



SAFETY DATA SHEETS

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)	Notice: Blank spaces are not permitted. If any item is not			
LR41, LR43, LR44, LR1130 ALKALINE BUTTON CELL	applicable, or no information is available, the space			
	must be marked to indicate that.			

Section I	
Manufacturer's Name	Telephone Number
Maxell Asia,Ltd.	852-2730-9243
Address (Number, Sheet, City, State, and ZIP	Fax Number
Code)	852-2735-6250
Unit Nos 03B-06, 13/Fl., No 909 Cheung Sha	Date Prepared
Wan Road Chaung Sha Wan Kowloon Hong	1 lon 2025

Wan Road, Cheung Sha Wan, Kowloon, Hong Kong.	1-Jan-2025				
Section II – Physical/Chemical Characteristics					

Boiling Point KOH aqua solution = 140 °C	Specific Gravity (H ₂ O=1) MnO ₂ = 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

 MnO_2 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 Ch	(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, 2025

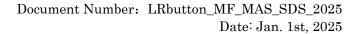


Section IV			sior	Hazard			LEL	Τ=.
Flash Point (Method Used) Incombustible			Flammable	E Limits Not Available	UEL			
Extinguishin				l Fire Fig	hting Pro			
		•					uno wotor C	O- or dry chamical
extinguishers	if cells	are packe	ed in	their orig	inal conta	iners since the	fuel of the fi	CO ₂ or dry chemical ire is basically paper this case, do not use
water.	. Dant qu	arititioo o	i unp	aonagoa	conc doc i	zirri X (Grapini	.o Baoo,. III	and dade, de not dec
•	ire, wear	self-conta	ained	breathing	g apparatu	s to avoid inhala	ation of haza	rdous decomposition
products.								
Have a Fire	and Eventer	-i	مام					
Unusual Fire a	ana Explos	sion Hazar	as					
Section V -	- Reactiv	vity Data	1					
Stability	Unstabl	е		Condition	s to Avoid	Do not short circ	uit charge or	dispose of in fire.
	Stable		V			20 1101 011011 0110	an, onargo or	alopodo el illi illoi
Incompatibility	(Materials	s to Avoid)		Hazard	ous polym	erization will no	t occur.	
Hazardous De Byproducts	compositi	on or		Not Ava	ailable			
Hazardous	May Oc	cur		Condition	s to Avoid			
Polymerization	— ر		.1	Condition	3 10 7 10 10			
0 12 1/1	Will Not		√ D -1	_				
Section VI				a				
Route(s) of En		Inhalatio	n?	Yes	Skin	? Yes	Ingestion?	Yes
Health Hazard	ls (Acute a	and	Th	aa ahami	colo oro oc	entained in a sec	lad oon Diek	of exposure occurs,
Chronic)		only if I						: likely risk is acute
exposure		•		•		•		•
		when a	cell	vents KOł	H is caustic	alkali and attacl	k the skin and	d eyes. Contact of
electrolyte		with sk	in an	d eves sho	ould be avo	oided.		
Section VII	– Ecolo							
Cardnogenicity		<u>J</u>		IARC			OSHA	
		Not Ava			•	Not Available	Regulated?	Not Available
Signs and Syn		Exposure	KC	H can ca	use chemi	cal burn upon c	ontact with s	kin.
Medical Condi Generally Agg		y Exposure	An	acute ex	posure wil	not generally a	ggravate any	y medical help.
	•	, ,						
Section VIII								
					•	immediately with		
For eye medical		iusn with	copic	ous amou	nt of wate	for 10 minutes.	. it imitation p	persists, get
Section IX		itions fo	r Sa	fe Handl	ing and l	Jse		

Wipe out by wet duster.

Steps to Be Taken in Case Material is Released or

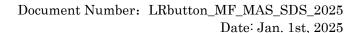
Spilled





Section X - V	Waste Disposal Method				
General a	abandonment				
Section XI -	Precautions to Be Taken in I	Handling	and St	oring	
Avoid me	chanical or electrical abuse.				
Section XII -	Other Precautions				
Do not sh	ort circuit, charge or dispose of ir	n fire. Batt	ery may	explode or leak.	
Section XIII	- Control Measures				
Respiratory Pro	tection (Specify Type) Not Availa	able			
Ventilation	Local Exhaust Not Available		Special	Not Available	
	Mechanical (General) Not Available			Not Available	
Protective Gloves Butyl		Eye Protection Safety Glasses			
Other Protective	e Clothing or Equipment Not Avai	ilable			
Work / Hygienic	Practices				
	Not Avai	ilable			







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 66th 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 (66th 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

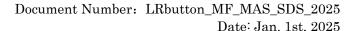
(c) Transport hazard class(es): N/A

(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 Battery Directives (2023/1542/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, 2025 according to requirements of the USA's OSHA Standard 1910.1200 App D.

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

