

鋰電池產品運送規範

The shipping regulations for lithium batteries

電池定義 Battery Definition:

根據聯合國試驗準則手冊對電池的定義:

The definition of batteries according to the United Nations Manual of Tests and Criteria:

- 電芯：是單一封閉的電子化學裝置。其中包含一個正極和一個負極電極，並在兩極之間形成電壓差。
- Cell: A single encased electrochemical device, containing a positive electrode and a negative electrode, and capable of generating an electric current by an electrochemical reaction between the electrodes, with an electromotive force between the two electrodes.
- 電池組：電池是兩個或更多的電池芯以電子方式永久連接在一起，包括外殼、端子和標誌。
- Battery: A battery is two or more battery cells permanently connected together electronically, including a casing, terminals, and markings.
- 鈕扣電池：鈕扣電池是厚度小於直徑的圓形小電池。
- Button cell: A button cell is a small, circular battery with a thickness that is less than its diameter.

鋰電池測試摘要 Summary of Lithium Battery Testing

- [UN 38.3 測試報告](#)：電池或電池製造商及其後的分銷商由2003年6月30日之後製造的電池和電池供電的設備必須提供聯合國《測試和標準手冊》第III部分，第38.3小節第38.3.5段中指定的測試摘要。
- UN 38.3 Test Report: Battery or battery manufacturers and their downstream distributors must provide a summary of the tests specified in Section 38.3.5 of Part III of the United Nations "Manual of Tests and Criteria" for batteries and battery-powered equipment manufactured after June 30, 2003
- 鋰電池單獨航空運輸或和設備包裝在一起空運，還需經過包裝件1.2M跌落測試，能夠不使其中所裝的電池或電池組受損。
- For lithium batteries transported by air either alone or packed with equipment, they must pass the 1.2m drop test on packaging, without damage to the battery or battery pack inside.
- 物質安全數據表
- [MSDS](#) Material Safety Data Sheet / PSDS / SDS

鋰電池種類 Types of Lithium Batteries

鋰離子電池

Lithium ion batteries

- 電池可以重複充電，有時被稱為「二次鋰電池」常用於筆電、手機、數位相機...等。
- The rechargeable battery, sometimes referred to as "secondary lithium battery," can be recharged and is commonly used in devices such as laptops, mobile phones, digital cameras, and so on.



鋰金屬電池

Lithium metal batteries

- 不能充電，有時被稱為「一次鋰電池」常用於手錶、計算機、主機板...等。
- A non-rechargeable battery, sometimes referred to as "primary lithium battery," cannot be recharged and is commonly used in devices such as watches, calculators, motherboards, and so on.



鋰電池運送方式與規範

The Transportation Modes and Regulations for Lithium Batteries

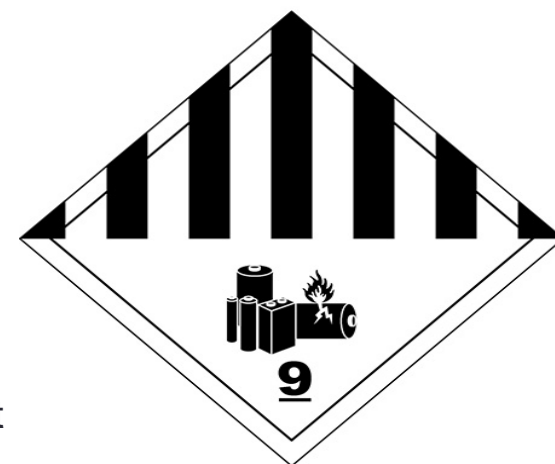
	單獨寄送 ship separately	與設備分離但裝在同一箱子中運送 separated from equipment but packed in the same box for transportation	內含於設備一起裝在箱子中運送 packed together with equipment in the same box for transportation
鋰離子電池 Lithium-ion battery	UN 3480 PI 965	UN 3481 PI 966	UN 3481 PI 967
鋰金屬電池 Lithium metal battery	UN 3090 PI 968	UN 3091 PI 969	UN 3091 PI 970

- UN - 聯合國危險品運輸規範 UN編號。
The United Nations dangerous goods transportation regulations UN number
- PI – IATA國際航空運輸協會《危險品規則》包裝指令
PI - Packaging Instruction in the IATA Dangerous Goods Regulations, published by the International Air Transport Association (IATA).

鋰離子電池 Lithium-ion Battery– UN3481 - PI

967 Section I

- 要求：每節電池的能量密度 > 20Wh，或每個電池組的能量密度 > 100Wh
Requirement: Per Cell > 20Wh or Per Battery > 100Wh
- 需填寫危險品申告書
Completion of Dangerous Goods Declaration.
- 外箱需貼第 9 類鋰電池標籤
Outer packaging must bear the Class 9 lithium battery label.
- 每一包裝箱鋰電池(不含設備)限重
The maximum weight limit for each package containing lithium batteries (not including equipment) is:
5 KG (PAX) 客貨機 - 5 KG (PAX) for passenger aircraft.
35 KG (CAO) 貨機 - 35 KG (CAO) for cargo aircraft.

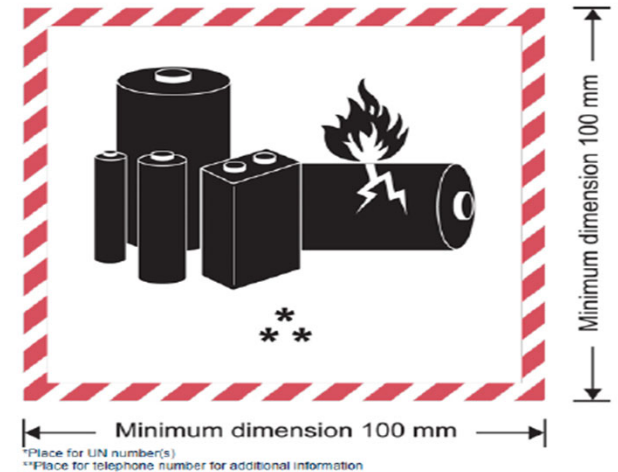


第 9 類鋰電池標籤
Class 9 lithium battery label

鋰離子電池 Lithium-ion Battery – UN3481 - PI 967

Section II

- 要求：每節電池的能量密度 $\leq 20\text{Wh}$ ，或每個電池組的能量密度 $\leq 100\text{Wh}$
- Requirement: Per Cell $\leq 20\text{Wh}$ or Per Battery $\leq 100\text{Wh}$
- 不需危險品申告 No Dangerous Goods Declaration required.
- 當每件包裹含有超過 4 個電池芯或 2 個電池組時，需有完整的鋰電池標記。When each package contains more than 4 cells or 2 battery packs, the complete lithium battery mark is required.
- 例外(不需要標誌或標籤):
- 單一包裹沒有超過 4 個電池芯或是超過 2 個電池組，同時託運物品沒有超過 2 個包裹，或僅有鈕扣電池安裝在設備中(包含電路板)
- Exceptions (no marking or labeling required):
- When a single package contains no more than 4 cells or 2 battery packs, and the shipment consists of no more than 2 packages; or when only button cells are installed in equipment (including circuit boards).
- 每一包裝箱鋰電池(不含設備)限重 The maximum weight limit for each package containing lithium batteries (not including equipment) is:
5 KG (PAX) 客貨機 - 5 KG (PAX) for passenger aircraft
5 KG (CAO) 貨機 - 5 KG (CAO) for cargo aircraft

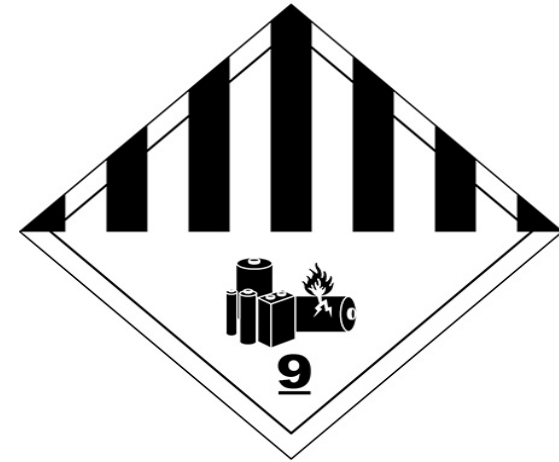


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- **標註電話號碼
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鋰金屬電池 Lithium Metal Battery – UN3091 - PI 970

Section I

- 要求: 電池芯鋰含量>1g 或 電池組鋰含量>2g
Requirement: The lithium content of the battery cell is greater than 1g or the lithium content of the battery pack is greater than 2g.
- 需填寫危險品申告書
Dangerous Goods Declaration required.
- 外箱需貼第 9 類鋰電池標籤
The outer packaging must bear the Class 9 lithium battery label.
- 每一包裝箱鋰電池(不含設備)限重
The maximum weight limit for each package containing lithium batteries (not including equipment) is:
5 KG (PAX) 客貨機 - 5 KG (PAX) for passenger aircraft.
35 KG (CAO) 貨機 - 35 KG (CAO) for cargo aircraft.

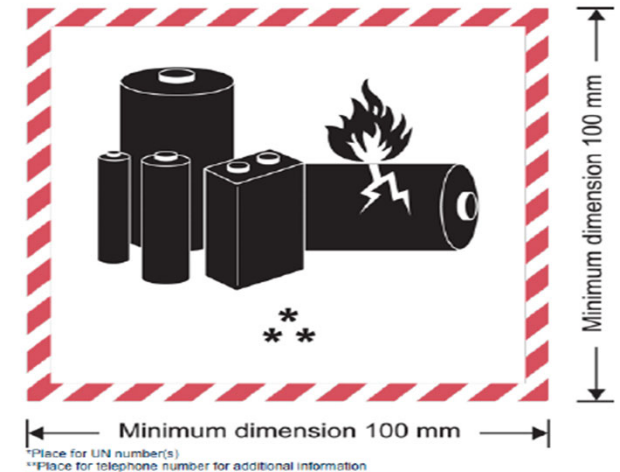


第 9 類鋰電池標籤
Class 9 lithium battery label

鋰金屬電池 Lithium Metal Battery. – UN3091 - PI 970





Section II

- 要求: 電池芯鋰含量 $\leq 1\text{g}$ or 電池組鋰含量 $\leq 2\text{g}$
Requirement: Lithium content per cell $\leq 1\text{g}$ or per battery $\leq 2\text{g}$.
- 不需危險品申告
No dangerous goods declaration required.
- 當每件包裹含有超過 4 個電池芯或 2 個電池組時，需有完整的鋰電池標記。When each package contains more than 4 cells or 2 batteries, a complete lithium battery mark is required.
- 例外(不需要標誌或標籤):
單一包裹沒有超過 4 個電池芯或是超過 2 個電池組，同時託運物品沒有超過 2 個包裹，或僅有鈕扣電池安裝在設備中(包含電路板)
- Exception (no mark or label required):
 - A single package contains no more than 4 cells or 2 batteries, and the consignment does not exceed 2 packages; or
 - Button cells installed in equipment (including circuit boards).
- 每一包裝箱鋰電池(不含設備)限重 The maximum weight limit for each package containing lithium batteries (not including equipment) is:
 - 5 KG (PAX) 客貨機 - 5 KG (PAX) for passenger aircraft
 - 5 KG (CAO) 貨機 - 5 KG (CAO) for cargo aircraft



- *標註UN編號
Marking the UN number
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Marking the telephone number

鋰電池總表 Summary Table of the Lithium Battery

UN 編號 UN Number	UN3481 鋰離子電池 Lithium-ion battery			UN3091 鋰金屬電池 Lithium metal battery		
包裝指示 Packing Instructions	PI967 section I	PI967 section II		PI970 section I	PI970 section II	
電池容量 Battery Capacity	Per Cell: > 20Wh Per Battery: > 100Wh	Per cell: ≤20Wh Per battery: ≤100Wh		Per Cell: > 1g Per Battery: >2g	Per cell: ≤1g Per battery: ≤2g	
每件包裹所含電池數 包裹數量 Number of Batteries per Package, and Quantity of Packages		≤2 batteries or 4 cells 以及≤2 packages per consignment	> 2 batteries or 4 cells 或超過 2 箱 ≤2 batt. or 4 cells		≤2 batteries or 4 cells 以及≤2 packages per consignment	> 2 batteries or 4 cells 或超過 2 箱 ≤2 batt. or 4 cells
每件包裹電池限重 Weight Limit per Battery for Each Package	5 KG (PAX) 35 kg (CAO)	5 kg (PAX & CAO)	5 kg (PAX & CAO)	5 KG (PAX) 35 kg (CAO)	5 kg (PAX & CAO)	5 kg (PAX & CAO)
危險品申告 Dangerous Goods Declaration	YES	NO	NO	YES	NO	NO
鋰電池標記 Lithium Battery Mark	 YES	NO	YES  設備內僅有鈕扣電池不需 Equipment containing only button cells is exempt.	 YES	NO	YES  設備內僅有鈕扣電池不需 Equipment containing only button cells is exempt.