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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 23456-2025

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Phosphogypsum

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1 Scope

This Standard specifies the classification and labeling, requirements, test methods, inspection rules, as well as packaging, marking, transportation and storage of phosphogypsum.

This Standard is applicable to phosphogypsum, which is obtained when phosphoric acid is produced through the wet method, using phosphate ore as the raw material, and with calcium sulfate dihydrate (CaSO4 ? 2H2O) as the main component.

2 Normative References

GB/T 5484-2012

GB 6566

3.1 Classification

In accordance with the content of calcium sulfate dihydrate, from high to low, the product is mainly classified into Grade-1, Grade-2 and Grade-3.

3.2 Labeling

Labeling is performed in accordance with the sequence of product name, standard serial No. and classification.

EXAMPLE: Grade-1 phosphogypsum is labeled as follows: Phosphogypsum GB/T 23456-2018 Grade-1.

5.2.2 Calculation of calcium sulfate dihydrate (CaSO4 ? 2H2O) content

The content of calcium sulfate dihydrate (CaSO4 ? 2H2O) is calculated in accordance with Formula (1), and the calculation result is accurate to 0.01%. Where, G---the content of calcium sulfate dihydrate (CaSO4 ? 2H2O), expressed in (%);

4 7785---the coefficient of converting the crystallization water content into calcium sulfate dihydrate (CaSO4 ? 2H2O) content;

H---the content of crystallization water, expressed in (%).

5.3 Water-soluble Phosphorus Pentoxide (P2O5)

Carry out the test in accordance with JC/T 2073.

5.4 Water-soluble Fluoride Ions (F?)

Carry out the test in accordance with JC/T 2073.

5.5 Water-soluble Magnesium Oxide (MgO)

Carry out the test in accordance with Chapter 27 of GB/T 5484-2012.

5.6 Water-soluble Sodium Oxide (Na2O)

Carry out the test in accordance with Chapter 28 of GB/T 5484-2012.

5.7 Chloride Ions (Cl?)

Carry out the test in accordance with Chapter 29 of GB/T 5484-2012.

5.8 Limits of Radionuclides

Carry out the test in accordance with GB 6566.

5.9 PH Value

Carry out the test in accordance with Chapter 25 of GB/T 5484-2012.

6.1.1 Exit-factory inspection

The exit-factory inspection items are attached water (H2O), calcium sulfate dihydrate (CaSO4 ? 2H2O) content, water-soluble phosphorus pentoxide (P2O5), water-soluble fluoride ions (F?) and pH value.

6.1.2 Type inspection

The type inspection items all items specified in Chapter 4. Under one of the following

circumstances, type inspection shall be carried out:

a) When there are major changes in raw materials, processes and equipment;

b) When the production is resumed after being discontinued for more than half a year;

c) After one year of normal production.

6.2.1 Batch size

5,000 t of products are considered as one batch, and products less than 5,000 t are also counted as one batch.

6.2.2 Sampling

When sampling from the stockyard, the outer layer of the material about 500 mm thick shall be removed, more than 20 different parts shall be selected, and a total of about 10 kg of specimens shall be taken. After mixing, divide the specimens into 2 kg using the quartering method. Divide the sample taken into two equal parts, one as the test sample and the other as the backup sample; keep them sealed.

6.3 Determination

If the inspection results comply with all the requirements in Chapter 4, then, the batch of products shall be determined as qualified. If two or more items (including two items) fail to satisfy the requirements, then, the batch of products shall be determined as disqualified. If only one item is disqualified, then, use the backup sample to conduct a re-inspection on the disqualified item. If it passes the re-inspection, then, the batch of products shall be determined as qualified; if it still fails, then, the batch of products shall be determined as disqualified.

7.1 Packaging

The products can be supplied in bulk or packages.

7.2 Marking

Products leaving the factory shall be accompanied by a product inspection certificate. The .....