

maxell**SAFETY DATA SHEETS**

DTL 572

The batteries are articles and are not subject to the OSHA Hazard Communication Standard Requirement as shown in paragraph (b)(6)(v) of §1910.1200. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and are believed to be accurate as of the date of preparation. However, **Maxell makes no warranty expressed or implied.**

IDENTITY (As Read on Label and Line)
LR41, LR43, LR44, LR1130
ALKALINE BUTTON CELL

Notice: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name

Maxell Asia, Ltd.

Telephone Number

852-2730-9243

Address (Number, Street, City, State, and ZIP Code)

Unit Nos 03B-06, 13/FI., No 909 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon, Hong Kong.

Fax Number

852-2735-6250

Date Prepared

1-Jan-2023

Section II – Physical/Chemical Characteristics

Boiling Point

KOH aqua solution = 140 °C

Specific Gravity (H₂O=1)MnO₂ = 4.4, Zn = 7.1, KOH = 2.0

Vapor Pressure (mmHg)

KOH aqua solution = 3mmHg at 20 °C

Melting Point

MnO₂ decompose at 535°C
Zn = 420 °C, KOH aqua = -35 °C

Vapor Density (Air = 1)

Evaporation Rate
(Butyl Acetate = 1)

Solubility in Water KOH – complete

Appearance and Color

MnO₂ is a black powder, Graphite is also a black powder, Zinc is a silver metal.
KOH aqua is a colorless liquid with stimulative order.

Section III – Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Names)		(contents, %/wt)	CAS No.
Manganese Dioxide	(MnO ₂)	22.0~30.0 %	1313-13-9
Zinc	(Zn)	8.0~11.06 %	7440-66-6
Potassium Hydroxide	(KOH)	3.0~4.0 %	1310-58-3
Graphite	(C)	2.0~3.0 %	7782-42-5
Cadmium	(Cd)	≅ 0.0005 %	7440-43-9
Mercury	(Hg)	≅ 0.0001 %	7439-97-6
Lead	(Pb)	≅ 0.002%	7439-92-1
Water	(H ₂ O)		7732-18-5
Other			Balance



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Date: Jan. 1st, 2023

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Incombustible	Not Available		

Extinguishing Media: See Special Fire Fighting Procedure

Special Fire Fighting Procedure: In case of fire in an adjacent area, use water, CO₂ or dry chemical extinguishers if cells are packed in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged cells use LITH-X (Graphite Base). In this case, do not use water.

As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products.

Unusual Fire and Explosion Hazards

Section V – Reactivity Data

Stability	Unstable	Conditions to Avoid
	Stable	Do not short circuit, charge or dispose of in fire.

Incompatibility (Materials to Avoid) Hazardous polymerization will not occur.

Hazardous Decomposition or Byproducts Not Available

Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur	

Section VI – Health Hazard Data

Route(s) of Entry.	Inhalation?	Yes	Skin?	Yes	Ingestion?	Yes
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Health Hazards (Acute and Chronic) These chemicals are contained in a sealed can. Risk of exposure occurs, only if battery is mechanically or electrically abused. The most likely risk is acute exposure when a cell vents KOH is caustic alkali and attack the skin and eyes. Contact of electrolyte with skin and eyes should be avoided.

Section VII – Ecological Information

Cardnogenicity	NTP?	IARC	OSHA
	Not Available	Monographs?	Regulated?

Signs and Symptoms of Exposure KOH can cause chemical burn upon contact with skin.

Medical Conditions Generally Aggravated by Exposure An acute exposure will not generally aggravate any medical help.

Section VIII –Emergency and First Aid Procedures

In case of skin contact with content of battery, flush immediately with water.
For eye contact, flush with copious amount of water for 10 minutes. If irritation persists, get medical help.

Section IX - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled Wipe out by wet duster.



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Section X - Waste Disposal Method

General abandonment

Section XI - Precautions to Be Taken in Handling and Storing

Avoid mechanical or electrical abuse.

Section XII - Other Precautions

Do not short circuit, charge or dispose of in fire. Battery may explode or leak.

Section XIII - Control Measures

Respiratory Protection (Specify Type) Not Available

Ventilation	Local Exhaust	Special
	Not Available	Not Available
	Mechanical (General)	Other
	Not Available	Not Available

Protective Gloves	Butyl	Eye Protection	Safety Glasses
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Other Protective Clothing or Equipment
Not Available

Work / Hygienic Practices
Not Available



Section XIV –Transportation Information

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Maxell alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline batteries (sometimes referred to as "Dry cell" batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations 64th edition, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions

Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123 (64th Edition)
ICAO	Not regulated

All Maxell alkaline batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words "not restricted" and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

- (a) UN number: N/A
- (b) UN proper shipping name: N/A
- (c) Transport hazard class(es) : N/A
- (d) Packing group, if applicable: N/A
- (e) Environmental hazards (e.g., Marine pollutant (Yes/No)) No
- (f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)



The product can be treated as ordinary goods in transportation;

Products in bulk shall be packed in inner packaging in such a manner that can prevent movement or short-circuit effectively.

- (g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises

Avoid high-temperature, high-humidity condition.

Section XV –Regulatory Information

Safety, health and environmental regulations specific for the product in question

The product is eco-friendly and in accordance with the safety regulations in ANSI C18.1M Part2 Standard, and complying with the environmental requirements in EU Directives 2006/66/EC (Battery Directive) and its amendments 2013/56/EU..

Section XVI –Other Information

The date of preparation of the SDS or the last change to it

This Safety Date Sheets (SDS) is issued on 1 Jan, 2023 according to requirements of the USA's OSHA Standard 1910.1200 App D.

If you want further information, please contact Maxell sales representative.



NO.202300104730133



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 : Maxell LR44 碱性钮扣式电池

Sample Name: Maxell LR44 ALKALINE BUTTON CELL

委托单位 : 东莞胜力电池实业有限公司
Dongguan Victory Battery Industries Co., Ltd.

生产单位 : 东莞胜力电池实业有限公司
Dongguan Victory Battery Industries Co., Ltd.



Victories Better Life

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

货物运输条件鉴定书

Certification for Safe Transport of Chemical Goods

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样品名称 Sample Name	中文 Chinese	Maxell LR44 碱性钮扣式电池
	英文 English	Maxell LR44 ALKALINE BUTTON CELL
委托单位 Consignor		东莞胜力电池实业有限公司 Dongguan Victory Battery Industries Co., Ltd.
生产单位 Manufacturer		东莞胜力电池实业有限公司 Dongguan Victory Battery Industries Co., Ltd.
检验方法、程序 Inspection Methods and Procedures		国际航空运输协会《危险品规则》64版 IATA Dangerous Goods Regulations (DGR) 61th Edition
样品外观与气味 Appearance & Odor		银色金属外壳, 无臭 Silvery Metal shell, odorless
I D E N T I F I C A T I O N 鉴 定 结 论 C O N C L U S I O N	<p>1. 危险性识别 (Hazards identification)</p> <p>无。 None.</p> <p>2. 空运按照IATA DGR办理的类项 (Suggestion according to IATA DGR)</p> <p>根据特殊规定A123, 可按非限制性货物条件办理。 The substance is not subject to IATA DGR according to special provision A123.</p> <p>3. 包装类别 (Packing Group)</p> <p>无。 None.</p>	
	<p>检验日期: 2022-12-01 签发日期: 2022-12-01 生效日期: 2023-01-01</p> <p>Inspection Date: Issue Date: Effective Date:</p>	
备注 Comment		无, None.

批准
Approver:

王军

审核
Checker:

董学能

主检
Appraiser:

孙清



货物运输条件鉴定书

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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: 537759	

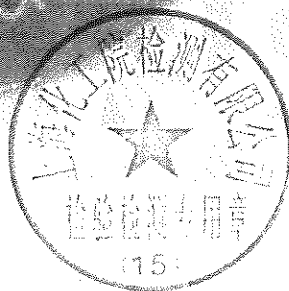
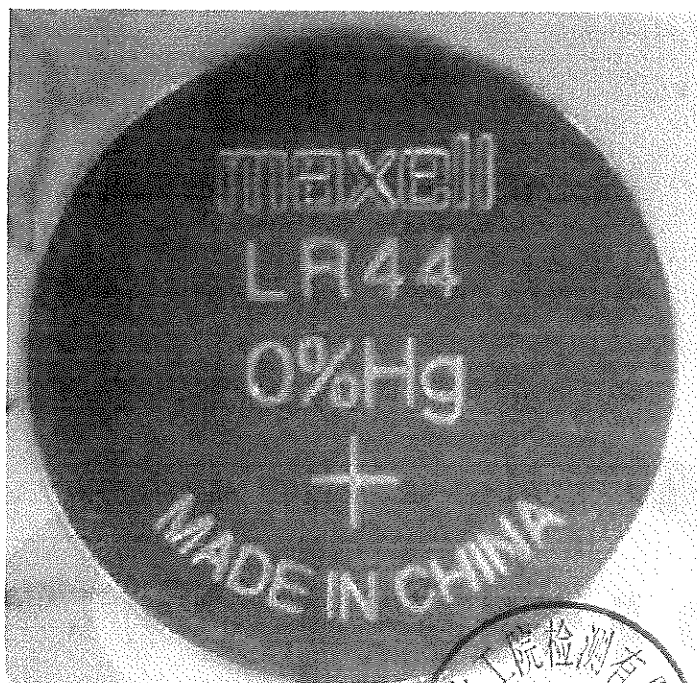
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报告结束



NO.202300904130334



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非限制性货物

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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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	英文 English	Maxell LR44 ALKALINE BUTTON CELL
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生产单位 Manufacturer	东莞胜利电池实业有限公司 Dongguan Victory Battery Industries Co., Ltd.	
检验方法、程序 Inspection Methods and Procedures	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)	
样品外观与气味 Appearance & Odor	银色金属外壳, 无臭 Silvery Metal shell, odorless	
I D E N T I F I C A T I O N 鉴 定 结 论 C O N C L U S I O N	1. 危险性识别(Hazards identification) 无。 None.	
	2. 海运按照IMO IMDG Code办理的类项(Suggestion according to IMO IMDG Code) 可按非限制性货物条件办理。 The substance is not subject to IMO IMDG Code.	
	3. 包装类别(Packing Group) 无。 None.	
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备注 Comment	无。 None.	

批准
Approver:

王泉

审核
Checker:

董学能

主检
Appraiser:

孙清



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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:115922	

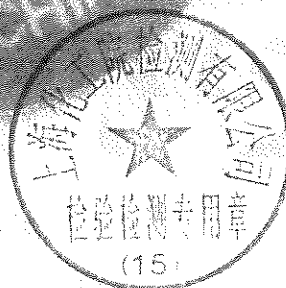


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