

The following samples were submitted and identified on behalf of the client as:

1.5 VOLT 0.% HG MERCURY FREE ALKALINE ZINC MANGANESE BUTTON CELL

SGS Case No. : CA321202233339  
 Style / Item No. : G 13/LR44/357/A76, LR44 (EXP), LR44 (HG.PB), G 12/ LR43/386/186, G 11/LR721/362/162, G 10/LR1130/389/189, G 9/ LR936/394/194, G 8/LR1120 /391/191, G7 / LR927/395/195, G6 /LR920/371 / 171, G5 /LR754 / 393/193, G4 / LR626 / 377/177, G3/ LR41 / 393/192, G2/ LR726/SR726/ 196, G1/LR621/364/164, G 0/LR521/SR521, LR932, LR732, LR632  
 Sample Receiving Date : JAN 27, 2021  
 Test Performing Date : JAN 27, 2021 - FEB 05, 2021

Test Requested		Conclusion
1.	European Directive 2006/66/EC and its amendments (Directive 2013/56/EU) – Lead, Cadmium and Mercury Content	PASS
2.	US Public Law 104-142 (1996) Title II – Mercury-Containing Battery Management Act – Mercury Content	PASS
3.	Mercury requirement in compliance with various USA States requirement	PASS

\*\*\*\*\* FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) \*\*\*\*\*

Signed for and on behalf of  
 SGS Hong Kong Ltd.



Cheung Cheuk Fung, Henry  
 Assistant Operations Manager



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**Test Results:**

**1. European Directive 2006/66/EC and its amendments (Directive 2013/56/EU) – Lead, Cadmium and Mercury Content**

Method: With reference to IEC 62321-4:2013, IEC 62321-5:2013

Analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) / Atomic Absorption Spectrometer (AAS) / Direct Mercury Analyzer (DMA)

For Button Cells

Test Item(s)	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)
<b>MDL (%)</b>	0.001	0.001	0.0001
<b>Labeling requirement (%)</b>	> 0.004	> 0.002	--
<b>Permissible Limit (%)</b>	--	0.002	0.0005
<b>Specimen Description</b>	<b>Result(s) (%)</b>		
1. Silvery button cell (LR44)	ND	ND	ND

- Note:
- % = percentage by weight
  - ND = Not Detected (lower than MDL)
  - 1% = 10000 mg/kg = 10000 ppm
  - > = greater than



**2. US Public Law 104-142 (1996) Title II – Mercury-Containing Battery Management Act – Mercury Content**

Method: IEC 62321-4:2013

Analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) / Direct Mercury Analyzer (DMA)

For Alkaline Manganese Button Cell

Test Item(s)	Mercury (Hg)
<b>MDL (mg/cell)</b>	10
<b>Permissible Limit (mg/cell)</b>	25
<b>Specimen Description</b>	<b>Result(s) (mg/cell)</b>
1. Silvery button cell (LR44)	ND

- Note:
- mg/cell = milligram per cell
  - ND = Not Detected (lower than MDL)

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**3. Mercury Requirement in Compliance with Various USA States Requirement**

Method: With reference to EPA 3052: 1996 / Acid Digestion

Analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)

<b>Test Item(s)</b>	<b>Mercury (Hg)</b>
<b>MDL (mg/kg)</b>	1
<b>Requirement (mg/kg)</b>	Prohibited
<b>Specimen Description</b>	<b>Result(s) (mg/kg)</b>
1. Silvery button cell (LR44)	ND

- Note:
- mg/kg = milligram per kilogram
  - ND = Not Detected (lower than MDL)
  - 1% = 10000 mg/kg = 10000 ppm

Region	Act/Regulation	Scope	Effective Date
Connecticut State	Public Act 06-181 (HB 5446, 2006)	Button cell batteries containing mercury	July 1, 2011
		Button cell batteries used in Medical device for delivering insulin	January 1, 2015
		Silver oxide button cell batteries	July 1, 2012
Maine State	Public Law, Chapter 86 (LD 1026, 124th Maine State Legislature)	Mercury-added button cell batteries: 1. Zinc- air button cell battery 2. Alkaline manganese button cell battery 3. Silver oxide button cell stamped with the designation SR357, SR 364, SR371, SR377, SR395, SR44W, SR621SW, SR626SW, SR920SW or SR927SW	January 1, 2012
		Mercury-added silver oxide button cell batteries	January 2, 2015
Rhode Island State	H 6396, Chapter 387 (2007)	Mercury-added button cell batteries	July 1, 2011
		Silver oxide button cell batteries	January 1, 2012



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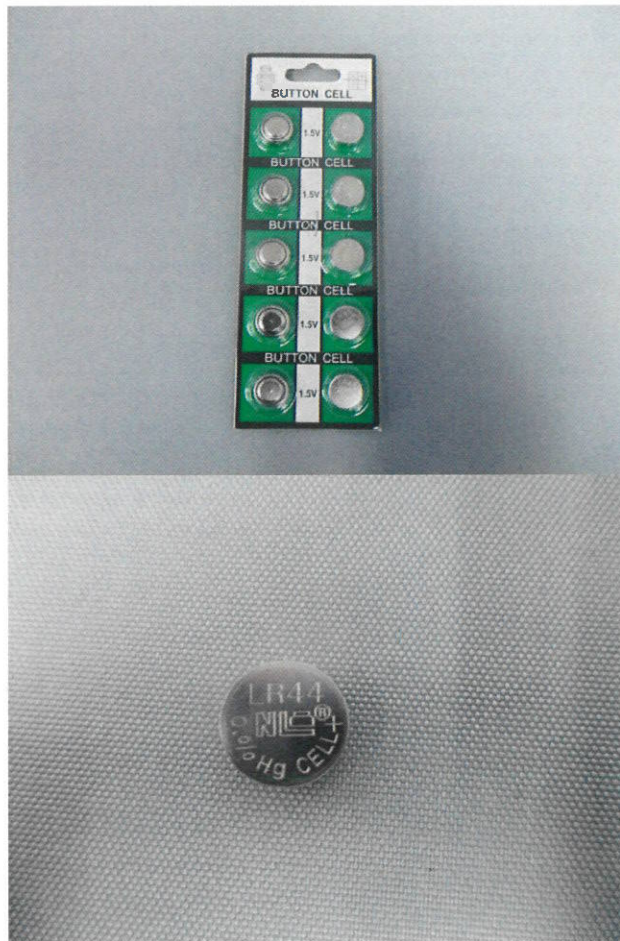
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Remark:

- When statement of conformity is made, unless the decision rule was mentioned in above specified test items, the decision rule would be based on the non-binary statement with guard band (is equal to the expanded measurement uncertainty with a 95% coverage probability,  $w = U_{95}$ ) in ILAC-G8:09/2019 Clause 4.2.3.  
 "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%."  
 "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%.  
 "Inconclusive – It is not possible to state the conformity. Either one or more measured values were observed in the portion of the expanded measurement uncertainty intervals at the points tested where the specific risk is up to 50%."

Sample Photo:



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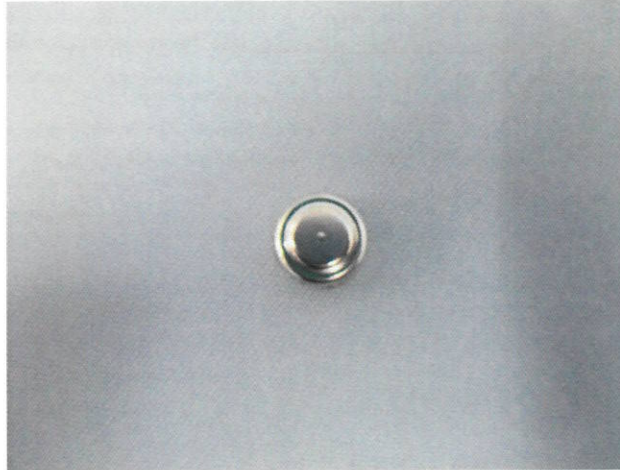


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\*\*\* End of Report \*\*\*



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