

ICS 73.060.10

CCS D 31

YS

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

YS/T 1047.9-2015

**Methods for chemical analysis of copper magnetite - Part 9:
Determination of metallic iron content - Sulfosalicylic acid
photometric method**

铜磁铁矿化学分析方法 第9部分：金属铁量的测定 磺基水杨酸分光光度法
(English Translation)

Issued on: April 30, 2015

Implemented on: October 1, 2015

Issued by: Ministry of Industry and Information Technology

Table of Contents

Foreword

1 Scope

2 Normative references

3 Method summary

4 Reagents

Foreword

YS/T 1047-2015 "Methods for chemical analysis of copper magnetite" is divided into 11 sections.

--- Part 1. Determination of copper content of 2,2'-quinoline spectrophotometry and flame atomic absorption spectrometry;

--- Part 2. Determination of total iron content of dichromate method;

--- Part 3. Copper and iron - Determination of the amount of sodium thiosulfate titration;

--- Part 4. Determination of the amount of sulfur by high frequency combustion infrared absorption spectroscopy;

--- Part 5. Determination of phosphorus content titration;

--- Part 6. copper, total iron, silica, alumina, calcium oxide, magnesium oxide, titanium oxide, manganese and phosphorus contents - wave Long-dispersive X-ray fluorescence spectrometry;

--- Part 7. copper, manganese, aluminum, calcium, magnesium, titanium and phosphorus content - Inductively coupled plasma atomic emission spectrometry;

--- Part 8. silicon dioxide content - Gravimetric method;

--- Part 9. Determination of metallic iron content of sulfonic acid spectrophotometry;

--- Part 10. Determination of the amount of ferrous oxide dichromate method;

--- Part 11. Determination of the amount of magnetic iron dichromate method.

Part is divided into 9 parts.

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

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

This section is responsible for the drafting of People's Republic of China Bayuquan Exit Inspection and Quarantine.

1 Scope

YS/T 1047 This section specifies the method for the determination of metallic iron content of magnetite copper.

This section applies to the determination of metallic iron content of magnetite copper. Measurement range (mass fraction) of 0.012% to 0.45%.

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 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2. Determine the standard measurement method to repeat of the basic methods of reproduction Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 7729 chemical analysis of metallurgical products spectrophotometry General GB/T 10322.1 iron ore sampling and sample preparation methods

3 Method summary

Manually, using magnetic separation method, a sample of ethanol in the media in the magnetic and non-magnetic material was separated. Under magnetic stirring with a mercuric chloride - water Yang ethanol solution of sodium leaching of metallic iron magnetic material with sulfosalicylic acid spectrophotometric determination of metallic iron content.

4 Reagents

Unless otherwise stated, use only in the analysis confirmed analytically pure reagents and in line with two water GB/T 6682 regulations.

4.1

mercuric chloride.

4.2

sodium salicylate.

4.3

sulfosalicylic acid.

4.4

sodium acetate.

4.5

iron ($w_{Fe} \geq 99.9\%$).

4.6

Ethanol (95%).

4.7

hydrogen peroxide.

4.8

pairs nitrophenol ethanol solution (1g/L).

4.9

hydrochloride (21).

4.10

hydrochloric acid (14).

4.11

mercuric chloride - ethanol solution of sodium salicylate. Weigh take 2.5g sodium mercuric chloride ($HgCl_2$) and 3g of salicylic acid dissolved in 100mL ethanol (4.6) in.