November 12, 2019

Associated MSA Product(s): MSA Altair® 4XM, Altair® 5XM, Altair® Pump Probe, Sirius® Domestic, Sirius® ATEX

The attached test summary report has been prepared in accordance with The UN Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria, Amendment to the 6th Edition, Section 38.3.5 – Lithium cell or battery test summary. The attached summary indicates the successful completion of tests as required in the UN Manual of Tests and Criteria for the lithium ion cell that may be used in all configurations of MSA Altair® 4XM, Altair® 5XM, Altair® Pump Probe, Sirius® Domestic, and Sirius® ATEX products.

The original test summary report was provided by the cell manufacturer. A formal request for the original test data shall be made through the manufacturer of the cell.

Sincerely,

[Signature]

David F. Vogt

Global Environmental Program Manager
**UN 38.3 TEST SUMMARY REPORT**

Lithium Cell or Battery Test Summary in Accordance with Section 2.9.4 UN Model Regulations and Sub-section 38.3 of the UN Manual of Tests and Criteria, Part III, Sub-section 38.3.5.

**[a] Manufacturer**
Sanyo Electric Co. Ltd.

**[b] Manufacturer Contact Information**
222-1 Kaminaizen
Sumoto City, Hyogo 656-8555, Japan
T: 81-799-23-3931
https://industrial.panasonic.com

**[c] Test Laboratory**
Sanyo Electric Co. Ltd.
222-1 Kaminaizen
Sumoto City, Hyogo 656-8555, Japan
T: 81-799-23-3931
http://industrial.panasonic.com

**[d] Test Report ID#** E1928286

**[e] Test Report Date** Nov. 7, 2019

**[f] Description:** Small secondary prismatic cell, 3.7V, 1,892 mAh utilized in the following MSA products: Altair® 4XM, Altair® 5XM, Altair® Pump Probe, Sirius® Domestic, Sirius® Atex

- ☒ Lithium Ion
- ☐ Lithium Metal

<table>
<thead>
<tr>
<th>Mass (g)</th>
<th>38.8 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watt-hour Rating</td>
<td>7.0</td>
</tr>
<tr>
<td>Lithium Content</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**[g] List of Test Conducted**

<table>
<thead>
<tr>
<th>Test Conducted</th>
<th>Result (Pass / Fail / N/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.3.4.1 T.1: Altitude simulation</td>
<td>Pass</td>
</tr>
<tr>
<td>38.3.4.2 T.2: Thermal test</td>
<td>Pass</td>
</tr>
<tr>
<td>38.3.4.3 T.3: Vibration</td>
<td>Pass</td>
</tr>
<tr>
<td>38.3.4.4 T.4: Shock</td>
<td>Pass</td>
</tr>
<tr>
<td>38.3.4.5 T.5: External short circuit</td>
<td>Pass</td>
</tr>
<tr>
<td>38.3.4.6 T.6: Impact/Crush (cell only)</td>
<td>Pass</td>
</tr>
<tr>
<td>38.3.4.7 T.7: Overcharge (packs only)</td>
<td>N/A</td>
</tr>
<tr>
<td>38.3.4.8 T.8: Forced discharge (cell only)</td>
<td>Pass</td>
</tr>
</tbody>
</table>

**[h] Battery Assembly:** ☒ Not Applicable    ☐ UN38.3.3 (f)    ☐ UN38.3.3 (g)


**[j] Signatory – Global Environmental Health and Safety**
Date: November 12, 2019
Name: David Vogt
Title: Global Environmental Program Manager
Signature: [Signature]

Notice – The above signatories affirm that this UN 38.3 Test Summary Report is an accurate and correct summary of the original tests. The original test data is confidential information available to competent Authorities with valid identification and only upon the review by MSA of a written formal request. Disclosure of original test data may be subject to the execution of a nondisclosure agreement.