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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 20214-2026

Replacing GB/T 20214-2006

Crystalline layered sodium disilicate

层状结晶二硅酸钠

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 20214-2006 "Layered Crystalline Sodium Disilicate". Compared with GB/T 20214-2006, the main differences are structural adjustments and... Aside from editorial changes, the main technical changes are as follows:

---The method for identifying crystal structures has been changed (see 5.1,

4.1 in the.2006 edition);

---The method for determining calcium exchange capacity has been changed (see 5.2,

4.5 in the.2006 edition);

---The method for determining magnesium exchange capacity has been changed (see 5.3,

4.6 in the.2006 edition);

---The method for measuring whiteness has been changed (see 5.4,

4.3 in the.2006 edition);

---The method for pH determination has been changed (see 5.5,

4.4 in the.2006 edition);

---The method for determining loss on ignition has been changed (see 5.6,

4.7 of the.2006 edition);

4 Requirements

4.1 Appearance White powder or granules, without clumping; if clumps form, they will easily break apart when pressed lightly by hand.

4.2 Chemical composition and crystal structure The chemical composition of layered crystalline sodium disilicate is Na2Si2O5. It has four crystal structures. alpha-, beta-, gamma-, and delta-. The product specified in this document contains delta-... The phase-layered crystalline sodium disilicate should be the main component.

4.3 Physicochemical Indicators The physicochemical properties of layered crystalline sodium disilicate should meet the requirements of Table 1.

5 Test Methods

5.1 Identification of Crystal Structure The crystal form of layered sodium disilicate was determined according to the provisions of GB/T 19421.

5.2 Calcium exchange capacity Measured according to the provisions of GB/T 19421.

5.3 Magnesium Exchange Capacity Measured according to the provisions of GB/T 19421.

5.4 Whiteness Measured according to the provisions of GB/T 19421.

5.5 pH Measured according to the provisions of GB/T 19421.

5.6 Loss on ignition Measured according to the provisions of GB/T 19421.

5.7 Chemical composition The sodium oxide (Na2O) content was determined according to the provisions of GB/T 19421. The silica (SiO2) content was determined according to the provisions of GB/T 19421. The molar ratio of SiO2 to Na2O content is calculated by converting the measured values of silicon dioxide (SiO2) and sodium oxide (Na2O) content into molar amounts. It was obtained through subsequent calculations.

6.1 Inspection Classification

6.1.1 Type Testing Type testing includes all items specified in Chapter

4.Type testing shall be conducted in the following circumstances.

a) During formal production, significant changes may occur in raw materials, processes, equipment, and management (including changes in personnel qualifications), which could affect the product. When it comes to quality;

b) During normal production, type testing should be conducted periodically, generally once a month;

c) When production resumes after a long period of shutdown;

d) When the factory inspection results differ significantly from the previous type inspection results;

e) When the quality supervision agency requests a type test.

6.1.2 Factory Inspection The factory inspection items include whiteness, pH, calcium exchange capacity, and magnesium exchange capacity.

6.2 Product Batching and Sampling Rules

6.2.1 Product delivery in batches and sampling acceptance Products of the same specification and batch number delivered in one transaction constitute one delivery batch. Products delivered by the manufacturing unit shall first be inspected by its quality inspection department in accordance with this document, and shall be certified as conforming to this document and issued a product quality inspection certificate. A certificate is required before a product can leave the factory. The product quality inspection certificate should include the manufacturer's name, product name, trademark, applicable standard number, and batch number. And/or production date, quality indicators, etc. The receiving party shall inspect the goods upon presentation of the product quality inspection certificate. If necessary, sampling inspection may be conducted within one month in accordance with the following provisions.

6.2.2 Sampling The sample size required for acceptance by the receiving party should be determined according to Table 2 based on the batch size. Both parties should meet at the delivery location to collect the sample from the delivered batch. Randomly select bags of samples from the middle.

6.3 Judgment Rules The test results are determined as qualified or unqualified using the rounded value comparison method. If any physicochemical indicator fails to meet the standard, twice the number of bags of samples should be taken again. If the non-conforming items are re-inspected and the re-inspection results are still non-conforming, then the batch of products is deemed non-conforming.

7.1 Marking

7.1.1 The packaging shall bear the following markings.

a) Product name, trademark, and applicable standard number;

b) Batch number and/or production date;

d) It has markings or labels indicating that it is waterproof or moisture-proof;

e) The name, address, and contact number of the manufacturing company.

7.1.2 The printed markings (patterns and text) on the packaging should be clear and free from fading.

7.2 Packaging Packaging should be done in woven bags lined with plastic film, and the net

content of the package should conform to the nominal weight.

7.3 Transportation During transportation, it should be protected from sunlight, rain, and moisture. Handle with care to avoid damage to the packaging bags.

7.4 Storage Products should be stored in a dry, clean warehouse. If outdoor storage is necessary, appropriate moisture-proof measures should be taken, and the stack height should not exceed the support height. The maximum load on the goods shall be limited, and they shall be covered to protect them from sun, rain, moisture, and damage.

7.5 Shelf life Under the above storage and transportation conditions and without being opened, the product has a shelf life of at least one year from the date of production.