



**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Fifty-first session**

Geneva, 3-7 July 2017

Item 4 (a) of the provisional agenda

Electric storage systems: testing of lithium batteries**Lithium battery test summary document****Submitted by the Medical Device Battery Transport Council (MDBTC)***

1. At the fiftieth session of the Sub-Committee the requirement for manufacturers and subsequent distributors of lithium battery cells, batteries and products to make available a test summary was adopted in 2.9.4 of the Model Regulations. The elements of the test summary were incorporated in 38.3.5 of the Manual of Test and Criteria. The MDBTC has considered how the test summary information can be made available and has developed a sample test summary for review by the Sub-Committee. The sample test summary addresses a single cell battery from one manufacturer. Documenting multiple cells, batteries or products containing cells or batteries is more challenging. When a product has cells or batteries manufactured by several suppliers and tested by individual test houses consolidating the information can prove to be challenging. There are a number of ways to document and make the test summary information available. The sample provided in this paper is only one means of doing so and MDBTC believes that as long as the information is provided the format of the form need not be specified in the Model Regulations. We have been in consultation with other organizations including PRBA and understand that lithium battery and battery powered products manufacturers and distributors are considering how to comply with the new requirement and may have views on how the relevant information can be made available.

2. The MDBTC also believes that the new test summary should only apply to cells, batteries or products that are produced after adoption of the requirement in national, regional and international regulations (i.e. 1 January 2019). It will not be practical to

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, paragraph 14).

require a test summary for all products previously manufactured before 1 January 2019. While considering how to complete the test summary some suggestions for improvement were identified including:

- Paragraph (f) should apply to products as well as cells or batteries; and
- Paragraph (f) (iv) should apply to products as well as cells or batteries.

3. The Sub-Committee is invited to consider the amendments suggested in this paper. The MDBTC suggests that a discussion be held during the session to address specific challenges related to providing the test summary including those that address multiple cells, batteries or products. We have developed a series of questions and answers to be used to guide the discussions and to ensure consensus in interpretation and request that they be reviewed and considered by the Sub-Committee.

Annex

Questions and answers related to the Test Summary (TS)

Q: Does the TS apply to products and cells or batteries contained within products/parts or just stand alone cells or batteries?

A: The TS applies to the batteries themselves which ship as standalone batteries and subsequently to the cells and batteries contained in at such time when the cell or battery is added to a product.

Q: Can multiple batteries/manufacturers/products be listed on one report?

A: Yes, it is acceptable to have a single document that addresses multiple batteries/manufacturers/products, provided all required information is stated.

Q: Is it acceptable to list the various test houses, tests and range of revisions tested to for the UN 38.3 revision and amendments.

A: Yes, it is acceptable to have multiple test houses and their addresses, email etc. information listed provided all required information is stated. The Test house is not required to be aligned to a specific battery or product on TS when the TS covers multiple batteries/products. It is required to have the test report number and date of test for each cell/battery/product listed on the TS.

Q: What is meant by physical description of cell or battery? (Should read physical description of cell/battery/product.)

A: A physical description is intended to provide a check for the person requesting the TS to know that it applies to the cell/battery/product covered by the TS. i.e. if cell phone, description could be the invoice description or marketing name of the product as the physical description.

Q: What does availability of report mean: "When requested?"

A: Any individual or entity in the supply chain may request the TS. i.e. regulator, consumer, transport provider.

Q: Can the TS provider require requestor to obtain from a website.

A: Yes, it is acceptable for provider to require requestor to obtain electronically from provider's website. The provider must ensure that the cell/battery/product has appropriate identifiers to align to the TS.

Q: Is the TS required for all batteries currently in the supply chain or just batteries manufactured after the required start date for TS? (Currently scheduled to be Jan.1, 2019)

A: The TS is required for all li-ion and li-metal batteries, batteries contained in product shipping via airfreight on or after Jan. 1, 2019.

Q: Is there a grace period for shippers to comply?

A: No, all impacted suppliers, manufacturers, distributors, etc should have a method established to obtain the TS's as of Jan. 1, 2019. This also includes TSs for products not manufactured but is distributed by entities in the supply chain. This includes reverse logistics where airfreight is deployed.

Q: What is meant by model number?

A: The model number is what is located on the unit(s) or packaging or units covered by the TS.

If the TS is for a product containing batteries the model number(s) would be those of the product.

If the TS is for standalone batteries / standalone cells, the model number would that of the batteries/cells.


If the TS is for a battery packed with equipment, the model number would reference the model of the battery.

Q: If a manufacturer considers their suppliers, test house and battery data confidential and competitive information, how would TS compliance be achieved.

A: All 10 data elements and listed subsets of information is required to be on the TS. As indicated above, test house information may be listed to cover a range of products.

**LITHIUM CELLS OR BATTERIES TEST SUMMARY
IN ACCORDANCE WITH SUB-SECTION 38.3
OF MANUAL OF TESTS AND CRITERIA**

CELL / BATTERY UN38.3 TEST SUMMARY REPORT

<p>Name of cell, battery or product manufacturer, as applicable:</p> <p>Item Number: 411TESTCELL001 Item Name: AB-Cell Item Description: Power Source Assembly</p>	<p>Cell, battery or product manufacturer's contact information to include address, phone number, email address and website for more information:</p> <p>Lithium Battery Manufacturer 6800 Test Battery Lane Testville, State ZIP USA +1-555-555-1234 e-mail@testbattery.com www.testbattery.com</p>																									
<p>Name of the test laboratory to include address, phone number, email address and website for more information:</p> <p>UN38.3 Test Laboratory 123 Test Lab Pkwy Testlabcity, State ZIP USA +1-555-555-9876 e-mail@testlab.com www.testlab.com</p>	<p>Unique test report identification number:</p> <p>XYZ123</p>	<p>Date of the test report:</p> <p>01-Aug-2013</p>																								
<p>Description of cell or battery to include at a minimum: Lithium ion or Lithium metal cell or battery; Mass; Watt-hour rating, or lithium content; Physical description of the cell/battery; and Model numbers:</p> <p>Cell used in implantable medical devices, such as: Pacemakers (IPG), Neuro-Stimulators or Implantable Defibrillators (ICD)</p> <p>Cell/battery Type: Lithium metal Cell or Battery: Cell ELC or W/h rating: Cell ELC: >0.3<1.0g Cell or Battery Weight: 14.2 grams</p>	<p>List of tests conducted and results (i.e., pass/fail):</p> <table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.1: Altitude simulation</td> <td>T1 Test Pass</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.2: Thermal test</td> <td>T2 Test Pass</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.3: Vibration</td> <td>T3 Test Pass</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.4: Shock</td> <td>T4 Test Pass</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.5: External short circuit</td> <td>T5 Test Pass</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.6: Impact/Crush</td> <td>T6 Test Pass</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Test T.7: Overcharge</td> <td>Not Applicable</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Test T.8: Forced discharge</td> <td>T8 Test Pass</td> </tr> </table> <p>Testing additional comments: No additional information</p>		<input checked="" type="checkbox"/>	Test T.1: Altitude simulation	T1 Test Pass	<input checked="" type="checkbox"/>	Test T.2: Thermal test	T2 Test Pass	<input checked="" type="checkbox"/>	Test T.3: Vibration	T3 Test Pass	<input checked="" type="checkbox"/>	Test T.4: Shock	T4 Test Pass	<input checked="" type="checkbox"/>	Test T.5: External short circuit	T5 Test Pass	<input checked="" type="checkbox"/>	Test T.6: Impact/Crush	T6 Test Pass	<input type="checkbox"/>	Test T.7: Overcharge	Not Applicable	<input checked="" type="checkbox"/>	Test T.8: Forced discharge	T8 Test Pass
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<p>Reference to assembled battery testing requirements, if applicable (i.e., 38.3.3(f) and 38.3.3;(g)):</p> <p>Not applicable</p>	<p>Reference to the revised edition of the Manual of Tests and Criteria used and to amendments thereto, if any:</p> <p>Revision 5, Amendment 2</p>																									
<p>Signature with name and title of signatory as an indication of the validity of information provided:</p> <p>First Name Last Name <i>Lithium Batteries Expert</i></p> <div style="text-align: center; font-family: cursive; font-size: 1.5em; margin-top: 10px;">  </div>	<p>Date this document was generated:</p> <p>21-Mar-2017</p>																									