



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

GB/T 11064.10-2013

Replacing GB/T 11064.10-1989

**Methods for chemical analysis of lithium carbonate, lithium
hydroxide monohydrate and lithium chloride - Part 10:
Determination of chloride content - Silver chloride
nephelometry method**

**碳酸锂、单水氢氧化锂、氯化锂 化学分析方法 第 10 部分：氯量的测定
氯化银浊度法**

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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 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 15: Determination of fluoride content - Ion selective method;

manganese, cadmium and aluminum content - Inductively coupled plasma atomic emission spectrometry.

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

The Part replaces GB/T 11064.10-1989 "Lithium carbonate and lithium hydroxide monohydrate - Determination of chloride content - Mercurimetric method".

Compared with GB/T 11064.10-1989, the main changes of this Part are as follows:

- 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: Xinjiang Research Institute of Non ferrous Metals, Ganzhou Non-ferrous Metallurgy Research Institute, and Sichuan Tianqi Lithium Industries Co., Ltd.

The main drafters of this Part: Guan Yuzhen, Kang Zeyan, Ye Chunsheng, Yang Feng, Liu Hong, Gou Haixia, Luo Yuping, and Zhang Xianghong.

The historical version replaced by this Part is as follows:

1 Scope

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

This Part applies to the determination of chloride content in lithium carbonate, in lithium hydroxide monohydrate, and in lithium chloride. The determination range: 0.0010%~0.10%.

2 Method Summary

In nitric acid media, chloride ions and silver ions produce insoluble silver chloride. During a certain period of time, the silver chloride appears in suspension. Determine its absorbance at the 420nm wavelength of a spectrophotometer; obtain the chlorine content.

3 Reagents

Unless otherwise specified, the reagent used in this Part is guaranteed reagent, and the water used in this Part is the secondary deionized water.

3.3 Silver nitrate solution (0.1mol/L): weigh 17.0g of silver nitrate into a beaker. Add water to dissolve it. Transfer the mixture to a 1,000mL brown flask. Drop-add nitric acid (3.1) to make the solution to be transparent. Dilute it with water to the scale; shake it up; store it in a dark place.

3.4 Sodium hydroxide solution (100g/L): weigh 10g of sodium hydroxide into a 250mL plastic beaker. Add 100mL of de-carbonated water to dissolve it; then store it in a plastic bottle.

3.5 Ascorbic acid solution (25g/L), analytical reagent, prepared when it is used.

3.6 Chloride standard stock solution: weigh 1.6484g of sodium chloride (reference material) which has been burnt at 500°C to constant-weight in advance. Place it into a 100mL beaker. Add water to the beaker to dissolve it; then transfer the mixture to a 1,000mL volumetric flask; shake it up. 1mL of this solution contains 1mg of chlorine.

3.7 Chloride standard solution A: pipette 25.00mL of chloride standard stock solution (3.6) into a 250mL volumetric flask.

4 Instrumentation

5 Samples

6 Analysis Steps

6.1 Samples

6.2 Blank Test

Carry out a blank test for the accompanying samples. Add the same amount of acid as that for sample dissolving. Evaporate it to be almost dry at a low temperature.

6.3 Number of Determination

Independently carry out two measurements; take the mean value.

6.4 Determination

6.4.1 Place the sample (6.1) in a 200mL beaker. Add little water and 1 drop of p-Nitrophenol indicator (3.5). Add nitric acid (3.1) drop-by-drop until it is completely dissolved (yellow disappearing). Heat it to boiling to eliminate carbon dioxide; cool it down.