

ICS 73.060

CCS D41



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 1819.11-2017

Replacing GB/T 1819.11-2004

**Methods for chemical analysis of tin concentrates - Part 11:
Determination of aluminium oxide content - Chromazusal S
spectrophotometric method**

锡精矿化学分析方法 第11部分：三氧化二铝量的测定 铬天青S分光光度法

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Foreword

GB/T 1819 "tin concentrate chemical analysis method" is divided into 21 parts.

- Part 1. Determination of moisture thermal drying method;
- Part 2. Determination of tin content potassium iodate titration;
- Part 3. Determination of iron content cerium sulfate titration method;
- Part 4. Determination of lead content by flame atomic absorption spectrometry and Na₂ EDTA titration;
- Part 5. Determination of arsenic Arsenic antimony molybdenum blue spectrophotometry and iodometric titration;
- Part 6. Determination of the amount of antimony; malachite green spectrophotometry and flame atomic absorption spectrometry;
- Part 7. Determination of bismuth content by flame atomic absorption spectrometry;
- Part 8. Determination of zinc content by flame atomic absorption spectrometry;
- Part 9. Determination of the amount of tungsten trioxide; potassium thiocyanate spectrophotometry;
- Part 10. Determination of sulfur content High-frequency induction furnace combustion infrared absorption method and potassium iodate titration;
- Part 11. Determination of the amount of aluminum oxide chromium azure S spectrophotometry;
- Part 12. Determination of the amount of silica silicon molybdenum blue spectrophotometry and sodium hydroxide titration;

--- Part 13. Determination of magnesia, calcium oxide content; Flame atomic absorption spectrometry;

1 Scope

GB/T 1819.11-2017 is the Chinese national standard on methods for chemical analysis of tin concentrates - part 11: determination of aluminium oxide content - chromazusal s spectrophotometric method, in the field of mining and minerals. 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 29 September 2017 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 June 2018. Classification: ICS 73.060, CCS D41. 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 1819 provisions of this part of the determination of the amount of aluminum oxide in the amount of aluminum. This section applies to the determination of the amount of aluminum oxide in tin concentrate. Measurement range. 0.020% ~ 8.00%.

2 Method summary

The sample was melted with sodium hydroxide-sodium hydroxide, leached with sodium hydroxide solution, and the hydroxide precipitate of iron, lead and calcium was filtered off to precipitate In 1.2mol/L hydrochloric acid medium, tin is reduced by zinc powder, iron is masked by ethylenediaminetetraacetic acid zinc solution, and the solution is buffered by acetic acid-ammonium acetate buffer Solution, aluminum and chrome azure S and polyethylene glycol octyl phenyl ether to generate a green complex, measured at a wavelength of 610nm spectrophotometer absorbance Luminosity.

3 Reagent

Unless otherwise specified, only reagents that are identified as analytically pure and secondary water are used in the analysis.

3.1 zinc powder.

3.3 Sodium peroxide.

3.4 Sodium hydroxide.

3.5 Disodium EDTA.

3.6 Ammonium acetate.

3.7 anhydrous ethanol.

3.11 Ammonia (p =

0.90 g/mL).

3.12 Hydrochloric acid (1 1).

3.13 Hydrochloric acid (1 9).

3.14 ammonia (1 1).

3.15 sodium hydroxide solution (100g/L).

3.16 Ammonium chloride solution (200g/L).

3.17 hydroxylamine hydrochloride solution (100g/L).

3.18 leachate Each 50mL solution contains 3g of sodium hydroxide (3.4) and 1mL of absolute ethanol (3.7).

3.19 Zinc solution (5g/L) Weigh 6.34g of zinc oxide (3.2), add 40mL of hydrochloric acid (3.12), micro-thermal decomposition completely, into 1000mL