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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 22662.3-2008

Chemical analysis methods of potassium fluotitanate - Part 3: Determination of potassium fluotitanate content - By ammonium iron sulphate dodecahydrate titration volumetric method

氟钛酸钾化学分析方法 第3部分：氟钛酸钾含量的测定 硫酸高铁铵容量法

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Foreword

GB/T 22662 "potassium titanate fluorine chemical analysis method" is divided into nine sections.

--- Part 1. Preparation and storage of test samples;

--- Part 2. Determination of the weight of water in the wet method;

--- Part 3. Determination of fluorine potassium titanate ammonium ferric sulfate volumetric method;

--- Part 4. Determination of silicon content - Molybdenum blue spectrophotometric method;

--- Part 5. Determination of calcium content by flame atomic absorption spectrometry;

--- Part 6. Determination of iron content by flame atomic absorption spectrometry;

--- Part 7. Determination of lead content by flame atomic absorption spectrometry;

--- Part 8. Determination of the chlorine content of mercuric nitrate volumetric method;

--- Part 9. Determination of phosphorus pentoxide content - Molybdenum blue spectrophotometric method. This is Part 3 GB/T 22662 of. This part is proposed by the China Nonferrous Metals Industry Association. The non-ferrous metal part by the National Standardization Technical Committee. This section is drafted. Hunan Nonferrous fluorine chemical limited liability company. Participated in the drafting of this section. Fluoride Chemicals Co., Ltd., Zhengzhou Research Institute, Aluminum Corporation of China, Hengyang City State Friends Chemical Technology Co., Ltd. The main drafters of this section. Li Zhijian, Zhu Liang, Liao Zhihui, Xue Xu Jin, Chen Chun, BU Law See Feng Jingdong, Liu Zhihong Huang Ju in particular, Liu Min. Potassium titanate fluorine chemical analysis Determination of fluorine potassium titanate content. Part

1 Scope

GB/T 22662.3-2008 is the Chinese national standard on chemical analysis methods of potassium fluotitanate - part 3: determination of potassium fluotitanate content - by ammonium iron sulphate dodecahydrate titration volumetric method, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 29 December 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 November 2009. Classification: ICS 77.120.10, CCS H61. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This section GB/T 22662 specifies the method for the determination of fluorine in fluorine potassium titanate amount of potassium titanate. This section applies to the determination of fluorine in fluorine potassium titanate amount of potassium titanate. Measurement range. >=95%.

2 Normative references

The following documents contain provisions which, through reference

GB/T 22662 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 22662.1-2008 fluorine potassium titanate chemical analysis methods - Part 1. Preparation and storage of test samples

3 Method summary

Sample by sulfuric acid, hydrochloric acid decomposition, in the absence of air conditions, with the tetravalent titanium metal aluminum reduced to the trivalent titanium purple, and sulfur Potassium cyanate as indicator, high-speed rail ammonium standard solution titration titration of trivalent titanium with sulfuric acid.

4 Reagents

4.1 saturated sodium bicarbonate solution.

4.2 metal aluminum wire, the surface was washed with dilute hydrochloric acid and drying.

Sulfuric acid 4.3. 1 + 4.

4.5 saturated ammonium sulfate solution.

4.6 ammonium thiocyanate solution. 50g/L. Ammonium ferric sulfate solution

4.7.1 preparation Weigh 24.00g ammonium ferric sulfate [(NH4) Fe (SO4) 2 · 12H2O] into 1000mL beaker, add water 500mL, 100mL sulfuric acid (1 + 1), heating dissolved completely dropwise a solution of 0.1% potassium permanganate reddish, then boiled decompose excess potassium permanganate, After cooling, wash-1000mL volumetric flask, dilute with water to volume, and mix.

4.7.2 Calibration

4.7.2.1 Titanium Standard Preparation. Weigh 0.3339g of high purity titanium dioxide magnetic crucible, add 5g potassium pyrophosphate, stamped. Before lower After the temperature was heated to melt, then at 650 °C ~ 700 °C high temperature furnace to melt transparent and continue to melt 30min, then cool; with 100mL sulfur Acid (1 + 1) will leach frit and dissolved by heating to clear after cooling transferred to 500mL volumetric flask, dilute with 5% sulfuric acid to volume, and mix. This titanium standard solution, 1mL containing 0.4mg titanium.

4.7.2.2 Calibration. Pipette 100mL titanium standard solution (4.7.2.1) in 500mL flask, 100mL added sulfuric acid (4.3), hydrochloric acid was added 50mL (4.4), plus 2.5g metal aluminum wire (4.2), on the low-temperature aluminum melting furnace to finish, fitted immediately cut off the air saturated sodium bicarbonate loading