

## PRODUCT SAFETY DATA SHEET

Document Number : SDS-OT-BP-00028.Rev01

Issued Date : January 9th, 2025

---

### Manufacturer

Name of Company : Orient Technology (S) Pte Ltd  
Address : 178 Paya Lebar Road Singapore 409030  
Telephone Number : +65 6355 3388  
Facsimile Number : +65 6841 2633

---

**Name of Product** : Rechargeable Lithium Ion Battery  
(Model Name) 2UF103450PN-JKC  
(Model Number) OTPLI104400  
(Customer Model Number) KNB-45L (WOK-0159-00)

---

### Substance Identification

Substance : Lithium Ion Rechargeable Battery Cell  
CAS Number : Not specified  
\*For details, see the MDS or SDS for Lithium Ion Rechargeable Battery Cell

---

### Hazards Identification

Battery cell : Refer to SDS of Lithium Ion Rechargeable Battery cell from manufacturer  
Battery Pack  
Hazard : It may cause heat generation or electrolyte leakage if battery terminals contact shorted by any conductive part. Since leaked electrolyte is inflammable, do not bring close to fire. In case of electrolyte leakage, move the battery from fire immediately.  
Toxicity : Vapor generated from burning batteries, may irritate eyes, skin and throat.

---

### First Aid Measures

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.

Eye Contact : Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.

Skin Contact : Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.

Inhalation : Make the victim blow his/her nose, gargle. Seek medical attention if necessary.

Ingestion : Wash out mouth thoroughly. Do not make the victim vomit, unless instructed by medical personnel. Seek medical attention immediately.

---

## Fire Fighting Measures

Hazard	: Corrosive gas may be emitted during fire.	
Fire Extinguishing type	: Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.	
Extinguishing Method	: When the battery burns with other combustibles simultaneously. Take the fire extinguishing method which corresponds to the combustibles. Extinguish the fire from windward as much as possible.	
Protective Equipment	Respiration	: Gas mask or dust mask
	Hands	: Protective gloves
	Eyes	: Goggles or protective glasses
	Skin and Body	: Protective clothes

---

## Measures for electrolyte leakage from battery

- Remove spilled materials with protective equipment( protective glasses and gloves). Inhale as little gas as possible. Avoid touching as much as possible.
  - Do not throw out into the environment
  - Put the spilled solids into a container. Wipe off the liquid with a dry cloth.
  - Avoid re-scattering. Do not bring the collected materials close to fire
- 

## Handling and Storage

- Do not connect the positive and negative terminal with electrical wire or chain.
  - Avoid reverse polarity connections when installing the battery to an instrument.
  - Do not wet the battery with water, seawater, drinks or acid; or expose to a strong oxidiser.
  - Do not remove or damage the external shell.
  - Keep away from heat and fire.
  - Do not disassemble or reconstruct the battery; or solder the battery directly.
  - Do not apply mechanical shock or deform the battery.
  - Do not use unauthorised chargers or charging methods. Terminate the charging process if it does not end within the specified time.
  - Do not store the battery with metalware, water, seawater, acid or strong oxidiser.
  - The battery is to be stored at room temperature (detail refer to product specification). Avoid direct sunlight, high temperature and high humidity.
  - Use insulative and adequately strong packaging materials to prevent short circuit. Avoid conductive or fragile packaging materials.
  - Make the charge amount less than or equal to 50% then store at ~20~40 degree C in a dry (humidity:45~85%) place. Since deterioration will be faster in the high temperature range than in the low temperature range so do not keep it in the high temperature range beyond the period that is specified by the seller or owner.
- 

## Exposure Control (Personal protection when electrolyte leakage from the battery)

Control Parameters	: ACGIH has not been mention control parameter of electrolyte
Facilities	: Provide appropriate ventilation system such as local ventilator in the storage place.
Protective Clothing	: Gas and dust mask for organic gases, safety goggle, safety/protective gloves Working clothes with long sleeve and long trousers

---

## Physical and Chemical Properties

Appearance	: Battery Pack enclosed in a Polycarbonate plastic casing (Single Cell : Prismatic Cell)	
Nominal Voltage	: Battery Pack 7.4 Volts	(Single Cell : 3.7 Volts)
Odor	: No Odor	

---

## Stability and Reactivity

Since batteries utilise a chemical reaction they are actually considered a chemical product. As such, battery performance will deteriorate over time if stored for a long period of time without being used. In addition, if the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges, the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

Stability	: Stable under normal use
Conditions to avoid	: Crushing or deformation, use and storage at 80 degree C or higher or at high humidity. Usage at a voltage or a current outside the rating and external short circuit.
Materials to avoid	: Conductive materials, water, seawater, strong oxidisers and strong acids.
Hazardous decomposition product	: Acrid or harmful gas is emitted during fire

---

## Toxicological Information (in case of electrolyte leakage from the battery)

Acute Toxicity	: Oral (rat) LD50 > 2g/kg(estimated)
Irritation	: Irritating to eyes and skin

---

## Ecological Information

- Do not bury or throw out battery pack into the environment.
  - Heavy metal in battery pack.  
Mercury (Hg) and Cadmium (Cd) are neither contained nor used in cell
- 

## Disposal Considerations (Precautions for recycling)

- When the battery is worn out, dispose of it under the ordinance of each local government
  - Disposal of the worn out battery may be subjected to Collection and Recycling Regulation
  - When internal materials leaked from battery, dispose as industrial wastes subject to special control.
- 

## Transport Information

- In 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 damage the battery pack

### UN regulation

- UN Number : 3480 (3481 when the battery is contained in equipment or pack with equipment)
- Proper shipping name : Lithium ion batteries ("Lithium ion batteries contained in equipment" or "Lithium ion batteries packed with equipment")
- Class : 9
- Packing group : refer to transportation mode

### Regulation depends on region and transportation mode

- Worldwide - Air transportation:  
ICAO/IATA-DGR [packing instruction 965 section IB and II  
(When shipping batteries "pack with" or "contained in" equipment, use packing instruction 966 or 967 as appropriate)
  - Worldwide - Ocean transportation:  
IMO-IMDG Code [special provision 188]
  - Europe - Ground transportation:  
ADR [special provision 188]
-

**Others Information**

- This safety data sheet is offered to an agency who handles this product to handle it safely.
- The agency should utilize this safety data sheet effectively (put it up, educate person in charge) and take proper measures.
- The information contained in this safety data sheet is based on the present states of knowledge and current legislation.
- This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

**References**

- (1) Dangerous Goods Regulations - 66th Edition Effective 1 January 2025: International Air Transport Association (IATA)
- (2) IMDG Code - 2022 Edition : International Maritime Organization (IMO)
- (3) The European Agreement concerning the International Carriage of Dangerous Goods by Road-2025(ADR): The United Nations Economic Commission for Europe (UNECE)