

Lithium Battery Test Summary CR123

Product: Energizer CR123 (IEC CR17345) Lithium Batteries

Name of cell manufacturer	Energizer Brands, LLC
Cell manufacturer contact information	533 Maryville University Drive, St. Louis, MO 63141 314-985-2000 E-mail: Enviro-Regulatory@Energizer.com www.energizer.com
Test laboratory contact information	Energizer 25225 Detroit Road, Westlake, OH 44145 1-800-383-7323 E-mail: Enviro-Regulatory@Energizer.com www.energizer.com
Test report identification number	1118120059 123:A:012018 123:F:092016 123:J:092017
Date of test report	5 Dec 2018 1 Jan 2018 21 Sept 2016 9 Sept 2017
Description of cell	Battery type: Lithium Manganese Dioxide Battery Weight of battery: 16.5 g Lithium content: less than 1 g Battery description: 2L76 Lithium photo cell Model Number: CR123
Reference assembled battery testing requirements	N/A



Energizer hereby certifies that the CR123 cell meets all the requirements outlined in the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods, Part III, sub-section 38.3. The CR123 battery passes all the T-test as described in the table below.

Manual of Tests and Criteria (38.3 Rev. 6 Lithium batteries)		Test Result
Number	Test	Pass
T1	Altitude simulation	Pass
T2	Thermal test	Pass
T3	Vibration	Pass
T4	Shock	Pass
T5	External short circuit	Pass
T6	Crush	Pass
T7	Overcharge	Not applicable
T8	Forced discharge	Pass
--	1.2 Meter Drop Test (packaging test)	
	2.5 kg maximum air shipment packaging	Pass
	Volume pack (< 30 kg)	Pass



Marcus K. Boolish
 Manager of Environmental Affairs, Standards & Product Safety
 13 November 2019



DURACELL HPL LITHIUM CELLS/BATTERIES

TEST SUMMARY

IN ACCORDANCE WITH SUB-SECTION 38.3 OF THE MANUAL OF TESTS AND CRITERIA

CELL/BATTERY UN38.3 TEST SUMMARY

Revision Date: November 20, 2019

Revision Number: HPL_TS-2020-REV1

Product Manufacturer: DURACELL US Operations Inc., 14 Research Drive, Bethel CT. 06801 USA

Telephone: 203-796-4523, **Email:** UN38.3_Duracell@duracell.com, **Web:** www.duracell.com

Test Laboratory: DURACELL US Operations Inc., 14 Research Drive, Bethel CT. 06801 USA

Telephone: 203-796-4523, **Email:** UN38.3_Duracell@duracell.com, **Web:** www.duracell.com

DURACELL's product lithium metal cells and batteries have been successfully tested and comply with the UN Model Regulations, Manual of Tests and Criteria, Part III, subsection 38.3.

UN38.3 PERFORMED TESTS			RESULTS
38.3.4.1	T1	Altitude Simulation	PASS
38.3.4.2	T2	Thermal Test	PASS
38.3.4.3	T3	Vibration	PASS
38.3.4.4	T4	Shock	PASS
38.3.4.5	T5	External Short Circuit	PASS
38.3.4.6	T6	Impact/Crush	PASS
38.3.4.7	T7	Overcharge	n/a
38.3.4.8	T8	Forced Discharge	PASS

PRODUCT TEST INFORMATION

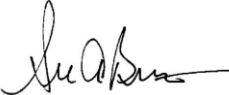
The cells and batteries listed below were tested to UN Manual Tests and Criteria Revision 3 Amendment 1 or subsequent revisions or amendments.

Model Number	Physical Description	Battery Mass	Lithium grams	Test Report Number	Test Report Date
123A	Li metal cell CR/DL 123A, CR17345	17g	0.6g	No. CP0015-13	9/26/2013
CR2	Li metal cell, CR17355, CR2	11g	0.33g	RZUN2016-4115	01/11/2017
123A	Li metal cell CR/DL 123A, CR17345	17g	0.6g	RZUN2019-2932	10/18/2019
2/3A	Li metal cell CR/DL 2/3A, CR17345	16g	0.6g	No. CP0049-1	6/28/2018
223	Li metal BATTERY, CR223, CR-P2	37g	1.1g	No. BP0003-2	4/17/2009
245	Li metal BATTERY, CR223, 2CR5	38g	1.1g	No. BP0003-3	12/3/2008
1/3N	Li metal cell CR/DL 1/3N, CR11108	3.3g	0.06g	C-C-114-05	11/06/2019
PX28L	Li metal BATTERY, 2CR11108, 28L	9.1g	0.12g	C-B-168-01	11/06/2019
123A	Li metal cell CR/DL 123A, CR17345	17g	0.4g	RZUN2019-2693	08/23/2019

DURACELL HPL LITHIUM CELLS/BATTERIES

TEST SUMMARY

IN ACCORDANCE WITH SUB-SECTION 38.3 OF THE MANUAL OF TESTS AND CRITERIA

<p>Signature with name and Job Title of signatory:</p> <p>Stephen Benoit DURACELL, <i>Manager of Product Safety and Regulatory</i></p> 	<p>Date this document was generated:</p> <p>November 20, 2019</p>
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