TEST SPECIFICATION

Product:	Batteries		
Scope:	Batteries	Protocol No.	TYCP-PS002 (US)
		Version	1.0
		Issue Date	Sep12, 2011
		Prepared by	Tiger Yang
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Instructions to Vendors:

Dear Valued Vendor:
Product safety is a top priority at Taymark. We, with the assistance of Intertek, a CPSC-accredited third-party testing partner or lab, have identified the various rules and regulations as well as the necessary test requirements that we need to meet in our partnership to sell products in the United States. This has been assembled into our required Test Protocol. Each product that is supplied to us must comply with this Test Protocol and any required associated test protocol(s) identified within it.

You are required by the US Law to verify the products you provide to Taymark (or any other customer marketing to children in the USA) meet the required safety standards. Likewise, Taymark is required by US Law to assure that we have documentation to confirm that you have verified that your products meet the applicable safety standards. Once you have verified that the product(s) you have supplied to us conforms to the corresponding Test Protocol(s), and the testing was conducted within the past twelve (12) months, we ask that the appropriate representative from your company provide Taymark with the proper General Certificate of Conformity ("GCC") and the corresponding documentation that you used to support the GCC, including, where applicable and required, the CPSC-accredited third-party test data. For an example of an acceptable GCC, please go to http://www.cpsc.gov/about/cpsia/faq/elecertfaq.pdf.

Key

† : Any element on the attached form with the following symbol ("†") is a Mandatory Requirement to which the product(s) or components of product(s) you supply to Taymark must conform. You must perform the associated test(s) and provide Taymark with the test data to support the fact that the test(s) was (were) conducted and that the product(s) or components of product(s) meets the described requirements. You are responsible for conducting the mandatory testing, and you are responsible for any expenses incurred as a result of conducting the test(s) (including, without limitation, the costs and expenses associated with providing any samples, testing, reporting, and preparing the General Certificate of Conformity).

: The symbol ("") on the attached form indicates that additional charges may apply. Taymark's preferred Accredited Third-Party Testing Facility is Intertek. If you choose to use Intertek to conduct the mandatory testing, please reference Taymark and Taylor Corporation when submitting your requests for testing to Intertek as you may be able to take advantage of Taymark and Taylor Corporation's volume discount. You may contact Intertek for a price quote and any additional information they might need in order to conduct the required testing.

Additional Accredited Third-Party Testing facilities can be found at http://www.cpsc.gov/cgi-bin/labsearch/.

Note:

Where there is no applicable US standard, Intertek has chosen the most relevant International Standard to assess the product safety and performance. For undated references, the latest edition of the referenced document (including any amendments) applies.

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Attribute	Test Method/Standard	Requirement / Limit
Supplemental Protocol(s)		
*Battery Operated Product	TYCP-PS001	Must all also test to the Battery Operated Product protocol if applicable. See Battery Operated Product Protocol posted at http://www.taymarkinc.com
*†CA Prop 65 (mandatory in state California)	Intertek Protocol	Consent Judgment of related court case based on California Proposition 65. See http://oehha.ca.gov/prop65.html
Note: Additional cost, sample size & TAT may be required if testing to 1 or more supplemental protocol is necessary. Please refer to the above referenced supplemental protocol(s) for additional information		
Chemical Analysis		
1. * Lead Content in Paint and Similar Surface Coating	16 CFR 1303 (Scope Widened)	Shall not exceed 90ppm (0.009% by weight) total lead.
2. *Mercury-Containing and Rechargeable Battery Management Act	U.S. Pub. L. 104-142. 13 May 1996. Stat. 110.1333. Mercury Analysis (EPA Guidance, Best Practice) Title II.	Batteries larger than button cell shall contain no intentionally added Mercury. No intentionally added Hg is demonstrated in this protocol if testing shows less than 1 ppm (best practice). Batteries of button cell size are allowed small amounts of added mercury, but shall test to less than 25 mg Hg /cell. Testing is required on all included alkaline-manganese batteries, zinc-carbon (Heavy Duty) batteries, and silver-oxide and zinc-air button cells.
Document Check		
3. †One Time Use Products Fair Packaging and Labeling Act OR All Other Products Uniform Packaging and Labeling Regulations	F.P. & L. Act (16 CFR 500) OR NIST Uniform Laws and Regulations Handbook 130	Manufacturer, packer, or distributor's name & address (city, state & zip) Product Identification Net quantity of contents shall be expressed in terms of weight or mass, measure, numerical count, or combination so as to give accurate information to facilitate consumer comparison (U.S. and metric units).
4. †Country of Origin Marking	19 CFR 134.11	Shall indicate country of origin legibly, permanently, and in comparable size and close proximity to any mention of country other than country in which the article was manufactured or produced. Must be visible at point of purchase.
5. Use Labelling	Visual Check	Use/care instructions that are clear and understandable shall be provided in language appropriate to destination countries
6. Verify Label Claims (if any)	Visual Check	Must comply with all claims

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7. †*Toxics in Packaging	Toxics in Packaging Act	Intentional introduction of any amount of lead, mercury, cadmium or hexavalent chromium in any packaging is prohibited. Incidental presence of these metals is limited to 100 ppm total concentration of lead, mercury, cadmium and hexavalent chromium in any packaging. **In lieu of testing, supplier may submit a Certificate of Compliance.**
8. †Plastic Bag Warning Statement (if applicable)	Based on Various State Laws: New York, Chicago, Massachusetts, and Rhode Island State and City Laws modified	Plastic bags with a thickness less than one mil (1/1000 inch) having an opening size of five inches in diamerter or more must have the following warning or an equivalent warning visible from each side of the bag. If the total length and width is more than 40 inches, this warning or an equivalent warning must repeat at 20 inch intervals and be visible on each side of the bag: Warning: To avoid danger of suffocation, keep this plastic bag away from babies and children. Do not use this bag in cribs, beds, carriages or playpens. This bag is not a toy. Massachusetts, New York, and Rhode Island provide minimum type size for the warning. The following table sets forth type sizes that will satisfy all four state requirements. Total Length and Width of Bag Size of Print 60 inches or more at least 24 point 40 to 59 inches at least 18 point 25 to 39 inches at least 14 point Less than 25 inches at least 10 point *Virginia's law is intended for dry cleaning bags only and requires at least 36 point type.
9. Mercury-Containing and Rechargeable Battery Management Act Pub. L. 104-142. 13 May 1996. Stat. 110.1333.	Title I, Rechargeable Battery Recycling Act, Visual (if applicable)	Cadmium and Lead containing batteries shall bear 3 chasing arrows or comparable recycling symbol and Ni-Cd or nickel-cadmium and “BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY” Pb or “LEAD”, “RETURN” and “RECYCLE” and “BATTERY MUST BE RECYCLED” if sealed.

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10. Rechargeable Battery Outside Jacket Marking	ANSI C18.2M, PART 1-2007, Section 1.4.8.1	Shall be marked on the battery or package: • Designation • Polarity of terminal • Name or trade mark of the manufacturer or supplier • Battery electrochemical system • Nominal voltage • Rated Capacity in mAh • Year, month, week or day of manufacture which may be coded or the expiration date • Warnings or cautionary notes where applicable • Caution for ingestion • Recycle mark • Country of origin
11. Battery Product Packaging	Visual Check	Shall mark with type / designation and number of batteries required; batteries included or not. Shall be visible at purchase
12. UPC code	Actual Use	Using a commercial available bar code reader to read the UPC code printed on the package/artwork. The code readout shall match with the number underneath. Record the reading displayed on the reader.
13. Parts Inventory	Visual Check	Shall meet label claims.
Electrical Safety		
14. Packing	Visual Check	No hazard when removing the packing
15. Workmanship	Visual Check	Shall have no sharp points/edges, other than those required for function. Shall have no components missing, malformed, and/or fractured.
16. Mechanical Assembly	Visual Check	All mechanical parts shall be securely fixed and prevented from turning.
17. Reverse Polarity of Battery	In-house Method	Insert battery but with reverse polarity and stabilize for 1 hour. Explosion or chemical leakage shall not occur.
18. Overcharge Test	In-house Method	Fully charge the product according to user instruction. Additional charge for 7 hours. No overheating, melting of parts and chemical leakage shall occur.
19. Short-circuit Test	ANSI C18.1M Part 2 Cls. 7.4.2 (Mod: sample size = 1; temp. tested = 20+/-5degC)	For non-rechargeable batteries, the undischarged battery sample shall be short-circuited and remain on test for 24 hours or until the case temperature declines by 20% of the temperature rise. No explosion and no fire occur.
	ANSI C18.2M Part 2 Cls. 7.2.2 (Mod: sample size = 1; temp. tested = 20+/-5degC)	For rechargeable batteries, fully charged sample shall be short-circuited and remain on test for 24 hours or until the case temperature declines by 20% of the temperature rise. No explosion and no fire occur.
Performance Test		

Attribute	Test Method/Standard	Requirement / Limit
20. Open Circuit Voltage	Std. measure	Shall meet label claims.
21. *Rated capacity measurement for rechargeable battery(on request only)	ANSI C18.2M Part 1 Cls. 1.4.6.1 (Mod: sample size = 1)	The delivered capacity shall be greater than or equal to the rated capacity declared by the battery manufacturer. If the resultant capacity delivered is lower than the rated capacity, then the charge and discharge may be repeated until the resultant capacity is greater or equal to the rated capacity. A total of five cycles is permitted to demonstrate compliance.

Remark: Additional tests may be incurred subject to the final samples reviewed by Intertek.