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NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 8151.18-2012

Methods for chemical analysis of zinc concentrates -- Part 18: Determination of zinc content -- Ion-exchange/Na2EDTA titrimetric method

锌精矿化学分析方法 第18部分：锌量的测定 离子交换-Na2EDTA滴定法

(English Translation)

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Foreword

GB/T 8151 "Methods for chemical analysis of zinc concentrates" is divided into 20 parts.

--- Part 1. Determination of the amount of zinc Na2EDTA precipitation titration and extraction separation Na2EDTA titration;

--- Part 2. Determination of sulfur content - Combustion neutralization titration method;

--- Part 3. Determination of iron content Na2EDTA titration;

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

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

--- Part 6. Determination of copper content - Flame atomic absorption spectrometry;

--- Part 7. Determination of arsenic content by hydride generation - atomic fluorescence spectrometry and potassium bromate titration;

--- Part 8. Determination of cadmium content by flame atomic absorption spectrometry;

--- Part 9. Determination of the amount of fluorine ion selective electrode method;

--- Part 10. Determination of tin content by hydride generation - atomic fluorescence spectrometry;

--- Part 11. Determination of antimony content hydride - atomic fluorescence spectrometry;

--- Part 12. Determination of the amount of silver by flame atomic absorption spectrometry;

--- Part 13. Determination of the amount of germanium hydride - atomic fluorescence spectroscopy and spectrophotometry Phenylfuoron;

--- Part 14. Determination of nickel content by flame atomic absorption spectrometry;

--- Part 15. Determination of the amount of mercury atomic fluorescence spectrometry;

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--- Part 16. Determination of cobalt content by flame atomic absorption spectrometry;

--- Part 17. Determination of the amount of zinc hydroxide precipitation -Na2EDTA titration;

--- Part 18. Determination of the amount of zinc ion exchange -Na2EDTA titration;

--- Part 19. Determination of lead analysis or gray Chuihuo assay and gold and silver by flame atomic absorption spectrometric method;

--- Part 20. Copper, lead, iron, arsenic, cadmium, antimony, calcium, magnesium content - Inductively coupled plasma atomic emission spectrometry.

This is Part 18 GB/T 8151's.

Rules in this section in accordance with GB/T 1.1-2009 given draft.

This section identical with ISO 12739:2006 "zinc sulfide concentrates - Determination of the amount of ion exchange/EDTA titration." this part of ISO 12739:2006 main differences are as follows.

--- With a decimal point instead of as a decimal in the international standards ",". ",";

--- With a period instead of a full stop in the international standard. "". "";

--- With "this Part" instead of the "standard";

--- According to Chinese customary change the standard name;

--- Remove the cover of international standards, Contents, Foreword.

The non-ferrous metal part by the National Standardization Technical Committee (SAC/TC243) centralized.

This section drafted by. MCC Huludao Nonferrous Metals Group Co., Ltd., China Nonferrous Metals Industry Institute of Standards and Metrology and Quality.

1 Scope

This section GB/T 8151 provisions of the determination of the amount of zinc sulfide concentrates.

This section applies to the determination of the amount of zinc sulfide concentrate measurement range. 11.00% - 62.00%.

2 Normative references

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

ISO 385 Laboratory Glassware Buret (Laboratoryglassware-Burettes) ISO 648 single

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laboratory glassware graduated pipettes (Laboratoryglassware-One-markpipettes) ISO 1042 single scale laboratory glassware volumetric flask (Laboratoryglassware-One-markvolumetric flasks) Water specifications and test methods (Waterforanalyticallaboratoryuse-Specification ISO 3696 laboratory analysis andtestmethods) ISO 4787 laboratory glassware containers test capacity and capacity use (Laboratoryglassware-Volumetricglassware-Methodsforuseandtestingofcapacity) ISO 9599 sulfide copper, lead and zinc concentrates hygroscopic moisture - Gravimetric method (Copper, leadandzincsulfideconcen-trates-Determinationofhygroscopicmoistureintheanalysissample-Gravimetricmethod)

3 Method summary

Sample was dissolved in hydrochloric acid, nitric acid and sulfuric acid. Hydrochloric acid concentration of about 2mol/L, zinc is a strong base anion exchange resin, under conditions Other interfering ions are separated and removed with ammonia - ammonium chloride solution and the zinc eluting with xylenol orange as indicator, under the conditions at a pH of about 5.6 Na2EDTA titration with standard solution titration elution amount of zinc.

4 Reagents

Analysis, use only approved analytical reagent water standards and in accordance with ISO 3696 two of water.

4.1

Zinc metal (wZn>=99.99%). using zinc oxide-free surface before immersing the surface with hydrochloric acid (4.3) was diluted to (19) was.

Cleaning 1min, then washed with water, rinsed with acetone, and dried in an oven at 50 deg.] C.

4.2

xylenol orange indicator (0.1%). 0.1g of salt crystals mixed xylenol orange and 100g of potassium nitrate, used in ceramic mortar and pestle light Light grinding, mixing to exactly the same color.

4.3

hydrochloride (rho201.16g/mL ~ 1.19g/mL).

4.4

hydrochloride (11). A 500mL of hydrochloric acid (4.3) was added to 500mL of water.

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