Chinastandards.org

ICS 77.120.99
CCS H 14

YS

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

YS/T 569.6-2015

Replacing YS/T 569.6-2006

Methods for chemical analysis of thallium. Part 6: Determination of lead content. Dithizone benzene extraction spectrophotometry

铊化学分析方法 第6部分：铅量的测定双硫腙苯萃取分光光度法

(English Translation)

Issued on: April 30, 2015 **Implemented on: October 1, 2015**

Issued by: Ministry of Industry and Information Technology

Preview: page 1 of 5 shown, 5 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/ys-t-569-6-2015

Chinastandards.org

Table of Contents

Foreword

1 Scope

2 Method summary

3 Reagents

Foreword

YS/T 569 "thallium chemical analysis method" is divided into 10 parts.

--- Part 1. Determination of copper content copper reagent chloroform extraction spectrophotometry;

--- Part 2. Determination of iron content - Phenanthroline spectrophotometric method;

--- Part 3. Determination of mercury content of Diphenylthiocarbazone extraction spectrophotometry;

--- Part 4. Determination of zinc content of benzene extraction dithizone spectrophotometry;

--- Part 5. Determination of cadmium content of benzene extraction dithizone spectrophotometry;

--- Part 6. Determination of lead content of benzene extraction dithizone spectrophotometry;

--- Part 7. Determination of the amount of chrome aluminum Azure S Spectrophotometry;

--- Part 8. Determination of indium content of crystal violet benzene extraction spectrophotometry;

--- Part 9. Determination of the amount of silicon molybdenum blue isoamyl alcohol extraction spectrophotometric method;

--- Part 10. Determination of the amount of thallium Na2EDTA titration.

This section YS/T 569 Part 6.

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

The partial replacement of YS/T 569.6-2006 "Thallium - Determination of lead content (benzene extraction dithizone photometric method)" (formerly GB 2592.6-

1981). This portion of YS/T 569.6-2006 compared to the main changes are as follows.

--- Text format has been modified;

Preview: page 2 of 5 shown, 5 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/ys-t-569-6-2015

--- Increased test reporting requirements.

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

This section is drafted. Beijing Mining Research Institute, Hunan Nonferrous Metals Group Co., Ltd. Shuikoushan, Hunan Nonferrous Metal Research Institute, Hunan Nonferrous Metal Research Institute of Geological Prospecting, Hunan Chenzhou City Jingui Silver Industry Co., Ltd.

1 Scope

YS/T 569 This part provides for determination of thallium in lead content.

This section applies to the determination of thallium in lead content. Measurement range. 0.0005% to 0.035%.

2 Method summary

Sample dissolved in nitric acid, ammonia medium at a pH of 8 to 10, and the lead dithizone complexes may be generated benzene extraction, excess Dithizone washed with a dilute solution of potassium cyanide was removed at 520nm wavelength spectrophotometer measured absorbance.

3 Reagents

3.1
benzene.

3.2
isopropyl ether.

3.3
sulfate (rho = 1.84g/mL).

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

3.5
hydrochloride (11).

3.6
nitric acid (11).

Preview: page 3 of 5 shown, 5 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/ys-t-569-6-2015

3.7
nitric acid (12).

Aqueous ammonia 3.8 (rho = 0.90g/mL).

3.9
Aqueous ammonia (11).

3.10
ammonia (199).

3.11
sulfuric acid - nitric acid mixture (11).

3.12
Hydrogen peroxide (30%). pure class distinctions.

3.13
hydroxylamine hydrochloride solution (200g/L). Weigh 20g of hydroxylamine hydrochloride was dissolved with 60mL of water, placed in 500mL separatory funnel, with Ammonia (3.9) adjusting the acidity to a pH of 7 to 8, fractionated (3.18) and extracted with dithizone in carbon tetrachloride until the organic phase was pale green, then the organic phase was washed to carbon tetrachloride oscillation was not green. The aqueous phase was diluted to 100mL reagent bottle and placed.

3.14
ammonium citrate (500g/L). Weigh 50g sodium citrate, placed in 200mL beaker, dissolved in water, diluted to 100mL, with ammonia Water (3.8) to a pH value of 8 to 9 and transferred to 500mL separating funnel, add 20mL Diphenylthiocarbazone solution (3.18), oscillation 1min, standing stratification, discard the organic phase, repeat the above steps until the organic phase was extracted a pale green. The aqueous phase was repeatedly CTC Vibration the organic phase was washed to swing until the colorless, transferred to 100mL volumetric flask, constant volume backup.

3.15
potassium cyanide solution (100g/L).

3.16
potassium cyanide solution (5g/L).

3.17
pairs Diphenylthiocarbazone benzene solution (0.05g/L). Weigh 0.25g of purified dithizone with 100mL benzene (3.1) was dissolved, placed in a brown bottle, Shake well. Pipette the solution 2mL, placed in a brown bottle, was added 98mL benzene (3.1) and shake. The

Preview: page 4 of 5 shown, 5 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/ys-t-569-6-2015

Chinastandards.org

time is now equipped with.

Preview: page 5 of 5 shown, 5 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/ys-t-569-6-2015