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

**YS/T 509.11-2008**

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**Methods for chemical analysis of spodumene and lepidolite  
concentrates. Determination of loss on ignition. Gravimetric  
method**

**(English Translation)**

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### Foreword

YS/T 509 Methods for chemical analysis of spodumene and lepidolite concentrates

consists of the following 11 parts:

- Part 1: Determination of lithium oxide sodium oxide and potassium oxide contents - Flame atomic absorption spectrometric method;
- Part 2: Determination of rubidium oxide and caesium oxide contents - Flame atomic absorption spectrometric method;
- Part 3: Determination of silicon dioxide content - Gravimetric-molybdenum blue photometric method;
- Part 4: Determination of aluminium oxide content - EDTA compleximetric method;
- Part 5: Determination of ferric oxide content - O-phenanthroline photometric method and EDTA compleximetric method;
- Part 6: Determination of phosphorus pentoxide content - The molybdenum blue photometric method;
- Part 7: Determination of beryllium oxide content - Chromazurol S and cetyltrimethyl ammonium bromide spectrophotometric met;
- Part 8: Determination of calcium oxide and magnesium oxide content - Flame

atomic absorption spectrometric method;

--- Part 9: Determination of fluorine content - Ion selective electrode method;

--- Part 10: Determination of manganous oxide content-Persulfate oxidation photometric method;

--- Part 11: Determination of loss on ignition - Gravimetric method.

This Part is Part 11.

This Part replaced YS/T 509.12-2006 Methods for Chemical Analysis of Spodumene and Lepidolite Concentrates - The Gravimetric Method for the Determination of Loss on Ignition (original GB/T 3885.12-1983).

Compared with YS/T 509.12-2006, the major changes of this Part are as follows:

--- Re-edit the text format;

--- Supplement the quality assurance and control clauses; and add the repeatability clause.

Methods for Chemical Analysis of Spodumene and  
Lepidolite Concentrates - Determination of Loss on  
Ignition - Gravimetric Method

## 1 Scope

This Part specifies the method for determining loss on ignition in spodumene and lepidolite concentrates.

This Part is applicable to the determination of loss on ignition in spodumene and lepidolite concentrates.

## 2 Summary of Method

The test material is placed in a high-temperature furnace and burned repeatedly at 900°C~950°C to a constant weight.

## 3 Instrument

High-temperature furnace: Equipped with thermocouple for temperature measurement and millivoltmeter.

**4.1 Spodumene concentrates shall pass through a sieve with a mesh of 0.074mm; and**

lepidolite concentrates shall pass through a sieve with a mesh of 0.105mm.

**4.2 The specimen is pre-baked at 105°C~110°C for 2h; and then placed in a desiccator**

to cool to room temperature.

### **5.1 Test material**

Weigh 2.0g of spodumene concentrate specimen, accurate to 0.0001g. Weigh 0.50g

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