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YS

**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 582-2023

Battery grade lithium carbonate

电池级碳酸锂

(English Translation)

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020

"Directives for standardization - Part 1. Rules for the structure and drafting of standardizing documents".

This document replaces YS/T 582-2013 "Battery grade lithium carbonate". Compared with YS/T 582-2013, in addition to structural adjustments and editorial changes, this document has the following major technical changes.

- a) CHANGE the definition of magnetic impurity (see 3.1; 3.1 of the 2013 edition);
- b) ADD the classification of battery-grade lithium carbonate (see Chapter 4);
- c) CHANGE some product chemical composition indicators (see 5.1; 4.1 of the 2013 edition);
- d) ADD the indicator of boron in the chemical composition of products (see 5.1);
- e) CHANGE the requirements for magnetic impurity in products (see 5.2; 4.2 of the **2013 edition**);
- f) CHANGE the requirements for moisture content of products (see 5.3; 4.3 of the

2013 edition);

g) ADD the requirements for loss on ignition of products (see 5.4);

h) CHANGE the requirements for particle size D50 of products (see 5.5; 4.4 of the

2013 edition);

i) ADD the requirements for particle size D99 of products (see 5.5);

j) CHANGE the net weight requirement for each batch of products (see 7.2; 6.2 of the 2013 edition);

k) ADD the requirements for loss on ignition in the inspection items and sampling (see 7.3; 6.3 of the 2013 edition);

l) CHANGE the description of the sampler and the number of samples (see 7.3; 6.3 of the 2013 edition);

m) CHANGE the judgment of the inspection results (see 7.4; 6.4 of the 2013 edition);

n) CHANGE the packaging requirements (see 8.2.1; 7.2 of the 2013 edition);

o) ADD the method for determining the boron content of the product (see Appendix A);

p) CHANGE the method for determining the content of magnetic impurity in battery-grade lithium carbonate by inductively coupled plasma atomic emission spectrometry (see Appendix B; Appendix A of the 2013 edition);

q) ADD the method for determining the loss on ignition of the product (see Appendix C).

1 Scope

This document specifies the classification, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, accompanying documents, order forms of battery-grade lithium carbonate.

This document is applicable to battery-grade lithium carbonate, which is produced by various methods.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in the text. Among them, for dated references, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

GB/T 191 Packaging - Pictorial marking for handling of goods

GB/T 6284 Chemical products for industrial use - General method for determination of water content - The loss of mass on drying method

GB/T 6678-2003 General principles for sampling chemical products

GB/T 11064 (all parts) Methods for chemical analysis of lithium carbonate, lithium hydroxide monohydrate and lithium chloride

GB/T 19077 Particle size analysis - Laser diffraction methods

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Magnetic impurity

Material that can be directly or indirectly adsorbed by ferromagnetic bodies.

Note: Mainly refers to magnetic substances in transition elements such as iron, chromium, nickel, zinc and their alloys.

4 Classification

The products are divided into three designations according to chemical composition.

Li₂CO₃-D1, Li₂CO₃-D2, Li₂CO₃-D3.

5.1 Chemical composition

The chemical composition of the product shall comply with the provisions of Table 1.

Where there are special requirements, the supplier and the buyer shall negotiate and determine.

5.2 Magnetic impurity

The content of magnetic impurity is the sum of the four elements of iron, chromium, nickel, zinc. The content of magnetic impurity in the product shall comply with the provisions of Table 2.

5.4 Loss on ignition

The loss on ignition in the product shall not exceed 0.50%.

5.5 Particle size

The particle size of the product shall meet the following requirements.

5.6 Appearance quality

The product is in the form of white powder with no visible inclusions.

6.1 The determination of the chemical composition of the product shall be carried out

in accordance with the provisions of GB/T 11064 (all parts). The determination of the boron content shall be carried out in accordance with the provisions of Appendix A.

6.2 The determination of magnetic impurity in the product shall be carried out in accordance with the provisions of Appendix B.

6.3 The determination of moisture in the product shall be carried out in accordance with

the provisions of GB/T 6284.

6.4 The determination of the loss on ignition in the product shall be carried out in accordance with the provisions of Appendix C.

6.5 The determination of the particle size of the product shall be carried out in accordance with the provisions of GB/T 19077.

7.2 Group-batching

The products shall be submitted for acceptance in batches. Each batch shall consist of the same batch of mixed materials of the same designation. The net weight of each batch