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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 6730.44-2017

Iron ores - Determination of zinc content - 1-(2-pyridylazo)-2-naphthol spectrophotometric method

铁矿石 锌含量的测定 1-(2-吡啶偶氮)-2-萘酚分光光度法

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Standardization Administration of the PRC

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Foreword

GB/T 6730 "iron ore" is divided into dozens of sections. This section GB/T 6730 Part 44. This section drafted in accordance with GB/T 1.1-2009 given rules. This Part replaces GB/T 6730.44-1986 "Iron ore chemical analysis 1- (2-pyridylazo) -2-naphthol photometric method for the determination of zinc Quantity ", this part compared with GB/T 6730.44-1986, except for some editorial changes, the main technical changes are as follows:

--- Standard name was changed to "Determination of zinc content of iron ore 1- (2-pyridylazo) -2-naphthol spectrophotometry";

--- Added "warning" "normative references" "instrument" and "test report" chapter;

--- Clear and standardized sample and sample preparation of the specific requirements;

--- Standard "sample size" to "sample volume", and clear the weighing accuracy;

--- Deleted the coefficient (1) in the coefficient "K" and "K" statement. This part is proposed by China Iron and Steel Association. This part of the National Iron Ore and Direct Reduced Iron Standardization Technical Committee (SAC/TC317) centralized. This part of the drafting unit.Ningbo Inspection and Quarantine Science and Technology Research Institute, Alashankou Exit Inspection and Quarantine, China Inspection and Certification Group Ningbo Co., Ltd., Ningbo Economic and Technological Development Zone Boren maritime test firm. The main drafters of this section. Yuqing, Ho Yang, Lu Xinming, Liu Shuiqing, Zhang Aizhen. This part of the standard replaces the previous version of the release.

--- GB/T 6730.44-1986. Iron ore - Determination of zinc content 1- (2-pyridylazo) -2-naphthol spectrophotometry Warning

--- personnel using this section should have formal laboratory work experience. This section

does not indicate all possible safety issues Question, the user is responsible for taking appropriate safety and health measures, and to ensure compliance with the conditions of the relevant state laws and regulations.

1 Scope

Part 44 of China's national series on the analysis of iron ores, determining zinc by 1-(2-pyridylazo)-2-naphthol spectrophotometry. Zinc is the element blast furnace operators dislike most among the minor ones, and the reason is a cycle rather than a simple contamination. Zinc entering the furnace is reduced and vaporises in the hot lower zone, rises with the gas, condenses on the cooler burden above, and descends again to be revaporised - so it accumulates internally to concentrations far above what was charged. It attacks the refractory lining, forms accretions that disturb the burden's descent, and leaves in the dust, which is then difficult to recycle because recharging it returns the zinc. Since galvanised steel scrap is the main route by which zinc enters the ironmaking chain, the problem has grown with recycling. PAN forms a strongly coloured chelate with zinc extractable from the matrix. This part applies to iron ore, concentrate, sinter and pellets over 0.010 to 0.500 per cent.

GB/T 6730 provisions of this section 1- (2-pyridylazo) -2-naphthol spectrophotometric determination of zinc content. This section applies to iron ore, iron ore, sinter and pellets. Measuring range (mass fraction) .0.010% ~ 0.500%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6682 analytical laboratory water specifications and test methods Preparation of pre-dried samples for analysis of iron ore GB/T 6730.1

GB/T 8170 rounded repair rules and limit values of the representation and judgment

GB/T 10322.1 Iron ore sampling and sample preparation methods

GB/T 12806 laboratory glassware single standard line capacity bottle

GB/T 12807 Laboratory glassware graduated pipette

GB/T 12808 laboratory glassware single standard pipette

3 Principle

The sample was hydrochloric acid, nitric acid, hydrofluoric acid, sulfuric acid decomposition, filtration; residue to base melting. Add sodium fluoride, ammonium chloride, ammonium

hydroxide and diethyl Sodium dithiocarbamate (copper reagent) was subjected to precipitation. With methyl isobutyl ketone - ammonium thiocyanate extraction of zinc, with a large number of iron, copper, aluminum, manganese, Nickel, cadmium and other elements of separation. Addition of 1- (2-pyridine azo) -2-naphthol (PAN) to the organic phase produces a red complex with zinc, 548nm Department, measured absorbance, to determine the zinc.

4 Reagents and materials

Unless otherwise indicated in the analysis, the use of only approved analytical reagent and in line with GB/T 6682 more than three distilled water or its The purity of water.

4.1 anhydrous sodium carbonate.

4.2 Ammonium chloride.

4.6 Ammonium hydroxide, p about

0.90 g/mL.

4.7 anhydrous ethanol.