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SN

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 2638.5-2013

Determination of arsenic andmercury content in manganese ore. Microwave digestion-atomic fluorescence spectrometry method

锰矿中砷、汞元素测定微波消解-原子荧光光谱法

(English Translation)

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Foreword

SN/T 2638 is divided into five sections.

--- Part 1. Determination of the wavelength of the import and export of manganese ores, iron, silicon, aluminum, calcium, magnesium, titanium, potassium and phosphorus elemental dispersive X-ray fluorescence Optical spectroscopy;

--- Part 2. Import-export manganese ore of iron, measured inductance aluminum, magnesium, calcium, titanium, phosphorus, nickel, copper, zinc coupled plasma atomic hair Emission spectrometry;

--- Part 3. Determination of manganese ore and export high-temperature sulfur content of combustion infrared absorption method;

--- Part 4. Determination of manganese ore and export of sulfur content in the high-frequency induction furnace combustion infrared absorption method;

--- Part 5. manganese arsenic, mercury was measured by microwave digestion - atomic fluorescence spectrometry.

This section SN/T 2638 Part 5.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

This section is drafted. Tianjin People's Republic of China Exit Inspection and Quarantine.

1 Scope

This section SN/T 2638 provisions microwave digestion - manganese arsenic, mercury method for determination of atomic fluorescence spectrometry.

This section applies to arsenic, manganese determination of mercury. Measurement range. arsenic detection limit of 10μg/g, mercury detection limit of 0.1μg/g.

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2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2011 manganese ore bulk sampling and sample preparation method GB/T 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2. Determine the standard measurement repeatability and basic methods of reproduction Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 12806 Laboratory glassware single marking flask GB/T 12808 Laboratory glassware single marking pipette JJG939 Atomic Fluorescence Spectrometer Principle 3 Using hydrochloric acid, nitric acid digestion ore samples in a closed vessel microwave digestion. According to the solution of arsenic and mercury concentrations were diluted test solution. The determination of arsenic First with the pre-reducing agent in the test solution As (V) reduced to As (III), you do not need pre-measured mercury reduction. By hydride generation - atomic fluorescence Spectrometry determination of arsenic, mercury content.

4 Reagents

Unless otherwise indicated, the reagents used were of analytical grade reagents, test water for the two water in line with GB/T 6682 regulations.

4.1
ascorbic acid. pure class distinctions.

4.2
thiourea. pure class distinctions.

4.3
potassium borohydride. pure class distinctions.

4.4
boric acid. pure class distinctions.

4.5
Potassium hydroxide. pure class distinctions.

4.6
hydrochloric acid (rho = 1.19g/mL). pure class distinctions.

4.7
nitric acid (rho = 1.42g/mL). pure class distinctions.

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4.8

hydrofluoric acid (rho = 1.12g/mL). pure class distinctions.

4.9

saturated boric acid solution. the preparation of the boronic acid (4.4).

4.10

ascorbic acid solution (50g/L). Weigh 10g ascorbic acid (4.1), dissolved in water and diluted to 200mL, using now.

4.11

thiourea - ascorbic acid solution (100g/L). Weigh 10g of thiourea (4.2) 10g ascorbic acid (4.1), and diluted with water to dissolve

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