Green Label Product
Primary Battery
(TGL-06-R2-24)

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1. Background

A primary battery generates direct current electricity through chemical processes. Once depleted, it cannot be recharged and must be disposed of. The disposal of used primary batteries poses significant environmental challenges. When incinerated, primary batteries release heavy metal vapors into the air. These heavy metal vapors can enter the body through inhalation, ingestion, or absorption through the skin. Once inside the body, they dissociate into ions, disrupting biochemical reactions essential for energy production. This disruption can manifest as various physical abnormalities and health issues.

Therefore, primary batteries certified with a green label help reduce the amount of heavy metals released into the environment, enhancing consumer safety and minimizing chemical contamination in nature. Additionally, they encourage proper waste segregation, reduce the volume of waste generated, and alleviate the burden of pollution treatment and disposal.

2. Scope

This criteria covers primary batteries compliant with TIS 96.

3. Definitions

3.1 **Battery:** One or more cells electrically connected and enclosed in a casing, equipped with terminals, markings, protective devices, and other components necessary for operation.

3.2 **Primary cell:** A cell that is not designed to be recharged.

3.3 **Letter for Declaration of Compliance:** A certification document issued by the applicant or manufacturer confirming compliance with the special requirements specified in the Green Label criteria for the product being applied for.

3.4 **Certificate:** A document issued by a Certification Body accredited by the Office of the National Standardization Council (ONSC) or an Accreditation Body under the mutual recognition agreements of the International Accreditation Forum (IAF).

3.5 Legally Authorized person: A person authorized to sign under the Civil and Commercial Law.

4. General requirements

4.1 Primary batteries must be certified according to the industrial product standards for primary batteries, criteria the standard number TIS 96 Part 2-5, or meet the criteria defined by the test methods specified in the industrial product standards, or international standards such as ISO, IEC, or national standards like ASTM, JIS, DIN, EN, etc.

Verification method

The applicant shall submit evidence of the license displaying the industrial product standards mark, **or** test results according to the relevant industrial product standards, or test results according to international standards, equivalent national standards, **or** other applicable standards

4.2 Manufacturing, transportation and post-industrial waste disposal shall comply with national laws and regulations or the manufacturer shall be accredited by ISO14001.

Verification method

The applicant shall submit one of the following documents:

1. License or evidences to prove that manufacturing, transportation, and post-industrial waste disposal complies with national laws and regulations.
2. Certification of ISO 14001 from the manufacturer

Remark: In case of imported products, the factory must be certified with ISO 9001 (Quality Management System) and ISO 14001 (Environmental Management System).

5. Environmental Requirement

5.1 The amount of heavy metals and flame retardants in primary batteries must not exceed the following limits: Restricted substances referred to in Article 4(1) and maximum concentration values tolerated by weight in homogeneous materials.[1]

- Lead (0,1 %)
- Mercury (0,1 %)
- Cadmium (0,01 %)
- Hexavalent chromium (0,1 %)
- Polybrominated biphenyls (PBB) (0,1 %)
- Polybrominated diphenyl ethers (PBDE) (0,1 %)

Verification method

The applicant shall submit test results for the amount of heavy metals and flame retardants as specified in Special Requirement 5.1, using methods such as Inductively Coupled Plasma Mass Spectrometry (ICP-MS), Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES), or IEC 62321-3-1: Determination of Certain Substances in Electrotechnical Products-Part 3-1: Screening-Lead, Mercury, Cadmium, Total Chromium, and Total Bromine by X-ray Fluorescence Spectrometry, or other methods capable of testing heavy metals and flame retardants. The testing laboratory must be ISO 17025 accredited for the relevant scope of testing or registered with the Green Label.

5.2 Packaging

5.2.1 Inks, colors, or pigments used for printing on packaging or labels attached to packaging must not contain heavy metals as ingredients. In case of contamination, the allowed concentration of heavy metals, including mercury, lead, cadmium, and hexavalent chromium, combined, must not exceed 0.01% By weight (≤100 milligrams per kilogram)

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[1] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0065.

Verification method

The applicant shall submit one of the following documents:

1. A certificate and test results for the concentrations of mercury, lead, cadmium, and hexavalent chromium issued by the colorant manufacturer or packaging manufacturer.
2. Test results for the concentrations of mercury, lead, cadmium, and hexavalent chromium, tested according to the following specified testing methods.
   - 2.1 Mercury concentration tested according to the testing methods specified in ISO 3856-7, or ASTM D 3624, or IEC 62321, or any other method capable of determining mercury content.
   - 2.2 Lead concentration tested according to the testing methods specified in ISO 3856-1, or ISO 6503, or ASTM D 3335, or IEC 62321, or any other method capable of determining lead content.
   - 2.3 Cadmium concentration tested according to the testing methods specified in ISO 3856-4, or ASTM D 3335, or IEC 62321, or EN 12498, or any other method capable of determining cadmium content.
   - 2.4 Hexavalent chromium concentration tested according to the testing methods specified in ISO 3856-5, or IEC 62321, or any other method capable of determining hexavalent chromium content.

5.2.2 In the case of plastic packaging (excluding product wrapping films)

1) Plastic packaging must have a symbol indicating the type of plastic according to the industrial product standard for the symbol for recyclable plastics, TIS 1310, or include an abbreviation specifying the type of plastic according to ISO 1043 or ISO 11469 standards.

Verification method

The applicant shall submit a reliable certificate confirming that the plastic packaging has a symbol indicating the type of plastic according to the industrial product standard for recyclable plastics, TIS 1310, or ISO 1043 or ISO 11469. The certificate must bear the company's official seal, along with a photograph showing the symbol indicating the type of plastic on the packaging.

2) It shall not contain any polymers with halogenated substances as components.

Verification method

The applicant shall submit a reliable certificate confirming that the plastic packaging does not contain any polymers with halogenated substances as components. The certificate must bear the company's official seal and be signed by an authorized signatory of the plastic packaging manufacturer.

5.2.3 In the case of paper packaging, it must be made from at least 70% by weight of recycled fiber.

Verification method

The applicant shall submit a reliable certificate confirming that the paper packaging is made from at least 70% by weight of recycled fiber. The certificate must bear the company's official seal and be signed by an authorized signatory of the paper packaging manufacturer.

5.3 The primary battery waste is recalled and managed properly according to scientific principles, with appropriate handling procedures in place.

Verification method

The applicant shall present evidence of the recall of primary battery waste that can be effectively implemented. This evidence must bear the company's official seal and be signed by an authorized signatory of the company.

6. Testing and certificate

6.1 Testing

6.1.1 The laboratory with the competence of testing and calibration by TIS 17025 Standard or ISO/IEC 17025 with the relevant scope or laboratories that with the criteria and conditions for laboratory registration (RR-203) will be accepted.

6.1.2 Test results

6.1.2.1 The testing report that the method specified in the Green Label requirements

6.1.2.2 In case, the applicant submits the testing report with according to other test methods equivalent to the method specified in the green label requirements, the applicant shall submit the document as follow;

1) The certified signature document of the apply product from the laboratory that equivalent with test method standard specified in the green label requirements
2) The validation of the method (Validation Method) used by the applicant to test the product, compared to the testing methods specified in the Green Label requirements

6.1.2.3 The test report must not be more than 3 years up to the date of application for green label certification

6.2 Declaration letter to verify compliance with Green label requirements

6.2.1 Shall have been issued no more than 1 year following the application date.

6.2.2 Shall be signed by the authorized directors and have the company seal affixed (if relevant)