

Test Report No. HKTEC2200569701 Date: 11 Feb 2022 Page 1 of 6

DONGGUAN YONGLUN ELECTRONICS CO., LTD.

NO.11 CHUANGYE ER. ROAD, HELU VILLAGE, HUANGJIANG TOWN, DONGGUAN CITY, GUANGDONG PROVINCE CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as: ALKALINE BATTERY (12V) MANGANESE

SGS Job No.: 4981226 - HK

Item No Given by Client: 23A & 27A (CHENER & NEUTRAL)

Supplier: DONGGUAN YONGLUN ELECTRONICS CO., LTD

Manufacturer: DONGGUAN YONGLUN ELECTRONICS CO., LTD

Country of Origin: CHINA

Date of Sample Received: 28 Jan 2022

Testing Period: 28 Jan 2022 - 11 Feb 2022

Test Requested: Selected test(s) as requested by client.

Test Method: Please refer to next page(s).

Test Results: Please refer to next page(s).

Conclusion: The submitted battery sample does not exceed the limit mentioned in Directive

2006/66/EC and its Article 4 amendment of Directive 2013/56/EU.

The submitted battery sample complies with the Mercury content requirements of the US Mercury - Containing Battery Management Act Public Law No 104-142

(1996).

Signed for and on behalf of SGS Hong Kong Limited.

Lam Ka Yung, Allen Chemist

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Test Results:

Test Part Description:

Specimen	SGS Sample ID	Description
No.		
1	HKT22-005697.001	Battery

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

<u>Directive 2006/66/EC and its Article 4 amendment of Directive 2013/56/EU– Heavy Metals</u> Content in Batteries and Accumulators

Test Method: Acid digestion method-CTS-EC-109-1. Analysis was performed by ICP-OES/ICP-MS/AAS. (Decision Rule: please refer to appendix 1: Category 1)

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Lead (Pb)	-	%	0.0010	0.0018
Cadmium (Cd)	0.0020	%	0.0010	ND
Mercury (Hg)	0.0005	%	0.0001	ND
Conclusion				PASS

Notes:

- (1) Results shown are of total weight of the battery sample.
- (2) According to the directive 2006/66/EC and its Article 4 amendment of Directive 2013/56/EU, all types of battery shall include the chemical symbol Lead when containing more than 0.004% of Pb.
- (3) The submitted sample consists of 8 pieces of button cells.

US Public law104-142

Test Method : Acid digestion method-CTS-EC-109-1. Analysis was performed by ICP-MS/AAS. (Decision Rule: please refer to appendix 1: Category 1)

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Mercury (Hg)	25	mg/cell	0.1	ND
Conclusion				PASS

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Notes:

1. According to US Mercury-containing Battery Management Act, Public Law No.104-142(1996) SEC 203 the limitation on mercury content in alkaline-manganese button cell shall be 25 milligrams per button cell

- 2. MDL(Method Detection Limit) = 0.1mg/kg
- 3. Results shown are of total weight of the battery sample

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Appendix 1

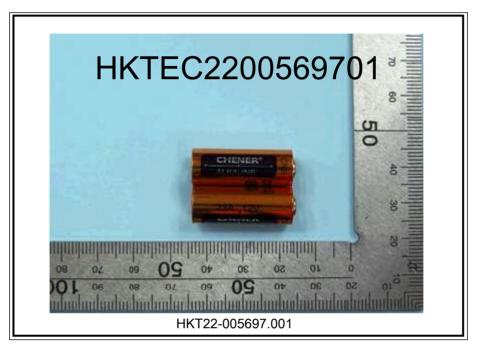
Category	Decision Rule Statement
1	The decision rule for conformity reporting is based on the non-binary statement with guard band (is equal to the expanded measurement uncertainty with a 95% coverage probability, w = U95) in ILAC-G8:09/2019 Clause 4.2.3. A. "Pass - the measured value is within (or below / above) the acceptance limit, where the acceptance limit is below / above to the guard band." or "Pass - The measured values were observed in tolerance at the points tested. The specific false accept risk is up to 2.5%.". B. "Conditional Pass - The measured values were observed in tolerance at the points tested. However, a portion of the expanded measurement uncertainty intervals about one or more measured values exceeded / out of tolerance. When the measured result is close to the tolerance, the specific false accept risk is up to 50%.". C. "Conditional Fail - One or more measured values were observed out of tolerance at the points tested. However, a portion of the expanded measurement uncertainty intervals about one or more measured values were in tolerance. When the measured result is close to the tolerance, the specific false reject risk is up to 50%.". D. "Fail - the measured value is out of (or below / above) the tolerance limit added / subtracted to the guard band." or "Fail - One or more measured values were observed out of tolerance at the points tested". The specific false reject risk is up to 2.5%.
2	The decision rule for conformity reporting is based on BS EN 1811:2011+A1:2015: Reference test method for release of nickel from all post assemblies which are inserted into pierced parts of the human body and articles intended to come into direct and prolonged contact with the skin in Section 9.2 interpretation of results.
3	The decision rule for conformity reporting is based on the general consideration of simple acceptance as stated in ISO/IEC Guide 98-3: "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM 1995)", and more specifically for analytical measurements to the EURACHEM/CITAC Guide 2012 "Quantifying Uncertainty in Analytical Measurement".
4	The decision rule for conformity reporting is according to the IEC 62321-7-1 Edition 1.0 2015-09 Section 7: Table 1-(comparison to standard and interpretation of result)
5	The decision rule for conformity reporting is according to the IEC 62321-3-1 Edition 1.0 2013-06 Annex A.3 interpretation of result.
6	The decision rule for conformity reporting is according to the GB/T 26125-2011 Annex A to H
7	The decision rule for conformity reporting is according to the requested specification or standard (ASTM F963-17 section 4.3.5)
8	The decision rule for conformity reporting is according to the requested specification or standard (AS/NZS ISO 8124 Part 3 section 4.2)
Remark	If the decision rule is not feasible to be used and the uncertainty of the result is able to be provided, the uncertainty range of the result will be shown in the report. Otherwise, only result will be shown in the report.

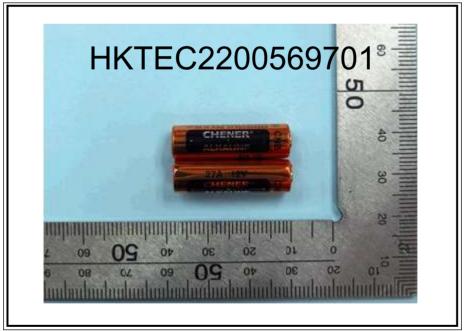
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Sample photo:

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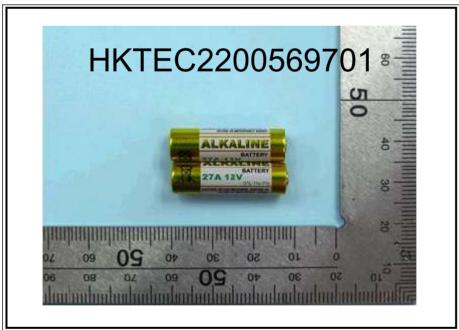


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SGS authenticate the photo on original report only

*** End of Report ***

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Certification for Safe Transport of Chemical Goods

非限制性货物

样品名称: 碱性锌锰电池 23A

Sample Name: ALKALINE BATTERY 23A

委托单位: 东莞市驰彪电子有限公司

东莞市驰彪电子有限公司

生产单位:



SICIT上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd





声 明

Statement

1. 鉴定书无上海化工院检测有限公司检验检测专用章、二维码无效。

The certification is invalid if it is not affixed the dedicated inspection and testing seal of Shanghai Institute of Chemical Industry Testing Co., Ltd.and QR Code on it.

2. 鉴定书复印件无效。

Copies of the certification are invalid.

3. 鉴定书无主检、审核、批准签字无效。

The certification is invalid without the signatures of appraiser, checker and approver.

4. 鉴定书涂改无效。

The certification is invalid if it is forged or altered.

5. 委托单位必须保证送至本公司的样品及资料与真实的出运货物相一致,如有不符,所涉及的法律责任及其他后果均由委托单位自行承担。

The client must guarantee that samples and documents provided for appraisal are consistent with the goods to be transported. Otherwise, the client shall bear all legal responsibilities and other consequences due to it.

6. 本鉴定书的鉴定结论仅适用于最终收到的样品。

The conclusion of this certification only applies to the final sample as received.

7. 本鉴定书当年有效,铁路运输方式除外。特殊情况参见鉴定书备注。

The certification is valid in the year subscribed on it except when transported by rail. Please refer to the comment of certification on special occasion.

8. 本鉴定书不考虑国家及经营人差异。

The certification takes no account of the State and Operator Variations.

9. 货物的运输方式应与鉴定结论中的运输方式相一致。不同的运输方式,鉴定结果可能会有差异。

The transportation mode of the goods shall be consistent with that in the appraisal conclusion. Different transportation modes may lead to different appraisal results.

10. 鉴定书真伪性可登入本公司网站 www.ghs.cn 或扫描鉴定书中二维码进行查询。

The authenticity of the certification can be verified by our website(www.ghs.cn)or the QR code in the certification.

11. 送检申请可登入本公司网站 www.ghs.cn 进行网上委托。

The application of the certification can be done via our website: www.ghs.cn.

地址:上海市光复西路2779号接待大厅

Address: Reception Hall, Shanghai Institute of Chemical Industry Co., Ltd, No.2779 West Guangfu Road, Shanghai, China.

邮编(Post code): 200062

电话(Tel):(008621)31765555

邮箱(Email): center@ghs.cn

网址(Website): www.ghs.cn

Certification for Safe Transport of Chemical Goods

NO. 202300064224643

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样品名称	中文 Chinese	碱性锌锰电池 23A
Sample Name	英文 English	ALKALINE BATTERY 23A
委托单 Consign		东莞市驰彪电子有限公司 /
生产单 Manufac		东莞市驰彪电子有限公司 /
检验方法、 Inspection Me Procedu	thods and	国际海事组织《国际海运危险货物规则》(2020版) IMO International Maritime Dangerous Goods Code (2020 Edition)
样品外观』 Appearance	450 [집중] 사람이	金黄色,白色双色不锈钢及贵金属外壳,无臭golden and whitesteel and precious material shell,odorless
I D E N T	1. 危险性 说 无。 None.	只别(Hazards identification)
I 鉴		RIMO IMDG Code办理的类项(Suggestion according to IMO IMDG Code) 是制性货物条件办理。
C A T 定		stance is not subject to IMO IMDG Code.
ON 结	3. 包装类别	別(Packing Group)
N C L 论 U S I	无。 None.	海州有限
- O N	检验日期: Inspection [* * * * * * * * * * * * * * * * * * *
田江	None.	W W W W W W W W W W W W W W W W W W W
Comment		

批准

Appraiser:

Approver:

Checker:



Certification for Safe Transport of Chemical Goods

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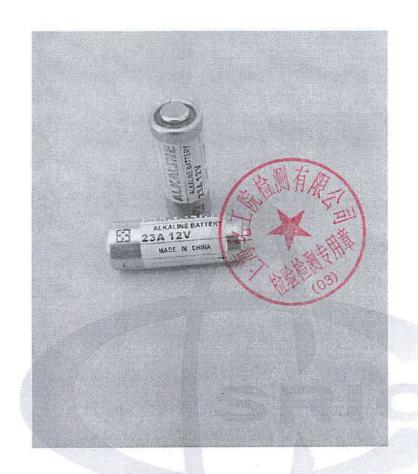
鉴定项目 Identification Items	鉴 定 结 果 Identification Results
爆炸危险性鉴定 Identification of Explosive Hazards	该货物不属于爆炸品。 The product is not classified in Explosives.
易燃危险性鉴定 Identification of Flammable Hazards	该货物不属于易燃危险品。 The product is not classified in Flammable Substances.
氧化危险性鉴定 Identification of Oxidative Hazards	该货物不属于氧化剂和有机过氧化物。 The product is not classified in Oxidizing Substances and Organic Peroxides.
毒害及传染危险性鉴定 Identification of Toxic & Infectious Hazards	该货物不属于毒害品和感染性物质。 The product is not classified in Toxic and Infectious Substances.
放射危险性鉴定 Identification of Radioactive Hazard	该货物无放射危险性。 The product is not classified in Radioactive Material.
腐蚀危险性鉴定 Identification of Corrosive Hazard	该货物不属于腐蚀品。 The product is not classified in Corrosives.
其他危险性鉴定 Identification of other Hazards	电池必须具有适当的防短路措施,若是以电池为动力的装置、设备或车辆还须采取有效的防止意外启动措施。 The battery must be protected appropriately to prevent a short circuits and any battery powered device, equipment or vehicle must be effectively prepared to prevent unintentional activation.
	-验证码:111181-



Certification for Safe Transport of Chemical Goods

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报告结束







Certification for Safe Transport of Chemical Goods

非限制性货物

样品名称: 碱性锌锰电池 27A

Sample Name: ALKALINE BATTERY 27A

委托单位: 东莞市驰彪电子有限公司

生产单位: 东莞市驰彪电子有限公司

SICIT上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd





声明

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Copies of the certification are invalid.

3. 鉴定书无主检、审核、批准签字无效。

The certification is invalid without the signatures of appraiser, checker and approver.

4. 鉴定书涂改无效。

The certification is invalid if it is forged or altered.

5. 委托单位必须保证送至本公司的样品及资料与真实的出运货物相一致,如有不符,所涉及的法律责任及其他后果均由委托单位自行承担。

The client must guarantee that samples and documents provided for appraisal are consistent with the goods to be transported. Otherwise, the client shall bear all legal responsibilities and other consequences due to it.

6. 本鉴定书的鉴定结论仅适用于最终收到的样品。

The conclusion of this certification only applies to the final sample as received.

7. 本鉴定书当年有效,铁路运输方式除外。特殊情况参见鉴定书备注。

The certification is valid in the year subscribed on it except when transported by rail. Please refer to the comment of certification on special occasion.

8. 本鉴定书不考虑国家及经营人差异。

The certification takes no account of the State and Operator Variations.

9. 货物的运输方式应与鉴定结论中的运输方式相一致。不同的运输方式,鉴定结果可能会有差异。

The transportation mode of the goods shall be consistent with that in the appraisal conclusion. Different transportation modes may lead to different appraisal results.

10. 鉴定书真伪性可登入本公司网站 www.ghs.cn 或扫描鉴定书中二维码进行查询。

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Address: Reception Hall, Shanghai Institute of Chemical Industry Co., Ltd, No.2779 West Guangfu Road, Shanghai, China.

邮编(Post code): 200062 电话(Tel):(008621)31765555 邮箱(Email): center@ghs.cn 网址(Website): www.ghs.cn

Certification for Safe Transport of Chemical Goods

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样品名称	中文 Chinese	碱性锌锰电池 27A
Sample Name	英文 English	ALKALINE BATTERY 27A
委托单 Consig	70	东莞市驰彪电子有限公司 /
生产单 Manufac		东莞市驰彪电子有限公司
检验方法、 Inspection Me Procedu	thods and	国际海事组织《国际海运危险货物规则》(2020版) IMO International Maritime Dangerous Goods Code (2020 Edition)
样品外观- Appearance		金黄色,白色双色不锈钢及贵金属外壳,无臭golden and whitesteel and precious material shell,odorless
I D E N T	1. 危险性记 无。 None.	只别(Hazards identification)
E E E		RIMO IMDG Code办理的类项(Suggestion according to IMO IMDG Code)
C A T 定 I		B制性货物条件办理。 Stance is not subject to IMO IMDG Code.
N 结 C O		引(Packing Group)
N C L 论 U S	无。 None.	影松测有强
O N	检验日期: Inspection [
备注 Comment	Ē。None.	M. 21 (03)

批准 Approver: 主星

审核 走完 Checker:

主检 Appraiser: 品情



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Certification for Safe Transport of Chemical Goods

NO. 202300164825101

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鉴定项目 Identification Items	鉴定结果 Identification Results	
爆炸危险性鉴定 Identification of Explosive Hazards	该货物不属于爆炸品。 The product is not classified in Explosives.	
易燃危险性鉴定 Identification of Flammable Hazards	该货物不属于易燃危险品。 The product is not classified in Flammable Substances.	
氧化危险性鉴定 Identification of Oxidative Hazards	该货物不属于氧化剂和有机过氧化物。 The product is not classified in Oxidizing Substances and Organic Peroxides.	
毒害及传染危险性鉴定 Identification of Toxic & Infectious Hazards	该货物不属于毒害品和感染性物质。 The product is not classified in Toxic and Infectious Substances.	
放射危险性鉴定 Identification of Radioactive Hazard	该货物无放射危险性。 The product is not classified in Radioactive Material.	
腐蚀危险性鉴定 Identification of Corrosive Hazard	该货物不属于腐蚀品。 The product is not classified in Corrosives.	
其他危险性鉴定 Identification of other Hazards	电池必须具有适当的防短路措施,若是以电池为动力的装置、设备或车辆还须采取有效的防止意外启动措施。 The battery must be protected appropriately to prevent a short circuits and any battery powered device, equipment or vehicle must be effectively prepared to prevent unintentional activation.	
	-验证码:532870-	





Certification for Safe Transport of Chemical Goods

NO. 202300164825101

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报告结束







中国认可 於 检验 货物运输条件鉴定书

Certification for Safe Transport of Chemical Goods

非限制性货物

样品名称: 碱性锌锰电池 23A

Sample Name: ALKALINE BATTERY 23A

委托单位: 东莞市驰彪电子有限公司

生产单位: 东莞市驰彪电子有限公司

SICIT上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd





声明

Statement

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2. 鉴定书复印件无效。

Copies of the certification are invalid.

3. 鉴定书无主检、审核、批准签字无效。

The certification is invalid without the signatures of appraiser, checker and approver.

4. 鉴定书涂改无效。

The certification is invalid if it is forged or altered.

5. 委托单位必须保证送至本公司的样品及资料与真实的出运货物相一致,如有不符,所涉及的法律责任及其他后果均由委托单位自行承担。

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7. 本鉴定书当年有效,铁路运输方式除外。特殊情况参见鉴定书备注。

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The certification takes no account of the State and Operator Variations.

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The authenticity of the certification can be verified by our website(www.ghs.cn)or the QR code in the certification.

11. 送检申请可登入本公司网站 www.ghs.cn 进行网上委托。

The application of the certification can be done via our website: www.ghs.cn.

地址:上海市光复西路2779号接待大厅

Address: Reception Hall, Shanghai Institute of Chemical Industry Co., Ltd, No.2779 West Guangfu Road, Shanghai, China.

邮编(Post code): 200062

电话(Tel):(008621)31765555 邮箱(Email): center@ghs.cn 网址(Website): www.ghs.cn

Certification for Safe Transport of Chemical Goods

NO. 202300764124642

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样品名称	中文 Chinese	碱性锌锰电池 23A
Sample Nan	英文 English	ALKALINE BATTERY 23A
委托 Consi		东莞市驰彪电子有限公司 /
生产。 Manufa		东莞市驰彪电子有限公司 /
检验方法 Inspection M Proce	lethods and	国际航空运输协会《危险品规则》64版 IATA Dangerous Goods Regulations (DGR) 64th Edition
样品外观 Appearance		金黄色,白色双色不锈钢及贵金属外壳,无臭 golden and whitesteel and precious material shell,odorless
- D E N T - F - C A T -	无。 None. 2. 空运按照根据特别	识别(Hazards identification) 照IATA DGR办理的类项(Suggestion according to IATA DGR) 株规定A123,可按非限制性货物条件办理。 stance is not subject to IATA DGR according to special provision A123.
·OZ COZCLUS-OZ	3. 包装类别 无。 None. 检验日期: Inspection	2U25-U2-10
备注 Comment	无。None.	位至(03)

批准 Approver: 屯星

董学性

主检 Appraiser: 存新的



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Certification for Safe Transport of Chemical Goods

NO. 202300764124642

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鉴定项目 Identification Items	鉴定结果 Identification Results
爆炸危险性鉴定 Identification of Explosive Hazards	该货物不属于爆炸品。 The product is not classified in Explosives.
易燃危险性鉴定 Identification of Flammable Hazards	该货物不属于易燃危险品。 The product is not classified in Flammable Substances.
氧化危险性鉴定 Identification of Oxidative Hazards	该货物不属于氧化剂和有机过氧化物。 The product is not classified in Oxidizing Substances and Organic Peroxides.
毒害及传染危险性鉴定 Identification of Toxic & Infectious Hazards	该货物不属于毒害品和感染性物质。 The product is not classified in Toxic and Infectious Substances.
放射危险性鉴定 Identification of Radioactive Hazard	该货物无放射危险性。 The product is not classified in Radioactive Material.
腐蚀危险性鉴定 Identification of Corrosive Hazard	该货物不属于腐蚀品。 The product is not classified in Corrosives.
其他危险性鉴定 Identification of other Hazards	电池必须具有适当的防短路措施,若是以电池为动力的装置、设备或车辆还须采取有效的防止意外启动措施。 The battery must be protected appropriately to prevent a short circuits and any battery powered device, equipment or vehicle must be effectively prepared to prevent unintentional activation.
	验证码:632264-



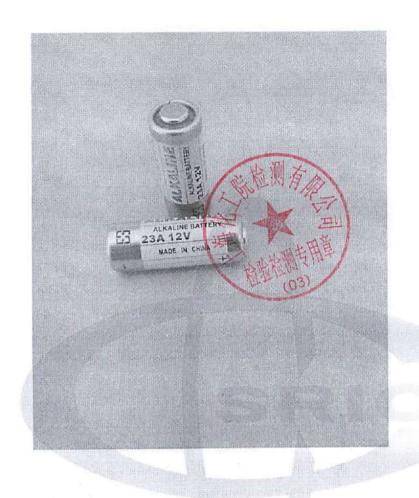




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报告结束







Certification for Safe Transport of Chemical Goods

非限制性货物

样品名称: 碱性锌锰电池 27A

Sample Name: ALKALINE BATTERY 27A

委托单位:

生产单位:



SICIT上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd





声明

Statement

- 1. 鉴定书无上海化工院检测有限公司检验检测专用章、二维码无效。 The certification is invalid if it is not affixed the dedicated inspection and testing seal of Shanghai Institute of Chemical Industry Testing Co., Ltd.and QR Code on it.
- 2. 鉴定书复印件无效。

Copies of the certification are invalid.

3. 鉴定书无主检、审核、批准签字无效。

The certification is invalid without the signatures of appraiser, checker and approver.

4. 鉴定书涂改无效。

The certification is invalid if it is forged or altered.

5. 委托单位必须保证送至本公司的样品及资料与真实的出运货物相一致,如有不符,所涉及的法律责任及其他后果均由委托单位自行承担。

The client must guarantee that samples and documents provided for appraisal are consistent with the goods to be transported. Otherwise, the client shall bear all legal responsibilities and other consequences due to it.

6. 本鉴定书的鉴定结论仅适用于最终收到的样品。

The conclusion of this certification only applies to the final sample as received.

7. 本鉴定书当年有效,铁路运输方式除外。特殊情况参见鉴定书备注。

The certification is valid in the year subscribed on it except when transported by rail. Please refer to the comment of certification on special occasion.

8. 本鉴定书不考虑国家及经营人差异。

The certification takes no account of the State and Operator Variations.

9. 货物的运输方式应与鉴定结论中的运输方式相一致。不同的运输方式,鉴定结果可能会有差异。

The transportation mode of the goods shall be consistent with that in the appraisal conclusion. Different transportation modes may lead to different appraisal results.

10. 鉴定书真伪性可登入本公司网站 www.ghs.cn 或扫描鉴定书中二维码进行查询。

The authenticity of the certification can be verified by our website(www.ghs.cn)or the QR code in the certification.

11. 送检申请可登入本公司网站 www.ghs.cn 进行网上委托。

The application of the certification can be done via our website: www.ghs.cn.

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网址(Website): www.ghs.cn

Certification for Safe Transport of Chemical Goods

NO. 202300764325800

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		rage 1/3
样品名称	中文 Chinese	碱性锌锰电池 27A
Sample Name	英文 English	ALKALINE BATTERY 27A
委托单 Consign		东莞市驰彪电子有限公司 /
生产单 Manufac		东莞市驰彪电子有限公司 /
检验方法、 Inspection Me Procedu	thods and	国际航空运输协会《危险品规则》64版 IATA Dangerous Goods Regulations (DGR) 64th Edition
样品外观- Appearance		金黄色, 白色双色不锈钢及贵金属外壳, 无臭golden and whitesteel and precious material shell, odorless
I D E N	1. 危险性记 无。 None.	只别(Hazards identification)
· · · · · · · · · · · · · · · · · · ·	根据特别	MIATA DGR办理的类项(Suggestion according to IATA DGR) 未规定A123,可按非限制性货物条件办理。
A T 定 I O N	The sub:	stance is not subject to IATA DGR according to special provision A123.
生 C O		引(Packing Group)
N C L 论 U S	无。 None.	高规则有强
O N	检验日期: Inspection	2023 02 10
备注 ³ Comment	E. None.	William Co.3

批准

审核

主检

品价

Approver:

Checker:

Appraiser:



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鉴定项目 Identification Items	鉴定结果 Identification Results	
爆炸危险性鉴定 Identification of Explosive Hazards	该货物不属于爆炸品。 The product is not classified in Explosives.	
易燃危险性鉴定 Identification of Flammable Hazards	该货物不属于易燃危险品。 The product is not classified in Flammable Substances.	
氧化危险性鉴定 Identification of Oxidative Hazards	该货物不属于氧化剂和有机过氧化物。 The product is not classified in Oxidizing Substances and Organic Peroxides.	
毒害及传染危险性鉴定 Identification of Toxic & Infectious Hazards	该货物不属于毒害品和感染性物质。 The product is not classified in Toxic and Infectious Substances.	
放射危险性鉴定 Identification of Radioactive Hazard	该货物无放射危险性。 The product is not classified in Radioactive Material.	
腐蚀危险性鉴定 Identification of Corrosive Hazard	该货物不属于腐蚀品。 The product is not classified in Corrosives.	
其他危险性鉴定 Identification of other Hazards	电池必须具有适当的防短路措施,若是以电池为动力的装置、设备或车辆还须采取有效的防止意外启动措施。 The battery must be protected appropriately to prevent a short circuits and any battery powered device, equipment or vehicle must be effectively prepared to prevent unintentional activation.	
	-验证码:537118-	





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报告结束



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Material Safety Data Sheet (MSDS)

Samples Name: Alkaline zinc-manganese battery 23A/Alkaline zinc-manganese battery 27A

Client Name: DONGGUAN CHIBIAO ELECTRONICS CO. LTD

Fair Lu Sunshine

Client Address: BUILDING 1, COMPREHENSIVE DEVELOPMENT ZONE, HENGLI TOWN, DONGGUAN CITY

Eurones (Dongguan) Consumer Products Testing Service Co., Ltd

WRITTEN BY:

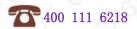
REVIEWED BY:

APPROVED BY:

Lu Jian Fei. Fair Report writer

Liu Xiao Fang, Sunshine Report Reviewer

Pan Jian Ding, Will **Technical Supervisor**





No. C230207069001-1A

Date: Feb 10, 2023 Page 2 of 8

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Samples Name: Alkaline zinc-manganese battery 23A/Alkaline zinc-manganese battery 27A

Client Name: DONGGUAN CHIBIAO ELECTRONICS CO. LTD

Client Address: BUILDING 1, COMPREHENSIVE DEVELOPMENT ZONE, HENGLI TOWN, DONGGUAN CITY

Export to: European Union United States

Contact Person: ZHONGTAO E-MAIL: 270127434@qq.com

Tel: 13686632344

Section 2 - Hazards Identification

Hazards Description: Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.

Invasion route:

Skin contact: Skin contact with contents of an open battery can cause severe irritation or burns to the skin.

Eye contact: Eye contact with contents of an open battery can cause severe irritation or burns to the eyes.

Inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation.

Ingestion: The battery ingredients contained within or their ingredients products can cause serious

chemical burns of mouth, esophagus, and gastrointestinal tract...

Health hazards: The battery pack is stored in a sealed tank. When the battery or the occurrence of mechanical collisions are likely to lead to the leakage of chemical substances in the battery. Skin and eyes should avoid contact with electrolyte or extruded battery.

Environment hazards: Ingredients contained or their ingredients products could be harmful to environment. **Burn & burst danger:** Don't throw the battery away from the fire - it will cause an explosion. Do not cause the battery to short - can cause burning.



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Section 3 - Composition/Information on Ingredient

Substance ☐ Admixture ☑

Chemical composition:

Name of constituent material	About percentage of the total weight	Name of constituent substance	CAS No.	Percentage of material
Shell	17.50%	Tinplate	V -X	100%
Operculum	37.50%	Sheet Iron	(A)	100%
Diaphragm	0.40%	Polypropylene	9003-07-0	100%
Cathode	11.00%	Zinc Powder	7440-66-6	97%
Positive Pole	23.00%	Manganese Dioxide	1313-13-9	88%
Pure Water		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	397	Ag- 16
Electrolyte	7.10%	Potassium Hydroxide	1310-58-3	40%
Sealing Washer PVC Piece	2.50%	Nylon/PVC	A 65	100%
Insulating piece	1.00%	PEC film	2	100%

Note: CAS Number Is Chemical Abstract Service Registry Number

Section 4- First Aid Measures

Skin touch: Remove contaminated clothes and rinse skin with plenty of water or shower for Remove 15 minutes. Get medical aid.

Eyes touch: Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician.

Inhalation: Remove source of contamination or move victim to fresh air. Obtain medical advice.

Ingestion: Please rinse mouth thoroughly with water. Induce vomiting under the guidance of professional

personage. Please seek medical treatment in time..

Section 5 - Fire Fighting Measures

Danger characteristic: Toxic fumes, gases or vapors may evolve on burning. **Hazardous combustion products:** Carbon monoxide, carbon dioxide and so on.

Fire-Fighting method & media: The firemen should put on antigas masks and full fire-fighting suits which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Avoid using direct streams of water of foam on molten burning material as it may scatter and spread the fire. Fire extinguishing agent: Please use dry powder fire extinguisher and other proper fire extinguishing media.



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Section 6 - Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Restrict access to area until completion of clean-up.Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8.

Environment precautions: Prevent material from contaminating soil and from entering sewers or waterways.. **Methods and materials for Containment:** Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.

Methods and materials for cleaning up: Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper

Section 7 - Handling and Storage

Handling: Don't handing the batteries in manner that allows terminals to short circuit. Do not open, disassemble, crush or burn battery.

Storage: Do not storage the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Keep out of reach of children. Do not expose the battery to heat or fire. Avoid storage in direct sunlight. Do not store together with oxidizing and acidic materials.

Section 8 - Exposure Controls, Personal Protection

Maximum admissible concentration: No standard yet

Monitoring Method: None.

Engineering Control: No engineering controls are required for handling batteries that have not been damaged. Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses.

Personal Protective Equipment:

Respiratory Protection: In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use. Not necessary under conditions of normal use.

Eyes Protection: None required under normal conditions. Use approved chemical work safety goggles or face shield, if handling a leaking or rupture cell.

Skin Protection: No necessary under normal use. Use rubber apron and protective working in case of handling of a rupture cell.

Hands Protection: Not necessary under conditions of normal use.

Other Protective Clothing or Equipment: Not necessary under conditions of normal use. Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.



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Section 9 - Physical and Chemical Properties

Appearance: Solid Odour: Odorless pH: Not applicable

Flashpoint: Not applicable
Flammability: Not applicable
Relative density: Not applicable
Solubility(water): Not applicable
Solubility(Other): Not applicable

Section 10 - Stability and Reactivity

Stability: Stable under normal temperatures and pressures..

Distribution of Ban: Strong oxidizing agents, reducing agents, acids and bases.

Conditions to Avoid: Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short

circuit, Expose over a long period to humid conditions..

Hazardous Polymerization: None.

Hazardous Decomposition Products: Toxic Fumes, and may form peroxides.

Possibility of Hazardous Reaction: If leaked, forbidden to contact with strong oxidizers, mineral acids, strong

alkalis, halogenated hydrocarbons.

Section 11 - Toxicological Information

Acute Toxicity: Not applicable.

Sub-acute and Chronic Toxicity: Not applicable.

Irritation: In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin..

Sensitization: Not applicable.

Mutagenicity: Not applicable.

Carcinogenicity: Not applicable.

Others: Not applicable.

Section 12 - Ecological Information

General note: Do not allow undiluted product or large quantities of it to reach ground water, water course or

sewage system.

Eco-toxicity: Not applicable.

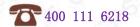
Biodegradable: Not applicable.

Non-biodegradable: Not applicable.

Bioconcentration or biological accumulation: Not applicable.

Other harmful effects: Not applicable.

Note: This Test report shall be invalid if it is not stamped with the special seal for testing. Only responsible for the tested samples, invalid if rewritten, added and deleted. This test report cannot be reproduced, except in full, without prior written permission of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law. Any demurral to the content of test report, please propose in 15 days after the report's sending out, it will not be accepted after this date.



Eurones (Dongguan) Consumer Products Testing Service Co., Ltd. Tel: (86-769) 38937858 Fax: (86-769) 38937859 Http://www.cpstlab.com Room 1092, No.12, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China Postcode: 523945 E-mail: service@cpstlab.com



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Date: Feb 10, 2023

Section 13 - Disposal Considerations

Waste Treatment: Recycle or dispose of in accordance with government, state & local regulations.

Attention for Waste Treatment: Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

Section 14 - Transport Information

According to IATA Dangerous Goods Regulations (DGR) 64th Edition(2023), Examples of such batteries are: Alkali -manganese, zinc-carbon and nickel-cadmium batteries. Any electrical battery or battery powered device, equipment or vehicle having the potential of a dangerous evolution of heat must be prepared for transport so as to prevent:

(a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and (b) accidental activation.

The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill as required by "Not Dangerous Goods", when an Air Waybill is issued.

UN number of Batteries, dry: N/A

UN Proper shipping name/Description(technical name): Batteries, dry

UN Classification(Transport hazard class): N/A

Packing group: N/A

The battery is not restricted according to IMO IMDG Code (IMDG Rules) 40-22 Amendment, 2022.

Hazards identification: None

Suggestion according to IMO IMDG Code: The substance is not subject to IMO IMDG Code.

Section 15 - Regulatory Information

With regard to transport, the following regulations are cited and considered:

- -The International Civil Aviation Organization (ICAO) T echnical Instructions.
- -The International Air transport Association (IATA) Dangerous Goods Regulations.
- -The International Maritime Dangerous Goods (IMDG) Code.
- The Office of Hazardous Materials Safety within the US Department of Transportation(DOT)
- Research and Special Programs Administration (RSPA)



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Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no libility resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

The test report is only for customer research, teaching, internal quality control, product development and other purposes, for reference only.



No. C230207069001-1A

Date: Feb 10, 2023

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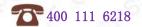
Photo of the Submitted Sample



Declaration: Report C230207069001-1 was repealed and replaced by Report C230207069001-1A.

End of Report '

Note: This Test report shall be invalid if it is not stamped with the special seal for testing. Only responsible for the tested samples, invalid if rewritten, added and deleted. This test report cannot be reproduced, except in full, without prior written permission of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law. Any demurral to the content of test report, please propose in 15 days after the report's sending out, it will not be accepted after this date.



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Http://www.cpstlab.com

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