

# Vinnic<sup>®</sup>

銀戰士電池



USB Lithium-Ion  
Rechargeable Battery  
Series

鋰離子USB充電電池



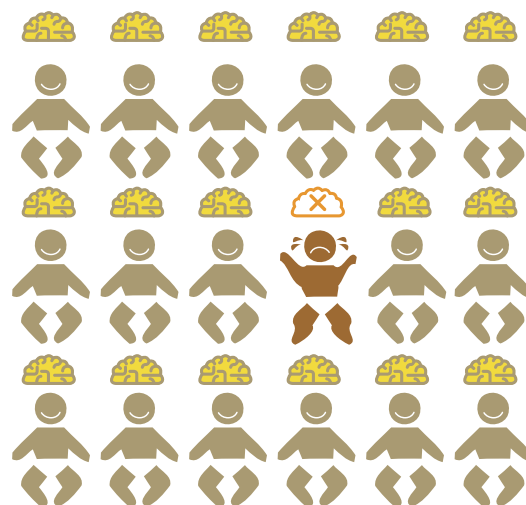
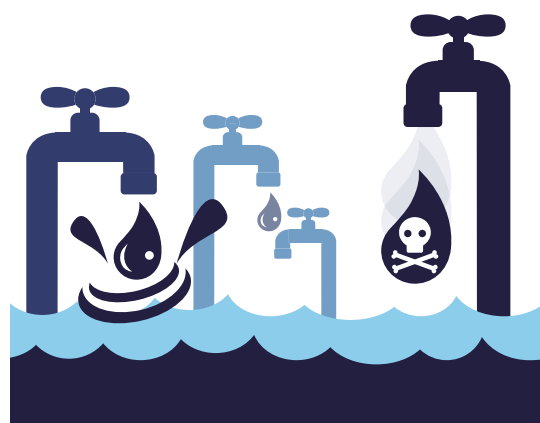
## USB Lithium-Ion Rechargeable Battery 鋰離子USB充電電池

- 25 million children in the world were suffered from drinking of LEAD, MERCURY and CADMIUM contaminated water!
- Every 6 of thousand patients in the world were caused by the exposure of LEAD!
- There are around 600 thousands children in the world were mentally disable due to the exposure to LEAD!

Heavy metals such as lead, mercury and cadmium may have long-term impact on the health of human beings and other organisms. For example, lead poisoning can cause damage to the liver, kidneys, brain and even intellectual ability. Mercury poisoning can cause damage to the liver, skin and nervous system, whereas cadmium poisoning can lead to renal failure and osteomalacia.

- 每年世界約有2500萬名兒童，因為水污染而引發疾病，當中包括鉛中毒、汞中毒及鎘中毒！
- 由鉛接觸造成全球的疾病負擔就有0.6%！
- 估計每年由鉛接觸所導致的智力殘疾兒童約為60萬！

鉛、汞及鎘這幾種重金屬，對人類及其他生物的健康影響深遠，像鉛中毒會造成肝、腎、腦的損害，甚至智力永久受損！汞中毒可導致肝、皮膚同神經受損，而鎘中毒就會引起腎功能喪失、骨質軟化等問題！



Corporate video



公司短片



Product video



產品短片



WeChat



Weibo



Facebook



天猫

0% 汞 MERCURY  
鉛 LEAD  
鎘 CADMIUM

**Mercury-free** and environment friendly  
無汞與環保

In 2020, Vinnic is celebrating its 40<sup>th</sup> anniversary. Vinnic developed superior battery by using first-rank materials, launched an all-new USB-rechargeable lithium-ion battery. Designed for products with high power consumption, this new battery can be recharged up to 500 times. It's a design that's not only more environment friendly, but is better suited to the needs of modern life.

Chung Pak has been keen on development of environment friendly batteries for over 40 years. And the fruitful achievement is devoted to our lovely earth, and our next generation.

2020年，Vinnic邁向40週年，銀戰士使用性能超卓的材料並研製出不同的配方，正式推出了全新鋰離子USB充電電池，符合環保的鋰離子充電電池適用於多款高耗電量的產品，循環壽命長達500次，設計更貼近新時代生活需要。

為了地球，為了下一代，松栢在過去40多年致力生產無鉛無汞無鎘的環保高性能電池！





## USB Lithium-Ion Rechargeable Battery Series

### 鋰離子USB 充電電池系列



## High Performance USB Rechargeable Battery 高性能USB充電電池

### Main Features 主要特性

#### Quality:

##### High Capacity

Applicable for high-drain devices

##### Cycles Life

≥1000 cycles

##### Low Self-discharge Rate

Self-discharge rates ≤8% after 30 days of storage at 23±2°C

##### No Memory

Discharge is not required before charging

##### High Safety Standards

Built-in PCM: Over charge protection, Over voltage protection, Over current protection, Over discharge protection, Overheating protection, Short protection, Overpower protection, Earth leakage protection

##### Environmentally Concerned

Adopts lithium ion rechargeable battery

#### 品質:

##### 超高品質

適用於高耗電量產品

##### 循環壽命

1000次以上

##### 低自放電

在23±2°C環境存放30天，電池自放電≤8%

##### 無記憶效應

不會記憶先前充電記錄

##### 安全性高

內置智能保護板：過充保護、過壓保護，過流保護，過放保護，過熱保護，短路保護，過功率保護，漏電保護

##### 符合環保要求

電芯採用環保鋰離子充電電池

#### Chemical Structure:

Positive Electrode - Lithium Cobaltate

Negative Electrode - Graphite

Electrolyte - Lithium Hexafluorophosphate

#### 化學成份:

正極 - 鈷酸鋰

負極 - 石墨

電解液 - 六氟磷酸鋰

#### Application:

- Flashlight
- Camera
- Wireless Mouse & Keyboard
- Portable Electronics
- Electronic Toothbrush
- Toys
- Electronic Games

#### 用途:

- 閃光燈
- 相機
- 無線鼠標及鍵盤
- 便攜式電子產品
- 電動牙刷
- 玩具
- 電子遊戲機

# USB Lithium-Ion Rechargeable Battery Series

鋰離子USB充電電池

## Specifications 產品規格

| Model No 型號                      |  | D                                                                   |        |
|----------------------------------|--|---------------------------------------------------------------------|--------|
| Dimension 產品尺寸                   |  | $\Phi$ 34.2mm x 61.5mm                                              |        |
| Average Weight 平均重量              |  | 77.4g                                                               |        |
| Charge Connector 充電接口            |  | Micro USB                                                           | Type-C |
| Rated Charge Voltage 額定充電電壓      |  | DC 5V                                                               |        |
| Rated Output Voltage 額定輸出電壓      |  | 1.5V                                                                |        |
| Nominal Voltage 標稱電壓             |  | 1.5V                                                                |        |
| Rated Capacity 額定容量              |  | 3000mAh                                                             |        |
| Rated Power 額定能量                 |  | 4500mWh                                                             |        |
| Maximum Charge Current 最大充電電流    |  | 500mA                                                               |        |
| Maximum Charge Voltage 最高充電電壓    |  | 5.5V                                                                |        |
| Limited Charge Voltage 充電截止電壓    |  | 5.5V                                                                |        |
| Charge Time 充電時間                 |  | ≈2 hours                                                            |        |
| Maximum Discharge Current 最大放電電流 |  | 1.5A                                                                |        |
| Limited Discharge Voltage 放電截止電壓 |  | 0.9V                                                                |        |
| Discharge Method 放電方法            |  | Constant-resistance discharge 恒阻放電<br>2.5Ω, 24h/d, EV0.9V : ≥300min |        |



| Model No 型號                      |  | C                                                                   |        |
|----------------------------------|--|---------------------------------------------------------------------|--------|
| Dimension 產品尺寸                   |  | $\Phi$ 26.2mm x 50.0mm                                              |        |
| Average Weight 平均重量              |  | 40.3g                                                               |        |
| Charge Connector 充電接口            |  | Micro USB                                                           | Type-C |
| Rated Charge Voltage 額定充電電壓      |  | DC 5V                                                               |        |
| Rated Output Voltage 額定輸出電壓      |  | 1.5V                                                                |        |
| Nominal Voltage 標稱電壓             |  | 1.5V                                                                |        |
| Rated Capacity 額定容量              |  | 3000mAh                                                             |        |
| Rated Power 額定能量                 |  | 4500mWh                                                             |        |
| Maximum Charge Current 最大充電電流    |  | 500mA                                                               |        |
| Maximum Charge Voltage 最高充電電壓    |  | 5.5V                                                                |        |
| Limited Charge Voltage 充電截止電壓    |  | 5.5V                                                                |        |
| Charge Time 充電時間                 |  | ≈2 hours                                                            |        |
| Maximum Discharge Current 最大放電電流 |  | 1.5A                                                                |        |
| Limited Discharge Voltage 放電截止電壓 |  | 0.9V                                                                |        |
| Discharge Method 放電方法            |  | Constant-resistance discharge 恒阻放電<br>2.5Ω, 24h/d, EV0.9V : ≥300min |        |



| Model No 型號                      |  | AA                                                                                                      |         |
|----------------------------------|--|---------------------------------------------------------------------------------------------------------|---------|
| Dimension 產品尺寸                   |  | $\Phi$ 14.5mm x 50.5mm                                                                                  |         |
| Average Weight 平均重量              |  | 18.9g                                                                                                   | 18.6g   |
| Charge Connector 充電接口            |  | Micro USB                                                                                               | Type-C  |
| Rated Charge Voltage 額定充電電壓      |  | DC 5V                                                                                                   |         |
| Rated Output Voltage 額定輸出電壓      |  | 1.5V                                                                                                    |         |
| Nominal Voltage 標稱電壓             |  | 1.5V                                                                                                    |         |
| Rated Capacity 額定容量              |  | 1750mAh                                                                                                 | 1600mAh |
| Rated Power 額定能量                 |  | 2625mWh                                                                                                 | 2400mWh |
| Maximum Charge Current 最大充電電流    |  | 400mA                                                                                                   |         |
| Maximum Charge Voltage 最高充電電壓    |  | 5.5V                                                                                                    |         |
| Limited Charge Voltage 充電截止電壓    |  | 5.5V                                                                                                    |         |
| Charge Time 充電時間                 |  | ≈2 hours                                                                                                |         |
| Maximum Discharge Current 最大放電電流 |  | 1.5A                                                                                                    |         |
| Limited Discharge Voltage 放電截止電壓 |  | 0.9V                                                                                                    |         |
| Discharge Method 放電方法            |  | Constant-resistance discharge 恒阻放電<br>3.9Ω, 24h/d, EV0.9V : ≥270min    350mA · 24h/d · EV0.9V : ≥260min |         |



| Model No 型號                      |  | AAA                                                                                                |        |
|----------------------------------|--|----------------------------------------------------------------------------------------------------|--------|
| Dimension 產品尺寸                   |  | $\Phi$ 10.5mm x 44.0mm                                                                             |        |
| Average Weight 平均重量              |  | 8.2g                                                                                               | 6.85g  |
| Charge Connector 充電接口            |  | Micro USB                                                                                          | Type-C |
| Rated Charge Voltage 額定充電電壓      |  | DC 5V                                                                                              |        |
| Rated Output Voltage 額定輸出電壓      |  | 1.5V                                                                                               |        |
| Nominal Voltage 標稱電壓             |  | 1.5V                                                                                               |        |
| Rated Capacity 額定容量              |  | 550mAh                                                                                             | 400mAh |
| Rated Power 額定能量                 |  | 825mWh                                                                                             | 600mWh |
| Maximum Charge Current 最大充電電流    |  | 350mA                                                                                              |        |
| Maximum Charge Voltage 最高充電電壓    |  | 5.5V                                                                                               |        |
| Limited Charge Voltage 充電截止電壓    |  | 5.5V                                                                                               |        |
| Charge Time 充電時間                 |  | ≈2 hours                                                                                           |        |
| Maximum Discharge Current 最大放電電流 |  | 1A                                                                                                 |        |
| Limited Discharge Voltage 放電截止電壓 |  | 0.9V                                                                                               |        |
| Discharge Method 放電方法            |  | Constant-resistance discharge 恒阻放電<br>3.9Ω, 24h/d, EV0.9V : ≥85min    10Ω, 24h/d, EV0.9V : ≥150min |        |



## Specifications 產品規格

| Model No 型號                      | 9V                                                                 |        |
|----------------------------------|--------------------------------------------------------------------|--------|
| Dimension 產品尺寸                   | 17.5(L)*26.5(W)*48.5(H)mm                                          |        |
| Average Weight 平均重量              | 35g                                                                | 34.1g  |
| Charge Connector 充電接口            | Micro USB                                                          | Type-C |
| Rated Charge Voltage 額定充電電壓      | DC 5V                                                              |        |
| Rated Output Voltage 額定輸出電壓      | 9V                                                                 |        |
| Nominal Voltage 標稱電壓             | 9V                                                                 |        |
| Rated Capacity 額定容量              | 550mAh                                                             |        |
| Rated Power 額定能量                 | 4950mWh                                                            |        |
| Maximum Charge Current 最大充電電流    | 900mA                                                              | 750mA  |
| Maximum Charge Voltage 最高充電電壓    | 5.5V                                                               |        |
| Limited Charge Voltage 充電截止電壓    | 5.5V                                                               |        |
| Charge Time 充電時間                 | ≈2 hours                                                           |        |
| Maximum Discharge Current 最大放電電流 | 0.5A                                                               | 0.3A   |
| Limited Discharge Voltage 放電截止電壓 | 4.8V                                                               |        |
| Discharge Method 放電方法            | Constant-resistance discharge 恒阻放電<br>80Ω, 24h/d, EV4.8V : ≥660min |        |



| Model No 型號                      | 18650(18700)                                               |
|----------------------------------|------------------------------------------------------------|
| Dimension 產品尺寸                   | Φ18.85mm x 70.5mm                                          |
| Average Weight 平均重量              | 48g                                                        |
| Charge Connector 充電接口            | Type-C                                                     |
| Rated Charge Voltage 額定充電電壓      | DC 5V                                                      |
| Rated Output Voltage 額定輸出電壓      | 3.7V                                                       |
| Nominal Voltage 標稱電壓             | 3.7V                                                       |
| Rated Capacity 額定容量              | 2500mAh                                                    |
| Rated Power 額定能量                 | 9250mWh                                                    |
| Maximum Charge Current 最大充電電流    | 1000mA                                                     |
| Maximum Charge Voltage 最高充電電壓    | 5.5V                                                       |
| Limited Charge Voltage 充電截止電壓    | 5.5V                                                       |
| Charge Time 充電時間                 | ≈3 hours                                                   |
| Maximum Discharge Current 最大放電電流 | 3A                                                         |
| Limited Discharge Voltage 放電截止電壓 | 2.75V                                                      |
| Discharge Method 放電方法            | Constant-resistance discharge 恒阻放電<br>0.2C, 24h/d, EV2.75V |



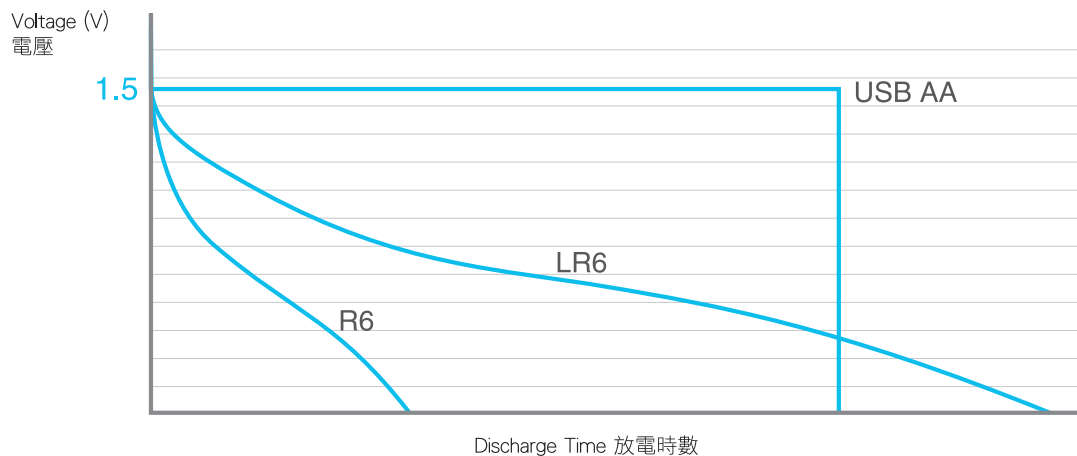
# USB Lithium-Ion Rechargeable Battery Series

鋰離子USB充電電池

## Discharge Comparison 放電比較

USB AA Battery compared with Carbon-Zinc R6 Battery and Alkaline LR6 Battery

USB AA 與碳電R6和碱電LR6比較



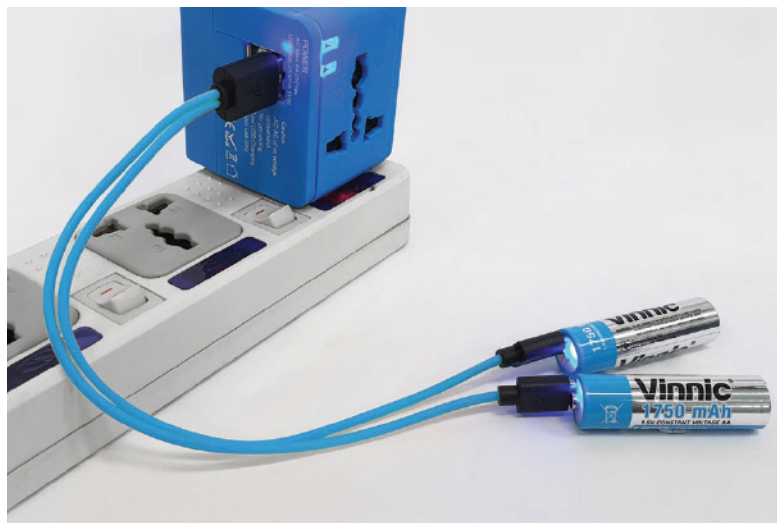
### USB AA:

Flat discharge characteristics, constant Voltage, low Self-discharge, high capacity and long service life.  
有平穩的放電特徵，恆壓放電，低自放電，超高容量，循環壽命長。

## Charging methods 充電方式

When the battery is charging, the blue indicator light is interval flashing. When the battery is fully charged, the blue indicator light turns on. When the battery is charged abnormal and the battery is short-circuit, the blue indicator light is flashing frequently.

電池充電時，藍色指示燈間隙閃爍，充滿電時藍燈長亮，充電發生異常時及電池短路時藍燈頻頻閃爍。



## Packing Information 包裝資料

| Packing<br>包裝                                                                           | Battery Size<br>電池尺寸     | D  | C  | AA  | AAA | 9V | 18650 |    |
|-----------------------------------------------------------------------------------------|--------------------------|----|----|-----|-----|----|-------|----|
| Colour box standard<br>packaging<br>彩盒標準包裝<br>Plastic Box + Charging cable<br>塑膠盒 + 充電線 | Plastic Box<br>塑膠盒 (PCS) | 2  | 2  | 2   | 2   | 1  | 1     | 2  |
|                                                                                         | Carton Box<br>外箱 (PCS)   | 32 | 48 | 112 | 112 | 68 | 28    | 56 |
| Colour box<br>Shrink Pack<br>彩盒收縮裝                                                      | Shrink Pack<br>收縮裝 (PCS) | 2  | 2  | 4   | 2   | 1  | 1     | 1  |
|                                                                                         | Inner Box<br>彩盒 (PCS)    | 8  | 12 | 20  | 30  | 6  | 6     | 9  |
|                                                                                         | Carton Box<br>外箱 (PCS)   | 32 | 60 | 120 | 300 | 60 | 60    | 54 |

### Colour box standard packaging 彩盒標準包裝



Remarks : Packaging Size: 80mmWx 58mmH x 20mmD 注 : 彩盒尺寸 : 80mmWx 58mmH x 20mmD

\* Any specific design and packaging requirements will be accommodated as required.

\*\* 本公司可提供任何可行之特別包裝。



# USB Lithium-Ion Rechargeable Battery Series

## 鋰離子USB充電電池

### Maintenance 維護與保養

When the battery is short circuit, over current, over discharge that cannot supply power, use USB charging to charge the battery to release the protection and restore battery power.

當電池發生短路，過流，過放保護而無法繼續供電時，使用USB電源為電池充電可解除保護，恢復電池供電。

The battery should be fully charged with usb before use.

電池使用前應先用USB對電池充滿電。

If the battery does not use for a long time, it should be charged every 3-6 months to extend the shelf life.

如電池長時間不使用，應3-6個月充一次電以便延長電池使用壽命。

The battery should be stored in cool & dry environment.

電池應存放在陰涼乾燥的環境中。

Before using in series or parallel, please fully charge each batteries.

請在電池串聯或並聯使用前，先對每個電池充滿電再使用。



## Caution

1. If the battery leaks and electrolyte gets in your eyes, do not rub them. Instead, rinse them with clean running water and immediately seek medical attention. If left as is, electrolyte can cause eye injury.
2. Use the battery only under the following environmental conditions. Failure to do so can result in reduced performance or a shorten service life. Recharging the battery outside of these temperatures can cause the battery to overheat, explode or catch fire.  
Operating environment:  
When charging the battery: 0°C ~ 45°C                      When stored up to 30 days: -20°C ~ 35°C  
When discharging the battery: -10°C ~ 45°C                  When stored up to 90 days: -10°C ~ 30°C
3. Please read this specification carefully before testing or using the battery to avoid the battery from failure, over-heat, electrolyte leakage, setting fire or explosion;
4. In charging or discharging, please apply professional testing equipment; no use of general constant current and constant voltage power which is not able to restrict current and voltage to avoid battery failure and dangers;
5. Please do not put the battery with false direction of "+" "-" when charging or connecting with the equipment; otherwise the product will suffer from over-charging or over-discharging, and will cause battery failure or explosion;
6. Don't weld the battery directly, no opening of the battery.
7. In order to avoid short circuit, please don't put and store the battery with metal stuff in bag or pocket, for instance, necklaces, coins, barrettes, screws, no connecting directly the "+" and "-" together with metal or other conductive materials.
8. No knocking, throwing or trampling the battery, not to mention put the battery in washing machines or high compress vessels.
9. Please keep the battery far away from heat source, such as fire, heater; do not store or use the Battery under strong sunshine or high ambient temperature above 60°C, otherwise the battery will set fire, be over heated or failure.
10. Please do not damp the battery or put it into water; please keep the battery dry and be of low temperature in storage.
11. During the period of using, testing or storage, if the battery has been found got hot, expiring abnormal odors, changed color, transformed or in other unusual states, please stop relative handling at once, isolate the battery and keep away from it.
12. If the battery leaked and the electrolyte split into your eye, don't knead you eye, flush it with clean water at once, go to see a doctor in the case of seriousness; if electrolyte spattered on your skin or clothes, please flush it with clean water.

We reserve all rights for the change of product specification and any information without any prior notice.

## 警告

1. 如果電池漏液後電解液進入眼睛，不要擦拭，應用水沖洗，立即尋求醫療救助。如不及時處理，眼睛將會受到傷害。
2. 只能在下述條件下使用電池，否則將會降低電池的性能或縮短電池的使用壽命。  
工作環境:  
充電：0°C ~ 45°C                      儲存：-20°C ~ 35°C  
放電：-10°C ~ 45°C                    儲存90天：-10°C ~ 30°C
3. 在測試或使用電池之前，請仔細閱讀本規格書，以防因操作不當引起電池功能失效、發熱、漏液、起火甚至爆炸。
4. 對電池進行充放電測試時，請使用鋰離子電池專用測試設備，嚴禁使用普通恆流恆壓源等不能精確限壓、限流設備對電池進行充放電，以避免電池被過充過放而引起電池功能失效或發生危險。
5. 對電池充放電或電池裝入設備時，注意不要將電池正負極反置，否則將會使電池發生過充或過放，導致電池嚴重失效甚至發生爆炸等危險。
6. 不要直接對電池正負極兩端進行錫焊焊接，嚴禁對電池進行分解。
7. 不要把電池同項鏈、髮夾、硬幣或螺絲等金屬品一起放在兜中或包中，也不要將電池同上述物品一起儲存，嚴禁用金屬等導電材料直接連接電池正負極而使電池發生短路；
8. 禁止敲擊、拋或踐踏電池，更不要將電池放入洗衣機或高壓容器內。
9. 請勿將電池靠近熱源，如火、加熱器等，不要在烈日下或在溫度超過60°C的條件下使用或存放電池，否則可能會引起電池發熱、起火、爆炸及功能失效等。
10. 不要將電池弄濕或將電池投入水中，暫不使用時，請放置在低溫乾燥的環境中。
11. 使用、測試或存放電池時，如發現電池有變熱、散發氣味、變色、變形或其它反常時，請立即停止使用或測試，設法隔離電池並遠離。
12. 如電池漏液並不慎將電解液濺入眼睛，不要揉擦你的眼睛，立刻用乾淨的水進行沖洗，嚴重情況下請去醫院就醫，如皮膚或衣物濺上電解液，則需馬上用清水沖洗乾淨。

本公司保留更改產品規格書和任何資料的權力，且無須預先通知。



**POWERED  
BY PROFESSIONALS**  
專業力量 專心為你

## USB Lithium-Ion Rechargeable Battery 鋰離子USB充電電池

### CHUNG PAK GROUP 松柏集團

#### HEAD OFFICE 總公司

■ **CHUNG PAK BATTERY WORKS LTD.**  
松柏電池廠有限公司

■ **VINNIC BATTERY WORKS LTD.**  
銀戰士電池廠有限公司

Tel 電話: (852) 2717 1338 Fax 傳真: (852) 2772 7727  
Email 電郵: vinnic@chungpak.com Website 網址: www.vinnic.com

香港九龍油塘灣草園街四號華順工業大廈二樓B室  
Unit B, 2/F., Wah Shun Industrial Building,  
4 Cho Yuen Street, Yau Tong Bay, Kowloon, Hong Kong

#### FACTORY 廣東廠址

■ **CHUNG PAK (GUANG DONG) BATTERY INDUSTRIAL CO., LTD.**  
松柏(廣東)電池工業有限公司

Tel 電話: (757) 2331 2338 Fax 傳真: (757) 2331 2339

廣東省佛山市順德區陳村鎮佛陳公路紺村路段 Postcode 郵編: 528 314  
Gan Cun Section, Fo Chen Road, Chen Cun County, Shun De District,  
Fo Shan City, Guangdong Province, China

#### FACTORY OUTLET 直營店

Tel 電話: (579) 8518 7925 Fax 傳真: (579) 8519 7925

浙江義烏國際商貿城二區市場G區3樓3街17871-17872店面  
NO.G3-17871-17872 Shop, Street 3, District 2,  
International Trade Market, Yiwu, China

