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

GB/T 4369-2015

Lithium

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Foreword

This Standard is drafted in accordance with the rules given in GB/T 1.1-2009. This Standard replaces GB/T 4369-2007 "Lithium". As compared with GB/T 4369-2007, the main changes of this Standard are as follows: - ADD product designation; - ADJUST the chemical composition of product; - MODIFY the appearance quality of product. This Standard was proposed by China Nonferrous Metals Industry Association. This Standard shall be under the jurisdiction of China National Technical Committee for Standardization of Nonferrous Metals (SAC/TC 243). Drafting organizations of this Standard. Fengxin Ganfeng Lithium Co., Ltd., China Energy Lithium Co., Ltd., Tianqi Lithium Co., Ltd., Lithium Branch of CNNC Jianzhong Nuclear Fuel Co., Ltd., Xinjiang Asia-Europe Rate Metals Co., Ltd.. Main drafters of this Standard. Xiong Xunman, Dai Xiaoyong, Li Qiang, Zhu Shigui, Chen Qiang, Jia Zhenyong, Ma Zhenqian, Jiang Hucheng, Zuo Yongjian, Zhang Jingdong, Wang Wenhong, Chen Yuedi. The previous releases of versions of the standard replaced by this Standard are. - GB/T 4369-1984; - GB/T 4370-1984; - GB/T 4369-2007. Lithium

1 Scope

China's national standard for lithium metal. It specifies the requirements, the test methods, the inspection rules and the packaging, marking, transport and storage. Lithium is the

lightest metal and the most electropositive, which is the origin of both its value and its difficulty. Its value is the battery: the same properties give lithium cells an energy density nothing else approaches, and that has made the metal and its compounds strategically central. Its difficulty is handling - lithium reacts with water, with nitrogen at room temperature, and with the oxygen and moisture of ordinary air, so the metal is produced, stored and shipped under argon or under oil, and the packaging provisions in the standard are not routine. Metallic lithium as distinct from its compounds goes into primary batteries, into lithium metal anodes for the next generation of cells, and as an alloying addition to aluminium for aerospace.

This Standard specifies the requirements, test methods, inspection rules and marking, packaging, transportation and storage, quality certificate, and order form (contract) content of lithium. This Standard applies to the lithium metal prepared from anhydrous lithium chloride as raw material, by fused salt electrolysis, and refining; for use in chemical industry, nonferrous metal, medicine, synthetic rubber catalysis, smelting deoxidation, etc.

2 Normative references

The following documents are indispensable for the application of this document. For the dated references, only the versions with the dates indicated are applicable to this document. For the undated references, the latest version (including all the amendments) are applicable to this document.

GB 190-2009 Packing symbol of dangerous goods

GB/T 191-2008 Packaging - Pictorial Marking for Handling of Goods

GB/T 325 (all parts) Packaging containers - steel drums

GB 12268 List of dangerous goods

3 Requirements

3.1 Product classification The product, according to its chemical composition, is divided into 6 designations. Li-1, Li-2, Li-3, Li-4, Li-5, Li-6.

3.2 Chemical composition The product chemical composition shall conform to the provisions of Table 1.

3.4 Appearance quality

3.4.1 The surface of Li-1, Li-2, and Li-3 products has silvery white metallic luster, without obvious oil stain and shrinkage holes. A small number of pores with a diameter of less than 2 mm and cold shuts with a depth of less than 3 mm are allowed.

3.4.2 No visible inclusions are allowed in lithium products.

4 Test methods

4.1 The analysis of the chemical composition of lithium products is carried out according to the provisions of GB/T 20931. The analysis of lead content is carried out according to the method approved by both supply and demand sides.

4.2 The specifications of lithium products are measured by the measuring tools with corresponding precision.

5.1 Inspection and acceptance Impurity content Design ations

5.1.1 The product shall be inspected by the supply side, to ensure that the product quality complies with the provisions of this Standard and order form (or contract), and the quality certificate is filled out.

5.2 Lot grouping Lithium products shall be submitted for acceptance in lots. Each lot shall be made up of the lithium of the same designation, the same heat number, and the same specification.

5.4 Chemical composition sampling and sample preparation

5.4.1 When the supply side is casting each lot of lithium ingots, a sample ingot of $\Phi 100$ mmx120 mm is cast at the same time. CUT off the both ends; along the cross section of the ingot, CUT into lithium sheets; PLACE in a dry sampling bottle with a ground mouth or a dry aluminum-plastic compound bag to seal.

5.4.2 The demand side can randomly draw a lithium ingot per lot. DIVIDE the lithium ingots into 3 parts according to equal height; TAKE the middle section part; PLACE in a dry sampling bottle with a ground mouth or a dry aluminum- plastic compound bag to seal.

6.1 Marking

6.1.1 The inner packaging and outer label of each bag of product shall be marked.

6.1.2 Each drum of product shall be accompanied by a label or sign, which indicates.

6.1.3 The outer packaging of product shall be marked with the label graphics of "substance which emits flammable gas in contact with water" in No.4 of Table 2 of GB 190-2009, and the label of "avoiding rain" in No.6 of Table 1 of GB/T 191- 2008.

6.2 Packaging

6.2.3 When the demand side has special requirements for packaging, the supply and demand sides shall negotiate separately.

6.3 Transportation and storage

6.3.1 Lithium product belongs to the flammable good when wet in GB 12268. During transportation, fire and moisture shall be prevented; no violent collision shall be permitted; and the drum body shall not roll on the ground. The automobile transportation shall be carried out in accordance with the provisions of JT 617 and JT 618.

6.4 Quality certificate Each lot of products shall be accompanied by a quality certificate, which indicates.