

ICS 77.120.01
CCS H 14

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**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 745.6-2010

**Methods for chemical analysis of copper anode slime. Part 6:
Determination of lead content. Na₂EDTA titrimetric method**

铜阳极泥化学分析方法 第6部分：铅量的测定 Na₂EDTA滴定法

(English Translation)

Issued on: November 22, 2010

Implemented on: March 1, 2011

Issued by: Ministry of Industry and Information Technology

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Foreword

YS/T 745 "Methods for chemical analysis of copper anode mud" is divided into nine sections.

- Part 1. Determination of copper content iodometry;
- Part 2. gold and silver content determination fire assay gravimetric method;
- Part 3. the amount of platinum and palladium contents - fire assay enrichment - Inductively coupled plasma atomic emission spectrometry;
- Part 4. Determination of the amount of selenium iodometry;
- Part 5. Determination of tellurium content dichromate method;
- Part 6. Determination of lead content Na₂EDTA titration;
- Part 7. Determination of bismuth content - Flame atomic absorption spectrometric method and Na₂EDTA titration;
- Part 8. Determination of arsenic content by hydride generation - atomic fluorescence spectrometry;
- Part 9. Determination of antimony content - Flame atomic absorption spectrometry.

Part is divided into 6 sections.

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

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

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1 Scope

YS/T 745 This section specifies the determination of copper anode slime lead content.

This section applies to the determination of copper anode slime lead content. Measurement range. 10.00% - 25.00%.

2 Method summary

Sample with nitric acid, sulfuric acid and bromine dissolved, hydrobromic treatment to remove arsenic, antimony and tin. Lead and other interfering elements by precipitation of lead sulfate Separating the precipitate was dissolved in sodium acetate buffer solution, with xlenol orange as indicator, titrated with a standard solution titration Na2EDTA lead.

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

ethanol.

3.2

bromine.

3.3

hydrobromide (rho1.42g/mL).

Nitrate 3.4 (rho1.42g/mL).

3.5

nitric acid (11).

3.6

nitric acid (14).

3.7

sulfate (11).

3.8

sulfur nitrate mixed acid. To a 350mL nitric acid (3.4) was added slowly with stirring 150mL sulfuric acid (rho1.84g/mL).

3.9

sulfuric acid (149).

3.10

hexamethylenetetramine solution (200g/L).

3.11

ammonia (rho0.90g/mL).

3.12

tartaric acid solution (100g/L).

3.13

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

3.14

XO solution (5g/L).

3.15

Lead standard solution. Weigh 1.0000g lead ($\geq 99.99\%$) in 250mL beaker, add 20mL of nitric acid (3.6), cover the table Dish, placed on a hot plate, heated and dissolved low temperature, until complete dissolution of the oxides of nitrogen purge boiling, removed, cooled to room temperature. Transferred to 500mL Flask, supplemented with 10mL of nitric acid (3.5), diluted with water to volume, and mix. 1mL solution containing 2mg lead.

3.16 Na₂EDTA standard titration solution (0.01mol/L)

Weigh 3.7gNa₂EDTA in 500mL beaker, dissolved in water is heated, cooled and transferred to 1000mL volumetric flask, dilute with water to Volume, and mix.