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ICS 77.120.60
CCS H 13

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 8151.17-2012

Methods for chemical analysis of zinc concentrates -- Part 17: Determination of zinc content -- Hydroxide precipitation and Na2EDTA titrimetric method

锌精矿化学分析方法 第17部分：锌量的测定 氢氧化物沉淀-Na2EDTA滴定法

(English Translation)

Issued on: December 31, 2012 **Implemented on: October 1, 2013**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

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Foreword

GB/T 8151 "Zinc concentrate chemical analysis method" is divided into 20 parts.

- Part 1. Determination of zinc content - Separation of Na2EDTA titration and extraction separation Na2EDTA titration;

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

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

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

- Part 5. Determination of lead content - Flame atomic absorption spectrometric method;

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

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

- Part 8. Determination of cadmium content - Flame atomic absorption spectrometric method;

- Part 9. Determination of fluorine content - Ion selective electrode method;

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

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

- Part 12. Determination of silver content - Flame atomic absorption spectrometric method;

- Part 13. Determination of germanium content - Hydride generation - atomic fluorescence spectrometry and phenylfluorenone spectrophotometric method;

- Part 14. Determination of nickel content - Flame atomic absorption spectrometric method;

- Part 15. Determination of mercury content - Atomic fluorescence spectrometry;

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- Part 16. Determination of cobalt content - Flame atomic absorption spectrometric method;

- Part 17. Determination of zinc content - Hydroxide precipitation - Na2EDTA titration;

- Part 18. Determination of zinc content - Ion exchange - Na2EDTA titration;

- Part 19. Determination of gold and silver content - Lead or ash blast test and flame atomic absorption spectrometric method;

Part 20. Determination of copper, lead, iron, arsenic, cadmium, antimony, calcium and magnesium - Inductively coupled plasma atomic emission spectrometric method.

This part is part 17 of GB/T 8151.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part is equivalent to ISO 13658.:2000 "Determination of Zinc Sulfide Concentrate for Hydroxyl Precipitation EDTA Titration", and ISO 13658.:2000 consistency is equivalent.

The main differences between this part and ISO 13658.:2000 are as follows.

--- with the decimal point "." Instead of the international standard as a decimal point ",";

--- with the full name "." Instead of in the international standard as a "

--- "this part" instead of "this standard";

--- according to Chinese habits to change the standard name;

--- delete the international standard in the cover, directory, preface.

This part is the national nonferrous Metals Standardization Technical Committee (SAC/TC243).

This part is responsible for drafting units. China Metallurgical Huludao Nonferrous Metals Group Co., Ltd., China Nonferrous Metals Industry Standard Measurement Quality Institute.

This part participates in the drafting unit. Zhuzhou Smelting Group Co., Ltd., Henan Yuguang Golden Lead Group Co., Ltd., Tongling Nonferrous Gold is a group Holdings Limited, Daye Nonferrous Metals Group Holdings Limited, Zhongtiao Shan Nonferrous Metals Group Co., Ltd., Beijing Mining and Metallurgy Research General Hospital.

1 Scope

This part of GB/T 8151 specifies the determination of zinc content in zinc sulphide concentrates.

This part applies to the determination of zinc content in zinc sulfide concentrate. Measuring range. 10.00% to 60.00%.

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2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all revisions) applies to this document.

GB/T 8151.18-2012 Chemical analysis of zinc concentrates - Part 18. Determination of zinc content Ion exchange - Na2EDTA drops (ISO 12739.:1997) ISO 385-1. 1984 Laboratory glassware burets - Part 1. General requirements (Laboratoryglassware-Bu-rettes-Part 1. Generalrequirements) ISO 648. 1977 Laboratory glassware Single scale pipettes (Laboratoryglassware-One-markpipettes) ISO 1042.:1998 Laboratory glassware Single-scale volumetric flasks (Laboratoryglassware-One-markvolumetric flasks ISO 3696. 1987 Laboratory analysis Water specification and test methods (Waterforanalyticallaboratoryuse-Speci-ficationandtestmethods) ISO 4787. 1984 Laboratory glassware capacity vessel test capacity and use (Laboratoryglassware-Volumetricglassware- Methodsforuseandtestingofcapacity) ISO 5725-2.:1994 Accuracy of experimental methods and test results - Part 2. Determination of the reproducibility and reproducibility of a method the basic method (Accuracy (truenessandprecision) ofmeasurementmethodsandresults-Parts2. Basic methodforthedetermination of stripeatabilityandreproducibilityofastandardmeasurementmethod ISO 9599.:1991 Determination of moisture absorption in copper, lead and zinc concentrates - Weight method (Copper, leadandzincsulfide concentrates-Determination ofhygroscopicmoistureintheanalysissample-Gravimetricmethod ISO 13291.:1997 Zinc Sulfide Concentrate Determination of Zinc Content Extraction Separation EDTA Titration (Zincsulfideconcen-trates-Determinationofzinccontent-SolventextractionandEDTAtitrimetric method ISO Guide 35. 1989 General Principles and Statistical Principles for Standard Samples (Certificationofreferencematerials-Generalandstatisticalprinciples)

3 Method summary

Dissolve the sample with bromine and nitric acid and dissolve the remaining insoluble residue with sulfuric acid and hydrofluoric acid. Lead in the form of sulfate separation, with ammonia, chlorine Ammonium and ammonium persulfate make aluminum, manganese, iron in the form of hydroxide precipitation, masking copper. With xylenol orange as an indicator, with the coordination titration method (pH5.5 ~ 5.7) to determine the amount of zinc and cadmium. Independent determination of cadmium, deduction is the amount of zinc.

Note: See Appendix A for the effects of potential interfering elements.

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