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NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 3884.8-2012

Replacing GB/T 3884.8-2000

Methods for chemical analysis of copper concentrates -- Part 8: Determination of zinc content -- Na2EDTA titration method

铜精矿化学分析方法 第8部分：锌量的测定 Na2EDTA滴定法

(English Translation)

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Foreword

GB/T 3884 "chemical analysis of copper concentrate" is divided into 14 parts.

--- Part 1. Determination of copper content iodometry;

--- Part 2. Determination of the amount of gold and silver by flame atomic absorption spectroscopy and fire assay;

--- Part 3. Determination of sulfur content - Gravimetric and combustion - titration;

--- Part 4. Determination of magnesium oxide content - Flame atomic absorption spectrometry;

--- Part 5. Determination of the amount of fluorine ion selective electrode method;

--- Part 6. Determination by flame atomic lead, zinc, cadmium and nickel absorption spectrometry;

--- Part 7. Determination of lead content Na2EDTA titration;

--- Part 8. Determination of zinc contents Na2EDTA titration;

--- Part 9. Determination of the amount of arsenic and bismuth hydride generation - atomic fluorescence spectrometry, potassium bromate titration and diethyl ammonia Silver group acid spectrophotometry;

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

--- Part 11. Determination of mercury content - Cold atomic absorption spectrometry;

--- Part 12. Determination of the amount of fluorine and chlorine ion chromatography;

--- Part 13. Determination of the amount of copper electrolysis;

--- Part 14. Determination of the amount of gold and silver fire assay gravimetric method and atomic absorption spectrometry.

This section 8.

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

This Part replaces GB/T 3884.8-2000 "Methods for chemical analysis of copper concentrates Determination of zinc content" and GB/T 3884.8-2000 phase Ratio, mainly the following changes.

--- Text format has been modified;

--- Supplementary terms of precision and test reports.

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

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1 Scope

This section GB/T 3884 provides for determination of copper concentrate zinc content.

This section applies to the determination of copper concentrate zinc content measurement range. > 1.00% ~ 13.00%.

2 Method summary

Sample decomposition with an acid, in the presence of an oxidant ammonia buffer solution under the separation of iron, manganese and other interfering elements, plus the elimination of covert agents of copper, aluminum, etc.

The interference at pH5.0 ~ 6.0, with xylenol orange as indicator, titrated with Na2EDTA standard titration solution, the measured results for zinc, cadmium together the amount is deducted from the amount of cadmium zinc content.

3 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity.

3.1
ammonium chloride.

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3.2
potassium fluoride.

3.3
ascorbic acid.

3.4
hydrochloric acid (rho = 1.19g/mL).

3.5
hydrochloride (11).

3.6
sulfate (rho = 1.84g/mL).

3.7
sulfate (11).

3.8
nitric acid (rho = 1.42g/mL).

3.9
perchloric acid (rho = 1.67g/mL).

3.10
sulfur nitrate mixed acid. stirring and cooling, 150mL sulfuric acid (3.6) slowly added to 350mL nitric acid (3.8), and cooled spare.

3.11
aqueous ammonia (rho = 0.90g/mL).

3.12
ammonia (11).

3.13
ammonia (119).

3.14
ammonium persulfate solution (100g/L). Using now.

3.15
thiourea saturated solution.

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3.16

acetic acid - sodium acetate buffer solution (pH5.5). 150g of anhydrous sodium acetate dissolved in water, was added 50mL of glacial acetic acid, diluted with water to 1000mL, and mix.

3.17

washing solution. 5g of ammonium chloride (3.1) was dissolved in 200mL ammonia (3.13) in.

3.18

Zinc standard solution. Weigh 1.0000g pure zinc (wZn>=99.99%), placed in 300mL beaker, was added 30mL of hydrochloric acid (3.5), Placed on a hot plate heat gently to dissolve, cooled and transferred to 1000mL volumetric flask, dilute with water to volume, and mix. This solution containing 1mL

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