure routes and effects:** Contents are enclosed when cells are intact. If released, exposure may occur through skin/eye contact, inhalation or ingestion. Cell contents may irritate or cause chemical burns; fire gases are harmful. Quantitative toxicological data for the complete battery pack are not available.
**11.2 Other hazards:** No additional product-specific test data available.

## SECTION 12: Ecological information

**12.1-12.7:** No quantitative battery-pack data are available for ecotoxicity, degradation, bioaccumulation, soil mobility, PBT/vPvB or endocrine effects. Prevent release of cell contents to the environment. Collect batteries separately for appropriate recovery.

## SECTION 13: Disposal considerations

**13.1 Waste treatment:** Use suitable battery collection and recycling routes in accordance with local rules. Do not put in household waste, burn, dismantle or puncture. Protect terminals against short circuits. Explicitly inform the waste contractor of damaged or leaking batteries; handle contaminated absorbents separately.

## SECTION 14: Transport information

### 14.1/14.2 UN number and proper shipping name

| Shipping configuration | UN number / proper shipping name | Air transport |
|---|---|---|
| Battery shipped separately | UN 3480 LITHIUM ION BATTERIES | PI 965 |
| Battery packed with the equipment it powers | UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT | PI 966 |
| Battery installed in equipment | UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT | PI 967 |

Select the entry according to the actual shipping configuration. Cables or connectors alone do not make a separately shipped battery a battery contained in equipment.

### 14.3 Hazard class / 14.4 Packing group

Class 9. No packing group assigned. Apply the packaging, marking, quantity and state-of-charge requirements of the relevant provision.

### 14.5 Environmental hazards

Marine pollutant status is listed as "No" in the underlying safety information. Prevent release of contents.

### 14.6 Special precautions

Protect terminals against short circuits and package against movement/damage. For air cargo, lithium-ion batteries shipped separately (UN 3480) are forbidden on passenger aircraft; generally a maximum 30% state of charge applies, subject to authority approvals. Apply the current requirements for the specific packing instruction and carrier. From 2026, PI 966 also requires a maximum 30% state of charge for these cells/batteries exceeding 2.7 Wh, subject to authority approvals; for PI 967 a maximum 30% state of charge or 25% indicated remaining capacity is recommended.

Special requirements apply to damaged, defective or waste batteries. Safety-defective batteries capable of dangerous heat, fire or short-circuit development are forbidden for air transport. Make the applicable UN38.3 test summary and shipping documents available before shipment.

### 14.7 Maritime transport in bulk

Not intended for this assembled battery pack.

## SECTION 15: Regulatory information

**15.1 Scope:** This document provides safety information for an article using the 16-section format. Use of this format does not classify the sealed battery pack as a chemical mixture. Apply battery, occupational safety, waste and dangerous-goods requirements according to use and destination.
**15.2 Chemical safety assessment:** A chemical safety assessment of the article is not part of this document.

## SECTION 16: Other information

### Document version and revision history

| Version | Change |
|---|---|
| Revision 2.2 / 14 October 2026 | Luminaire-specific version for QBW428WL. Battery: LFPN3233.01. New RP-GROUP design; German and English versions. |
| Scope | Chemical information describes the contained battery, not the whole luminaire. Ratings apply per battery; no wiring or total quantity is inferred from the set designation. |
| Composition | Data for the contained cell; additional assembly and luminaire materials are not quantified. |
| Transport | Observe the actual shipping configuration. This sheet is not a UN38.3 test certificate for the whole luminaire. |

### Abbreviations

CAS: substance identifier; HF: hydrogen fluoride; PI: packing instruction; PBT/vPvB: persistent, bioaccumulative and toxic / very persistent and very bioaccumulative; SDS: safety data sheet; UN38.3: transport testing for lithium cells and batteries.

This information supports safe handling of the identified product. Observe product and equipment instructions and the requirements applicable to the specific use.