**SCREENING REPORT** Page: 1

**Test Number:** 14575A00  **Report Date:** 2021-03-05

**Battery Name:** Duracell MX2500

**Chemistry:** Zn/MnO₂

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**Request Number:**

**Task Number:** 10106

**Lot Number:** 10203

**Form Factor:** Cylindrical AAAA

**Purpose:** Test BTC Screening System

**Project Engineer:** RDW

Criteria: PRE TAB Min. POST TABMin.

**OCV (Volt):** 1.571.57

**CCV (Volt):** N/A1.2

**Drain Time (Sec):** N/A5

**Resistor (Ω): :** N/A20

**Pre/Post OCV Tolerance for tabbing only (Volt):** < 0.002V

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**Battery Size (mm):** 42.5(H) X 8.3(D)

**Discharge Temperature (°C):** 24

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**Number of Batteries Tested :** 50

**Number of Batteries Failed(\*):** 14

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**Date of Manufacture:** 2/4/2016

**Date of Receipt:** 5/23/2017

**Date Started:** 1/8/2020

**Date Completed:** 1/8/2020

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Prepared By: \_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_ Reviewed By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

Reviewed By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

**Test Number:** 14575A00

Note(s):  
  
1. Report Date:  
  
2. Test Responsibility:  
   
 a. Data file preparation:  
 b. Technical review:  
 c. Final review:

**SCREENING REPORT**

**Test Number:** 14575A00  **Date:**2021-03-05

**Sample Name:** Duracell MX2500

**Chemistry:** Zn/MnO₂

**Pre-Tab** **Voltage Statistic Table**

All samples OCV Passing Samples OCV

**Maximum:** **1.577 Maximum:** **1.577**

**Minimum:** **1.554 Minimun:** **1.570**

**Median:** **1.573 Median:** **1.573**

**Mean (M):** **1.572 Mean(M):** **1.573**

**Stander Deviation (SD):** **0.00392 Stander Deviation(SD):** **0.00174**

**Total Samples:** **50**

**Total Passing Criterion:** **35 OCV > or =** *1.570* **V**

**Total Failing Criterion:** **15 Absolute OCV difference for before and After**

**95% confidence Interval** 1.570 / 1.573 **Tab is <** 0.002 **V**

**Outlier Min/Max** 1.565/ 1.58

**Total Outlier:** 2

**Note:** Outlier in Raw Data Report will be marked with symbol (\*)

Fail sample in Raw Data Report will be marked with symbol (!)

**CUMULATIVE TABLE**

|  |  |  |  |
| --- | --- | --- | --- |
| **All Sample OCV** | | **\*Passing Sample OCV** | |
| Voltage Range | Samples | Voltage Range | Sample |
| 1.577-1.573 | 18 | 1.577-1.575 | 2 |
| 1.573-1.569 | 25 | 1.575-1.573 | 12 |
| 1.569-1.565 | 3 | 1.573-1.571 | 13 |
| 1.565-1.561 | 2 | 1.571-1.569 | 8 |
| 1.561-1.557 | 1 | 1.569-1.567 | 0 |
| 1.557-1.553 | 1 |  |  |
| 1.553-1.549 | 0 |  |  |

**SCREENING REPORT**

**Test Number:** 14575A00  **Date:**2021-03-05

**Sample Name:** Duracell MX2500

**Chemistry:** Zn/MnO₂

**Post-Tab** **Voltage Statistic Table**

All samples OCV CCV Passing Samples OCV CCV

**Maximum:** **1.577 1.567**  **Maximum: 1.577 1.567**

**Minimum:** **1.554 1.497**   **Minimun: 1.570 1.497**

**Median:** **1.572 1.529**   **Median: 1.573 1.529**

**Mean (M):** **1.571 1.529**   **Mean(M): 1.573 1.529**

**Stander Deviation (SD):** **0.00401 0.00924**  **Stander Deviation(SD): 0.00179 0.00924**

**Total Samples:** **45**  **45**   **OCV > or = *1.570* V**

**Total Passing Criterion:** **35** **45**   **CCV > or = *1.200* V @ 20 Ohms for 5 Seconds.**

**Total Failing Criterion:** **10**  **0**   **Absolute OCV difference for before and After**

**95% confidence Interval** 1.570 / 1.573 1.526/1.532  **Tab is <** 0.002 **V**

**Outlier Min/Max** 1.564/ 1.58 1.521/1.537

**Total Outliers:** 2 6

**Note:** Outlier in Raw Data Report will be marked with symbol (\*)

Fail sample in Raw Data Report will be marked with symbol (!)

**CUMULATIVE TABLE**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **All Sample OCV** | | **All Sample CCV** | | **\*Passing Sample OCV** | | **\*Passing Sample CCV** | |
| Voltage Range | Samples | Voltage Range | Samples | Voltage Range | Samples | Voltage Range | Samples |
| 1.577-1.573 | 13 | 1.567-1.558 | 1 | 1.577-1.575 | 3 | 1.567-1.558 | 1 |
| 1.573-1.569 | 24 | 1.558-1.549 | 1 | 1.575-1.573 | 10 | 1.558-1.549 | 1 |
| 1.569-1.565 | 5 | 1.549-1.540 | 0 | 1.573-1.571 | 13 | 1.549-1.540 | 0 |
| 1.565-1.561 | 1 | 1.540-1.531 | 6 | 1.571-1.569 | 9 | 1.540-1.531 | 6 |
| 1.561-1.557 | 1 | 1.531-1.522 | 31 | 1.569-1.567 | 0 | 1.531-1.522 | 31 |
| 1.557-1.553 | 1 | 1.522-1.513 | 5 |  |  | 1.522-1.513 | 5 |
|  |  | 1.513-1.504 | 0 |  |  | 1.513-1.504 | 0 |
|  |  | 1.504-1.495 | 1 |  |  | 1.504-1.495 | 1 |
|  |  |  |  |  |  | 1.495-1.486 | 0 |

**SCREENING REPORT**

**Test Number:** 14575A00 **Raw Data** **Chemistry:** Zn/MnO₂

**Sample Name:** Duracell MX2500 **Load:**  /20Ω

**Sort Order:** Bar Code Number **Load Time:**  /5Sec(S)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bar Code Number | Manufacturer  Number | Manufacture Date | Pre-Tab OCV |  | Post-Tab OCV | Post-Tab CCV | Inspection |
| 460315 |  | 2/4/2016 | 1.576 |  | 1.572 ^ | 1.532 | Tolerance |
| 460316 |  | 2/4/2016 | 1.574 |  | 1.572 | 1.53 | OK |
| 460317 |  | 2/4/2016 | 1.574 |  | 1.572 | 1.531 | OK |
| 460318 |  | 2/4/2016 | 1.574 |  | 1.573 | 1.531 | OK |
| 460319 |  | 2/4/2016 | 1.573 |  | 1.572 | 1.53 | OK |
| 460320 |  | 2/4/2016 | 1.573 |  | 1.572 | 1.527 | OK |
| 460321 |  | 2/4/2016 | 1.571 |  | 1.568 ^ | 1.524 | Tolerance |
| 460322 |  | 2/4/2016 | 1.573 |  | 1.573 | 1.529 | OK |
| 460323 |  | 2/4/2016 | 1.575 |  | 1.575 | 1.533 | OK |
| 460324 |  | 2/4/2016 | 1.574 |  | 1.574 | 1.531 | OK |
| 460325 |  | 2/4/2016 | 1.573 |  | 1.574 | 1.532 | OK |
| 460326 |  | 2/4/2016 | 1.576 |  | 1.576 | 1.535 | OK |
| 460327 |  | 2/4/2016 | 1.574 |  | 1.575 | 1.532 | OK |
| 460328 |  | 2/4/2016 | 1.571 |  | 1.571 | 1.528 | OK |
| 460329 |  | 2/4/2016 | 1.574 |  | 1.574 | 1.529 | OK |
| 460330 |  | 2/4/2016 | 1.565 ! |  | 1.565 ! | 1.521 | Fail |
| 460331 |  | 2/4/2016 | 1.571 |  | 1.571 | 1.526 | OK |
| 460332 |  | 2/4/2016 | 1.573 |  | 1.573 | 1.531 | OK |
| 460333 |  | 2/4/2016 | 1.573 |  | 1.574 | 1.531 | OK |
| 460334 |  | 2/4/2016 | 1.575 |  | 1.576 | 1.531 | OK |
| 460335 |  | 2/4/2016 | 1.57 |  | 1.57 | 1.528 | OK |
| 460336 |  | 2/4/2016 | 1.573 |  | 1.573 | 1.529 | OK |
| 460337 |  | 2/4/2016 | 1.574 |  | 1.574 | 1.528 | OK |
| 460338 |  | 2/4/2016 | 1.574 |  | 1.574 | 1.527 | OK |
| 460339 |  | 2/4/2016 | 1.569 ! |  | 1.569 ! | 1.519 \* | Fail |
| 460340 |  | 2/4/2016 | 1.573 |  | 1.575 | 1.532 | OK |
| 460341 |  | 2/4/2016 | 1.569 ! |  | 1.57 | 1.528 | Fail |
| 460342 |  | 2/4/2016 | 1.572 |  | 1.573 | 1.531 | OK |
| 460343 |  | 2/4/2016 | 1.554 ! |  | 1.554 ! | 1.552 \* | Fail |
| 460344 |  | 2/4/2016 | 1.573 |  | 1.573 | 1.528 | OK |
| 460345 |  | 2/4/2016 | 1.565 ! |  | 1.566 ! | 1.518 \* | Fail |
| 460346 |  | 2/4/2016 | 1.574 |  | 1.573 | 1.53 | OK |
| 460347 |  | 2/4/2016 | 1.574 |  | 1.574 | 1.531 | OK |
| 460348 |  | 2/4/2016 | 1.572 |  | 1.571 | 1.53 | OK |
| 460349 |  | 2/4/2016 | 1.57 |  | 1.569 ! | 1.567 \* | Fail |
| 460350 |  | 2/4/2016 | 1.577 |  | 1.577 | 1.526 | OK |
| 460351 |  | 2/4/2016 | 1.573 |  | 1.573 | 1.529 | OK |
| 460352 |  | 2/4/2016 | 1.57 |  | 1.57 | 1.528 | OK |
| 460353 |  | 2/4/2016 | 1.571 |  | 1.571 | 1.497 \* | OutlierL |
| 460354 |  | 2/4/2016 | 1.572 |  | 1.572 | 1.529 | OK |
| 460355 |  | 2/4/2016 | 1.561 ! |  | 1.561 ! | 1.514 \* | Fail |
| 460356 |  | 2/4/2016 | 1.57 |  | 1.571 | 1.531 | OK |
| 460357 |  | 2/4/2016 | 1.567 ! |  | 1.568 ! | 1.525 | Fail |
| 460358 |  | 2/4/2016 | 1.57 |  | 1.571 | 1.529 | OK |
| 460359 |  | 2/4/2016 | 1.57 |  | 1.57 | 1.522 | OK |
| 460360 |  | 2/4/2016 | 1.574 |  |  |  | OK |
| 460361 |  | 2/4/2016 | 1.574 |  |  |  | OK |
| 460362 |  | 2/4/2016 | 1.571 |  |  |  | OK |
| 460363 |  | 2/4/2016 | 1.575 |  |  |  | OK |
| 460364 |  | 2/4/2016 | 1.571 |  |  |  | OK |