ICS 77.080.01
CCS H11

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 223.29-2008

Replacing GB 223.29-1984

Iron, steel and alloy - Determination of lead content - Carrier precipitation-xylenol orange spectrophotometric method

钢铁及合金 铅含量的测定 载体沉淀-二甲酚橙分光光度法

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Foreword

This section GB/T 223 instead of GB/T 223.29-1984 "steel and alloy chemical analysis method carrier precipitation - xylenol orange light Determination of lead content "of the law. This portion of the GB/T 223.29-1984 compared primarily with the following modifications.

--- Increased headline analysis of reagent water and help content and standard solution, standardized presentation of reagents, and modify the solution concentration Representation;

--- Modified Weigh Sample volume represented;

--- Modify the formula calculation results in an amount represented. This part is proposed by the China Iron and Steel Association. This part of the National Steel Standardization Technical Committee. This section is responsible for drafting units. China Iron and Steel Research Institute Group. The main drafters of this section. Yan Dong-xia, Ke Ruihua. This part of the standard replaces the previous editions are. GB/T 223.29-1984. Determination of steel and alloy of lead content Carrier precipitation - xylenol orange spectrophotometric method Warning. Use of this section shall be a person experiences regular laboratory work. This section does not indicate that all possible security issues. Users have the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

1 Scope

GB/T 223.29-2008 is the Chinese national standard on iron, steel and alloy - determination of lead content - carrier precipitation-xylenol orange spectrophotometric method, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 13 May 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 November 2008. Classification: ICS 77.080.01, CCS H11. This page is published from the official record of the standard held by the Chinese standards

administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

GB/T 223 provisions of this part of the carrier precipitation - xylenol orange spectrophotometric determination of lead content. This section applies to carbon steel, alloy steel, high temperature alloys and precision alloys for the determination of the mass fraction of 0.0005% to 0.25% lead content.

2 Normative references

The following documents contain provisions which, through reference

GB/T 223 of this text, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section. Sample for sampling and sample preparation method

GB/T 20066 Determination of the chemical composition of steel and iron Principle

3 In sulfuric acid medium, with strontium as the lead carrier precipitation with potassium carbonate conversion of sulphate, dissolved in hydrochloric acid. At pH (

5.2 to 5.5), the lead and XO generated orange-red complex, measuring the absorbance. Color liquid, the cobalt content is less than 3μg, nickel content, iron content, molybdenum content of each is less than 5μg, tin content, the manganese content of each is less than 10μg, vanadium Content, aluminum content of less than 15 ug each, less than 20 ug chromium content, titanium content of less than 24 g, the content of tungsten, copper content, silicon content, the arsenic content of the small To 30μg, zinc content of less than 50μg, calcium content and magnesium content of each is less than 300μg, the sodium content of less than 3mg, potassium content of less than 5mg, on the determination no effect. Antimony due to hydrolysis, so that the color was muddy affect the determination.

4 Reagents

Unless otherwise indicated in the analysis use only reagents of recognized analytical grade and distilled water or equivalent purity.

4.1 hydrochloric acid, rho about 1.19g/mL, pure class distinctions.

4.2 hydrochloric acid, rho about 1.19g/mL, pure class distinctions, diluted 1 + 1.

4.3 hydrochloric acid, rho about 1.19g/mL, pure class distinctions, diluted 1 + 10.

4.4 hydrochloric acid, rho about 1.19g/mL, pure class distinctions, diluted to 5 + 95.

4.5 nitric acid, rho about 1.42g/mL, pure class distinctions.

4.6 sulfuric acid, rho about 1.84g/mL, pure class distinctions.

4.7 sulfuric acid, rho about 1.84g/mL, pure class distinctions, diluted 1 + 100.

4.8 phosphoric acid, rho about 1.70g/mL, pure class distinctions.

4.9 ammonia, rho about 0.90g/mL, pure class distinctions.

4.10 ammonia, rho about 0.90g/mL, pure class distinctions, diluted 1 + 10.

4.11 strontium chloride solution, 15g/L. Weigh 3g strontium chloride ($SrCl_2 \cdot 6H_2O$) was dissolved in water and diluted to 200mL, and mix.

4.12 potassium carbonate (excellent pure) solution, 100g/L.

4.13 potassium carbonate (excellent pure) solution, 10g/L.