



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

中华人民共和国国家标准

GB/T 11064.6-2013

Replace GB/T 11064.6-1989

**Methods for chemical analysis of lithium
carbonate, lithium hydroxide monohydrate and
lithium chloride -**

**Part 6: Determination of magnesium content-
Flame atomic absorption spectrometric method**

碳酸锂、单水氢氧化锂、氯化锂 化学分析方法

第 6 部分：镁量的测定 火焰原子吸收光谱法

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China.**

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Foreword

GB/T 11064 "Methods for chemical analysis of lithium carbonate, lithium hydroxide monohydrate and lithium chloride" is divided into 16 parts:

- Part 1: Determination of lithium carbonate content - Acid-alkali titrimetric method
- Part 2: Determination of lithium hydroxide content - Acid-alkali titrimetric method
- Part 3: Determination of lithium chloride content - Potentiometric method
- Part 4: Determination of potassium and sodium content - Flame atomic absorption spectrometric method
- Part 5: Determination of calcium content - Flame atomic absorption spectrometric method
- Part 6: Determination of magnesium content - Flame atomic absorption spectrometric method
- Part 7: Determination of iron content-1,10-phenanthroline spectrophotometric method
- Part 8: Determination of silicon content - Molybdenum blue spectrophotometric method
- Part 9: Determination of Sulfate Content - Barium Sulfate Nephelometry Method
- Part 10: Determination of chloride content - Silver chloride nephelometry method
- Part 11: Determination of Acid-insolubles Content - Gravimetric Method
- Part 13: Determination of aluminum content - Chromazurol S-cetylpyridine bromide spectrophotometric method
- Part 14: Determination of arsenic content - Molybdenum blue spectrophotometric method
- Part 15: Determination of Fluoride Content - Ion Selective Method
- Part 16: Determination of calcium, magnesium, copper, lead, zinc, nickel, manganese, cadmium and aluminum content - Inductively coupled plasma atomic emission spectrometry

This Part is part 6 of GB/T 11064.

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

The Part replaces GB/T 11064.6-1989 "Lithium carbonate, lithium hydroxide monohydrate and lithium chloride-Determination of magnesium content-Flame atomic absorption spectrometric method".

Compared with GB/T 11064.6-1989, the main changes of this Part are as follows:

- ADD the repeatability terms;
- RE-EDIT the text format; ADD the test report.

This Part shall be under the jurisdiction of National Standardization Technical Committee of Nonferrous Metals (SAC/TC 243).

Drafting organizations of this Part: Ganzhou Non-ferrous Metallurgy Research Institute, Xinjiang Research Institute of Non ferrous Metals and Haimen Ronghui General Lithium Co., Ltd.

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The historical version replaced by this Part is as follows:

- GB/T 11064.6-1989.

Methods for chemical analysis of lithium carbonate, lithium hydroxide monohydrate and lithium chloride -

Part 6: Determination of magnesium content- Flame atomic absorption spectrometric method

1 Scope

This part of GB/T 11064 specifies the determination method of magnesium content in lithium carbonate, lithium hydroxide monohydrate and lithium chloride.

The part applies to the determination of magnesium content in lithium carbonate, lithium hydroxide and monohydrate and lithium chloride. The determination range: 0.0005%~0.020%.

2 Method Summary

Decompose the lithium carbonate, single water lithium hydrogen with the hydrochloric acid, dissolve the gasification lithium specimen with water, in the hydrochloric acid medium, use the air-acetylene flame to measure the absorbance at 285.2 nm of wavelength of atomic absorption spectrometer. Use the working curve method to determine the magnesium.

3 Reagents

Unless otherwise specified, the reagent used in the part is an analytical pure reagent, and the water used here is the secondary deionized water.

3.1 Hydrochloric acid (1+1)

3.2 Lanthanum salt solution: weigh 15.9 g of gasification lanthanum (analytical pure, $\text{LaCl}_3 \cdot 6\text{H}_2\text{O}$); place in 250 mL beaker, dissolve with water, add a few drops of hydrochloric acid (3.1) to make it clear, place in 500 mL volumetric flask, dilute to the volume with water, mix well. 1 mL solution contains 12.5mg lanthanum.

3.3 Strontium salt solution: weigh 60.4 g of strontium nitrate [analytical pure, $\text{Sr}(\text{NO}_3)_2$]; place in 250 mL beaker, dissolve with water, place in 500 mL volumetric flask, dilute to the volume with water, mix well. 1 mL solution contains 50mg strontium.

3.4 Magnesium standard storage solution: weigh 1.658 0 g; burn at 800 °C for 2h, place in the dryer to cool to the magnesia at room temperature [$w(\text{MgO}) \geq 99.99\%$], place in -250



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