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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 24462-2009

General safety requirements for civilian used primary battery

民用原电池安全通用要求

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Foreword

The standard Chapter 5, Chapter 6, are mandatory, the rest are recommended. The Standard Appendix A and Appendix B is an informative annex. The standard proposed by China National Light Industry Council. This standard by the National Standardization Technical Committee primary cell (SAC/TC176) centralized. Drafting of this standard. National Light Industry Quality Supervision and Testing Center of the battery, BOC (Ningbo) Battery Co., Ltd., Fujian Nanping Fu Battery Co., Ltd., Guangzhou Tiger Head Battery Group Co., Ltd., Wujiang Exit Inspection and Quarantine, Sichuan Changhong New Energy Technology Co., Division, Jiaying Heng Wei Battery Co., Ltd. Battery Co., Ltd. Jiashan River. The main drafters of this standard. Linpei Yun, Kang Xin dry, Huang Xingping, Liu Xu, Song Yang, Wang Shengbing, Wang Hai, a law forever. General requirements for safety of civilian primary battery

1 Scope

GB 24462-2009 is the Chinese national standard on general safety requirements for civilian used primary battery, in the field of electrical engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 15 October 2009 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 December 2010. Classification: ICS 29.220.10, CCS K82. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the civilian primary battery classification, security, performance

requirements, marking, civilian primary batteries to buy, use, replacement and disposal guidelines, electricity Battery compartment safety design guidelines appliances. This standard applies to all types of civil-aqueous electrolyte primary batteries (alkaline and non-alkaline zinc - manganese dioxide batteries, zinc - silver oxide batteries, Zinc - nickel oxyhydroxide batteries, alkaline and neutral zinc - air batteries) and a variety of primary lithium batteries (lithium - carbon fluoride batteries, lithium - manganese dioxide battery, Lithium - thionyl chloride batteries, lithium - iron disulfide batteries, lithium - sulfur dioxide and lithium - copper oxide battery, etc.) production, testing and acceptance. This standard provides guidance for the safe use and handling of primary batteries; provide guidance for the design of electrical equipment designers battery compartment.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 8897.2-2008 Primary batteries - Part 2. Dimensions and electrical performance requirements

GB/T 8897.3 Primary batteries - Part 3. Watch batteries

GB 8897.4 Primary batteries - Part 4. Safety requirements for lithium batteries

GB 8897.5 Primary batteries - Part 5. Safety of batteries with aqueous electrolyte

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 By not charging design directly convert chemical energy into electrical energy supply basic functional unit. By the electrodes, the electrolyte, container, poles End, and usually the isolation layer.

3.2 Equipped with use of the device (such as housing, extreme, signs and protective devices) is required by one or more monomers consisting of primary batteries battery.

3.3 An aqueous solution of electrolyte galvanic cell.

3.4 Neither aqueous liquid electrolyte which no other active proton (H^+) derived from primary cells.

3.5 Mainly refers to GB/T in 8897.2-2008 third class and fourth class battery.

4 Primary battery classification

4.1 aqueous electrolyte primary battery Aqueous electrolyte primary cells including alkaline and non-alkaline zinc - manganese dioxide batteries, zinc - silver oxide batteries, zinc - nickel oxyhydroxide batteries, alkaline And neutral zinc - air batteries.

4.2 non-aqueous electrolyte primary battery A non-aqueous electrolyte comprises a lithium primary battery - carbon fluoride batteries, lithium - manganese dioxide batteries, lithium - thionyl chloride batteries, lithium - iron disulfide electricity Pool, lithium - sulfur dioxide and lithium - copper oxide batteries.

5 Civil original battery safety performance requirements

5.1 aqueous electrolyte primary battery Alkaline and non-alkaline zinc - manganese dioxide batteries, zinc - silver oxide batteries, zinc - nickel oxyhydroxide batteries, alkaline and neutral zinc - air batteries should be carried out Line GB 8897.5 provisions of the safety performance test, the battery should meet the requirements.

5.2 non-aqueous electrolyte primary battery Lithium - carbon fluoride batteries, lithium - manganese dioxide batteries, lithium - thionyl chloride batteries, lithium - iron disulfide batteries, lithium - sulfur dioxide and lithium - copper oxide electric Pools and other types of primary lithium batteries should be GB 8897.4 provisions of the safety performance test, the battery should meet the requirements.

6 Logo

6.1 General Apart from a small battery, the battery should be marked on each of the following.

- a) Model; Deadline
- b) production time (month and year) and shelf life, or recommendations period;
- c) extreme positive and negative polarity (if applicable);
- d) nominal voltage;
- e) the manufacturer or supplier's name and address;
- g) implementation of the standard number;
- h) Safety Precautions (warning instructions);
- i) the amount of mercury ("low mercury" or "mercury-free") (where applicable).

6.2 small battery logo Requirements of small battery symbol as follows: When

- a) when the outer surface of the battery is too small not enough to mark the content

specified in 6.1, shall be marked on the battery 6.1a) model and 6.1c) Polarity All other marks shown in

6.1 shall be marked on the battery directly packaged;

b) directly on a small battery packaging shall be marked to prevent accidental swallowing of small battery warning;

c) button cell production time (month and year) may be coded, said coding method, see GB/T 8897.3. Optional 7 civilian primary battery, use, replacement and disposal guidelines

Appendix A

(Informative) Electric with battery compartment Design Guide A.

1 Background Growing a battery powered electrical equipment and technology, to promote primary cells mature in both structure and electrochemical properties of the battery Capacity and discharge capacity can be improved. Due to the continuous development of primary battery technology advances and people "batteries meet safety and performance Both demand "recognition, the" battery case caused by misuse of electrical equipment failure mostly due to accidental misuse the user and made Into "argument has been accepted. The following content can help designers to battery powered electric appliances Learn how to greatly reduce or eliminate battery failure. A.

1.1 Design of the battery compartment due to poor battery failure Poorly designed battery compartment can cause the battery to short circuit the battery or reverse mount. A.

1.2 Due to the potential dangers caused by battery reverse By three or more cells in series circuits (shown in Figure A.1), if there is a reverse battery, there is a latent following In danger.

a) The reverse battery to be charged;

Note. The charging current is limited by the external circuit/load.

b) The reverse battery internally generated gas;

c) the occurrence of a reverse battery discharge;

d) The reverse battery electrolyte leakage. NOTE. The battery electrolyte is harmful to human tissue. Figure A. Example 1. When a battery connected in series reverse A.

1.3 potential danger caused by a short circuit Battery short circuit will exist following potential hazards.

a) a large current by causing heat generation;

b) generating a gas;

c) the occurrence of discharge;