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CHEMICAL INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HG/T 2225-2018

Replacing HG/T 2225-2010

Aluminium sulfate for industrial use

工业硫酸铝

(English Translation)

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1 Scope

This standard specifies the classification, requirements, test methods, inspection rules, signs, labels, packaging, transportation, storage of aluminum sulfate for industrial use.

This standard applies to aluminum sulfate for industrial use. This product is mainly used in papermaking, printing and dyeing, tanning and titanium dioxide post-processing, etc.

It is also used in the production of fire-fighting materials, wood protective agents, catalyst carriers. It can also be used for sludge dehydration, concrete quick-setting, etc.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 191-2008 Packaging - Pictorial marking for handling of goods

GB/T 3049-2006 Chemical products for industrial use - General method for determination of iron content - 1,10-Phenanthroline spectrophotometric method

GB/T 6678 General principles for sampling chemical products

GB/T 6680 General rules for sampling liquid chemical products

GB/T 6682 Water for analytical laboratory use - Specification and test methods

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GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

3 Molecular formula

Molecular formula. $Al_2(SO_4)_3 \cdot xH_2O$

4 Categories

Aluminum sulfate for industrial use is divided into two categories. Each category of products is divided into solid and liquid types, as follows.

5.1

Appearance. The solids of category I products are white flakes, lumps, granules or powder; the liquids are colorless and transparent. The solids of category II products are gray-green or yellow to brown flakes, lumps, granules or powders; the liquid is light blue or light yellow to yellowish brown.

6.1 Warning

Some of the reagents used in this test method are corrosive, so care must be taken during operation! If necessary, it must be carried out in a fume hood. If it splashes on your skin or eyes, rinse with water immediately. In severe cases, seek medical attention immediately.

6.3 Appearance judgment

The appearance of solid samples is determined visually, on a watch glass or white porcelain plate with a white substrate under natural light. The liquid sample is placed in a sample cup; the appearance is visually determined on a white substrate under natural light.

6.4.1.2.1

Hydrochloric acid solution. 1 + 1.

6.4.1.4 Test data processing

The aluminum oxide content is calculated as the mass fraction w1 of aluminum oxide (Al_2O_3), according to formula (1).

6.4.2.1 Principle

The aluminum in the specimen reacts with excess disodium ethylenediaminetetraacetate (EDTA) to form a complex. When the pH is about 4.3, use

1-(2-pyridylazo)-2-naphthol (PAN) as indicator; use copper sulfate standard titration solution

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to titrate excess disodium ethylenediaminetetraacetate (EDTA), to calculate the aluminum oxide content.

6.4.2.2.7

Methyl orange indicator liquid. 1 g/L.

6.4.2.3 Test procedures

Use a pipette to transfer 20 mL of test solution A. Place it in a 250 mL conical flask.

Use a pipette to add 20 mL of disodium ethylenediaminetetraacetate (EDTA) standard titration solution.

6.4.2.4 Test data processing

The aluminum oxide content is calculated based on the mass fraction w1 of aluminum oxide (Al2O3), according to formula (2).

6.7.1 Reagents or materials

Carbon dioxide-free water.

6.7.2 Instruments and equipment

Acidometer. The graduation value is 0.1, which is equipped with saturated calomel electrode and glass electrode.

6.7.3 Test procedures

Weigh 1.00 g ± 0.01 g of solid specimen or 2.50 g ± 0.01 g of liquid specimen. Place it in a 100 mL beaker. Add about 50 mL of carbon dioxide-free water to dissolve it.

Transfer all to a 100 mL volumetric flask. Use carbon dioxide-free water to dilute it to the mark. Shake well. Measure with an acidometer.

7.1

All items specified in this standard are exit-factory inspection items.

7.2

The aluminum sulfate for industrial use of the same category and grade, which is produced by the production enterprise, using the same materials and basically the same production conditions continuously or by the same shift, forms one batch. Each batch of products shall not exceed 150 t.

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7.3

Determine the number of sampling units, according to the provisions of GB/T 6678.

When sampling solid products, insert the sampler diagonally from the top of the packaging bag to 3/4 of the depth of the material layer, to take sample.

7.4

If any index in the inspection results does not meet the requirements of this standard, re-sampling shall be carried out from twice the amount of packaging (double the amount of samples from tankers, ships or storage tanks), for re-inspection.

8.1

The packaging of aluminum sulfate for industrial use shall have firm and clear signs, indicating the manufacturer name, factory address, product name, category, model, grade, net content, batch number or production date, this standard number, the sign of

"Avoid rain" as specified in GB/T 191-2008.

8.2

Each batch of aluminum sulfate for industrial use leaving the factory shall be accompanied by a quality certificate, which includes.

9.1

The solid products of aluminum sulfate for industrial use are packed in plastic woven bags or composite plastic woven bags, which are lined with polyethylene plastic film bags. The inner bag shall be tied with a rope or sealed using other equivalent means;

the outer bag shall be sewn firmly, without miss stitching or skipping.

9.2

Aluminum sulfate for industrial use shall be protected from exposure to rain and moisture during transportation.

GB/T 1918-2021 | GB/T 1617-2002 | HG/T 2772-2025 |

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