

**Vinnic<sup>®</sup>**  
**銀戰士電池**



**0% Lead Zinc Chloride  
Battery Series**  
**無鉛高氯化鋅電池**



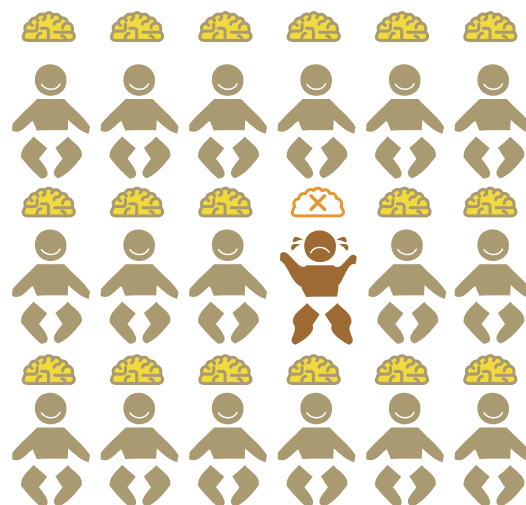
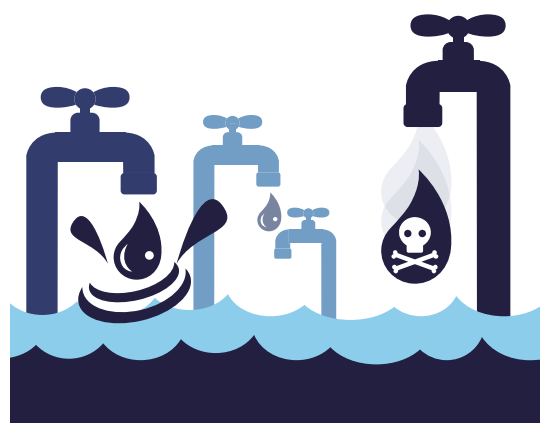
## 0% Lead Zinc Chloride Battery Series 無鉛高氯化鋅電池

- 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

**Lead-free** and environment friendly  
無鉛與環保

Since 2004, Vinnic formulated pioneering 0% Lead Zinc Chloride Battery by using first-rank material. While the safety standard for lead is 40 ppm, this content in Vinnic's Zinc Chloride Battery is much lower than the standard. This is a further milestone in the development of high performance, reliable and environment friendly batteries.

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.

2004年，銀戰士使用性能超卓的材料并研製與眾不同的配方，領先業界研製及推出無鉛高氯化鋅電池，鉛含量遠低於40ppm，這是銀戰士研發高性能，安全可靠，環保電池的新里程碑。

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



## 0% Lead Zinc Chloride Battery Series

無鉛高氯化鋅電池



## 0% Lead Zinc Chloride Battery 無鉛高氯化鋅電池

### Main Features 產品特性

#### Quality:

Environmentally friendly  
Highest leakage resistance  
Low internal resistance  
Long Service Life  
Top performance  
Complete line of D, C, AA, AAA, N and 9 Volt

#### Chemical Structure

Positive electrode – Manganese Dioxide  
Negative electrode – Zinc  
Electrolyte – Zinc Chloride

#### Application:

- Alarm clocks
- Radios
- Remote Controls
- Smoke detectors
- Toys
- Flashlights

#### 品質:

環保先鋒  
出色的防漏功能  
低自放電  
長壽耐用  
性能極佳  
型號齊全: D, C, AA, AAA, N 及 9V

#### 化學成份:

正極 - 二氧化錳  
負極 - 鋅  
電解液 - 氯化鋅

#### 用途

- 鬧鐘
- 收音機
- 遙控
- 煙霧檢測器
- 玩具
- 手電筒







# 0% Lead Zinc Chloride Battery 無鉛高氯化鋅電池



## Specifications 產品規格

Model No	型號	SUM1/EXTRA	SUM1/SUPER
IEC		R20P	
Dimension尺寸		ø 34.2 × 61.5mm	
Nominal voltage (V) 標稱電壓(V)		1.5V	
Average weight (g) 平均重量(g)		100g	98g
Typical duration (3.9Ω/24hr/day,e.v.0.9v) 放電時間 (以3.9Ω放電, 每天24小時, 終止電壓0.9V)		930min	860min
Retention in 20 °C 保存于20 °C			
After 12 months storage(經12個月儲存後)		90%	
After 24 months storage(經24個月儲存後)		85%	



SUM1/EXTRA      SUM1/SUPER

Model No	型號	SUM2/EXTRA	SUM2/SUPER
IEC		R14P	
Dimension尺寸		ø 26.2 × 50.0mm	
Nominal voltage (V) 標稱電壓(V)		1.5V	
Average weight (g) 平均重量(g)		48.8g	47.3g
Typical duration (3.9Ω/24hr/day,e.v.0.9v) 放電時間 (以3.9Ω放電, 每天24小時, 終止電壓0.9V)		340min	280min
Retention in 20 °C 保存于20 °C			
After 12 months storage(經12個月儲存後)		85%	
After 24 months storage(經24個月儲存後)		80%	



SUM2/EXTRA      SUM2/SUPER

Model No	型號	SUM3/EXTRA	SUM3/SUPER
IEC		R6P	
Dimension尺寸		ø 14.5 × 50.5mm	
Nominal voltage (V) 標稱電壓(V)		1.5V	
Average weight (g) 平均重量(g)		18g	17.5g
Typical duration (3.9Ω/24hr/day,e.v.0.9v) 放電時間 (以3.9Ω放電, 每天24小時, 終止電壓0.9V)		115min	95min
Retention in 20 °C 保存于20 °C			
After 12 months storage(經12個月儲存後)		90%	
After 24 months storage(經24個月儲存後)		85%	


SUM3/EXTRA      SUM3/SUPER

Model No	型號	SUM4/EXTRA	SUM4/SUPER
IEC		R03P	
Dimension尺寸		ø 10.5 × 44.5mm	
Nominal voltage (V) 標稱電壓(V)		1.5V	
Average weight (g) 平均重量(g)		9.5g	9.4g
Typical duration (3.9Ω/24hr/day,e.v.0.9v) 放電時間 (以3.9Ω放電, 每天24小時, 終止電壓0.9V)		38min	36min
Retention in 20 °C 保存于20 °C			
After 12 months storage(經12個月儲存後)		90%	
After 24 months storage(經24個月儲存後)		85%	



SUM4/EXTRA      SUM4/SUPER

Model No	型號	SUM5/EXTRA	
IEC		R1	
Dimension尺寸		ø 12.0 × 30.2mm	
Nominal voltage (V) 標稱電壓(V)		1.5V	
Average weight (g) 平均重量(g)		7.6g	
Typical duration (3.9Ω/24hr/day,e.v.0.9v) 放電時間 (以3.9Ω放電, 每天24小時, 終止電壓0.9V)		18min	
Retention in 20 °C 保存于20 °C			
After 12 months storage(經12個月儲存後)		90%	
After 24 months storage(經24個月儲存後)		85%	



SUM5/EXTRA

Model No	型號	SUM9V/EXTRA	SUM9V/SUPER
IEC		6F22	
Dimension尺寸		48.5X26.5X17.5 mm	
Nominal voltage (V) 標稱電壓(V)		9.0 V	
Average weight (g) 平均重量(g)		36 g	
Typical duration (180Ω/0.5hr/day,e.v.4.8v) 放電時間 (以180Ω放電, 每天0.5小時, 終止電壓4.8V)		7.7 hrs	6.0 hrs
Retention in 20 °C 保存于20 °C			
After 12 months storage(經12個月儲存後)		85%	
After 24 months storage(經24個月儲存後)		80%	

SUM9V/EXTRA      SUM9V/SUPER

## Cross Reference Guide 型號對照表

Vinnic	IEC	JIS	ANSI	Energizer	Varta	Others
SUM1	R20P	R20P	13D	1250	2020	D
SUM2	R14P	R14P	14D	1235	2014	C
SUM3	R6P	R6P	15D	1215	2006	AA
SUM4	R03P	R03	24D	1212	2003	AAA
SUM5	R1	R1	-	-	-	N
SUM9V	6F22	6F22	1604D	1222	2022	9V

Remarks 備註：

IEC: International Electrotechnical Commission

JIS: Japanese Industrial Standard

ANSI: American National Standard Institute



0% Lead extra heavy duty

無鉛超高氯化鋅電池



0% Lead super-extra heavy duty

無鉛氯化鋅電池



# 0% Lead Zinc Chloride Battery 無鉛高氯化鋅電池





## Packing Information 包裝資料

Packing 包裝	Battery Size 電池尺寸	SUM1	SUM2	SUM3	SUM4	SUM5	SUM9V
Colour box pack standard packing (pcs) 彩盒裝標準包裝 (pcs)	Shrink Pack 收縮裝	2	2	4	2	2	1
	Colour Box 彩盒	12	24	40	60	24	10
	Carton Box 外箱	144	288	800	1440	2400	480
Card pack standard packaging (pcs) 咭裝標準包裝 (pcs)	Card Pack 咭裝	2	2	2/4	2/4	1/2	1
	Inner Box 啤盒	16	16	24/48	24/48	12/24	12
	Carton Box 外箱	96	96	144/288	144/288	144/288	144
Tray carton standard packaging (pcs) 天地盒裝包裝 (pcs)	Shrink Pack 收縮裝	2	2	4	4	/	/
	Tray Carton 天地盒	100	240	640	1056	/	/

### Colour box pack standard packaging 彩盒裝標準包裝



### Blister card standard packaging 咭裝標準包裝



### Tray carton standard packaging 天地盒裝包裝



Remarks : Card Size : 120 x 84 mm 注：咭紙尺寸：120 x 84 mm

\* 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。



# 0% Lead Zinc Chloride Battery 無鉛高氯化鋅電池



## Notes 用戶須知

When using Vinnic batteries, all users must follow the company Battery Specification Guide Book and MSDS guide according to the specific type and model of the battery.

用戶必須按照本公司每款電池之電池規格說明書及MSDS使用電池。

For more battery safety instructions, please refer to the following documents, which can be accessed via Vinnic's sales office, or from our website at [www.vinnic.com](http://www.vinnic.com).

如欲瞭解更多電池安全指引，請向本公司營業員或網址[www.vinnic.com](http://www.vinnic.com)索取以下資料

- 1) Battery Specification Guide Book 電池規格說明書
- 2) Material Safety Data Sheet (MSDS) 物料安全技術說明書
- 3) IEC Non-Rechargeable Batteries Safety Precautions IEC 一次電池安全指引
- 4) Battery Care 電池使用安全指引

Warning	Danger
1. Don't throw the batteries into fire or heat the batteries	This may cause the batteries to disrupt or ignite
2. Don't directly solder the batteries	This may damage their insulating tapes and protective installation, even may cause leakage, explosion and fire
3. Don't insert and use batteries with the $\oplus$ & $\ominus$ electrode inverse	This can damage the batteries for being force charged, even may cause leakage, heat generation, disrupt, explosion or ignition
4. Don't short-circuit the positive and negative terminals of a battery	This may cause heat generation, leakage, explosion, fire and personal injury
5. Don't expose the batteries to water	This can cause heat generation or rust
6. Don't charge and force discharge batteries	This may cause leakage, heat generation, even explosion and ignition
7. Don't disassemble or damage the external tubes of the batteries or modify the batteries(stack-up batteries) etc.	This easily results in short-circuit, leakage, even ignition
8. Store unused batteries in their original packaging away from metal objects.	This can cause battery short-circuiting which may result in venting, leakage, and explosion and personal injury.
9. Don't crush, puncture, or otherwise mutilate to deform batteries	This may cause venting, leakage, explosion and personal injury
10. Immediately stop using the batteries if leakage, discolor or etc. with them are detected	This may cause accidents to occur
11. Don't drop or strongly strike the batteries	This may result in leakage, heat generation, disrupt, even ignition
12. To avoid using at high temperature and high humidity ambient	This may cause batteries early damage
13. a. Be sure to use the batteries within a temperature range from 0°C to 40°C b. Be sure to storage the batteries within a temperature range at 20±5°C	a. Use the batteries beyond the temperature range may cause leakage, heat generation, impaired performance, and shortening of service life of the batteries b. Storage the batteries beyond the temperature range may cause heat generation, impaired performance, and shortening of service life of the batteries
14. Don't use old batteries with new ones	Some batteries may be over-discharged. This can result in venting, leakage, explosion and personal injury
15. Don't use our batteries with any other type or brand of batteries	Mixed-matching of batteries may result in heat generation, leakage, explosion, fire
16. Remove batteries from equipment if it is not to be used for an extended period of time	When batteries beyond expiry period, electrolyte leakage may occur causing damage to the equipment
17. Exhausted batteries should be immediately removed from equipment	When discharged batteries are kept in the equipment for a long time, electrolyte leakage may occur causing damage to the appliance and/or personal injury
18. Keep the batteries out of the reach of children	To avoid being swallowed. If swallowed, Please see doctor immediately
19. Don't allow children to replace batteries without adult supervision	This may cause wrong operation, even may occur accident
20. Please use batteries within expiry period	To avoid using invalid batteries which beyond expiry period
21. Don't take batteries by hand directly. Please wear finger cots	This may cause rust
22. Don't take batteries with iron tweezer. Please use plastic tweezer.	This can cause battery short-circuiting which may result in heat generation, leakage, and explosion

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

# Safety Instructions 安全指導

警告	危害
1. 請勿將電池投入火中或加熱	以免電池發生破裂起火等
2. 請勿直接焊接電池	以免損壞絕緣圈及保護裝置，引致漏液、爆炸、著火
3. 將電池放入電子產品及使用過程中，請勿將 $\oplus$ 、 $\ominus$ 極反接	以免電池被迫充電而破壞電池，甚至會引起電池漏液、發熱、破裂、爆炸或起火
4. 請勿將電池正、負極短路	以免造成電池發熱、漏液或爆炸、著火及人身傷害
5. 請勿將電池浸入水中	以免電池發熱或生鏽
6. 請勿對電池進行充電及強制放電	以免引起電池漏液、發熱、甚至爆炸及起火
7. 請勿拆開或弄破電池的外包裝，改裝電池(電池組)等	以免容易發生短路，產生漏液甚至起火
8. 請將不用的電池放在原包裝內，遠離易引起短路的金屬物體	以免造成電池短路，產生泄放、泄漏、爆炸和人身傷害
9. 請勿對電池擠壓，打孔或其他形式的破壞	以免造成電池泄放、泄漏、爆炸及人身傷害
10. 若電池有漏液、變色等異常現象，請停止使用	以免發生意外
11. 請勿拋擲或強烈衝擊電池	以免引發電池漏液、發熱、破裂、甚至起火
12. 盡量避免電池在高溫，高濕下使用	以免電池過早損壞
13. a. 請在0~40°C的溫度範圍內使用 b. 請在20±5°C的溫度範圍內貯存	a. 不在此範圍內，可能會使電池漏液或發熱，影響電池性能，縮短電池壽命 b. 不在此範圍內，可能會影響電池性能，縮短電池壽命
14. 請勿將新、舊電池混用	以免造成電池過度放電而產生泄放、泄漏和爆炸，及造成人身傷害
15. 請勿與不同類型或牌號的電池混用	以免造成電池發熱、漏液、爆炸、著火
16. 若電子產品長期不用，應將電池從電子產品中取出	以免電池超過貯存期可能發生漏液損壞電子產品
17. 電池耗盡應立即從電子產品中取出	若已放電的電池長時間留在電子產品中，可能發生漏液，造成電子產品損壞及人身傷害
18. 請勿將電池置於嬰幼兒手可觸及的地方	以免誤吞食；萬一吞食，請立即就醫
19. 請勿讓兒童獨立更換電池	以免操作錯誤或發生意外
20. 請在電池規定的貯存期內使用	以免使用過期失效產品
21. 請勿用手直接接觸電池，請戴手指套取電	以免造成電池生鏽
22. 請勿使用鐵鉗取電，請使用膠鉗取電	以免造成電池短路、發熱、漏液或爆炸

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

## 0% Lead Zinc Chloride Battery Series 無鉛高氯化鋅電池

### CHUNG PAK GROUP 松栢集團

#### HEAD OFFICE 總公司

**CHUNG PAK BATTERY WORKS LTD.**  
松栢電池廠有限公司

**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

#### SALES OFFICE 上海辦事處

Tel 電話: (021) 6489 5399 Fax 傳真: (021) 6489 2566

上海市闵行区涇陽路6088號凱德龍之夢商務大廈11層1182室  
Room 1182, 11/F, Capitaland business building, 6088 Humin Road,  
Minhang District, Shanghai, China

#### 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

中國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

#### RETAIL STORE 零售店

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

浙江義烏國際商貿城二期市場G區3樓6街17925店面  
No.17925, 6 Street 3/F, G District 2 Phase International Trade City Yiwu,  
ZheJiang Province

