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

GB/T 22660.4-2008

**Chemical analysis methods of lithium fluoride - Part 4:
Determination of magnesium content - Flame atomic
absorption spectrometric method**

氟化锂化学分析方法 第4部分：镁含量的测定 火焰原子吸收光谱法

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Method summary
- 4 Reagents
- 5 Instruments and equipment

Foreword

GB/T 22660 "Methods for chemical analysis of lithium fluoride" is divided into eight sections.

- Part 1. Preparation and storage of test samples;
- Part 2. Determination of the weight of water in the wet method;
- Part 3. Determination of distillation of fluorine content - thorium nitrate volumetric method;
- Part 4. Determination of magnesium by flame atomic absorption spectrometry;
- Part 5. Determination of calcium content by flame atomic absorption spectrometry;
- Part 6. Determination of silicon dioxide content - Molybdenum blue spectrophotometric method;
- Part 7. Determination of iron oxide content phenanthroline spectrophotometry;
- Part 8. Determination of sulfate content of barium sulfate gravimetric method. This section GB/T Part of 422,660. This part is proposed by the China Nonferrous Metals Industry Association. The non-ferrous metal part by the National Standardization Technical Committee. This section is responsible for drafting unit. Fluoride Chemicals Co., Ltd., China Nonferrous Metals Industry Standards and Metrology Institute for Quality. Participated in the drafting of this section. Hunan Nonferrous fluorine chemical limited liability company, Aluminum Corporation of China Zhengzhou Research Institute. The main drafters of this section. Li Yongqiang, Xue Xu Jin, Shi Xiuhua, Zhou Xiaoping, Wang Jianping, Chen Yichun, Zhu Liang, Li Zhijian, Lan Wen Hui, Chen Xi even. Methods for chemical analysis of lithium fluoride Determination of magnesium content. Part

1 Scope

GB/T 22660.4-2008 is the Chinese national standard on chemical analysis methods of

lithium fluoride - part 4: determination of magnesium content - flame atomic absorption spectrometric 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 29 December 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 2009. Classification: ICS 77.120, CCS H60. 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.

This section GB/T 22660 specifies the method for determination of lithium fluoride and magnesium content. This section applies to the determination of lithium fluoride, magnesium content. Measuring range. $\leq 0.15\%$.

2 Normative references

The following documents contain provisions which, through reference

GB/T 22660 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revised edition are not adapted to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated references, the latest edition of this adaptation section.

GB/T 22660.1-2008 Chemical analysis methods of lithium fluoride - Part 1. Sample Preparation and Storage

3 Method summary

Sample was dissolved in sulfuric acid and then heated fluorine, dissolved in hydrochloric acid and water, test solution for atomic absorption spectrometer at a wavelength of 285.2nm, air - Acetylene flame measured magnesium content.

4 Reagents

4.1 sulfate ($\rho=1.84\text{g/mL}$).

4.2 HCl (1 + 1).

4.3 Magnesium standard stock solution. Accurately weigh 0.8291g, previously dried at 110 °C and cooled in a desiccator reference magnesia placed 250mL beaker, add 10mL water wet, was further added 10mLHCl (4.2) was dissolved until all magnesium dissolved and transferred to 500mL Volumetric flask, dilute to the mark with water, mix, magnesium ion

concentration of the solution of 1.0mg/mL.

4.4 Magnesium standard solution. Pipette 25.0mL magnesium stock standard solution in 250mL volumetric flask, dilute to the mark, mix and the concentration of magnesium ions in solution Of 0.1mg/mL.

5 Instruments and equipment

5.1 platinum dish. diameter 80mm, high 35mm.

5.2 Atomic absorption spectrometer, with a magnesium hollow cathode lamp. Under optimum working conditions, who can be used to achieve the following indicators.

--- Characteristic concentration. in the matrix and the measurement of the sample was consistent with the characteristic concentration of magnesium should not exceed 0.07μg/mL.

--- Precision. standard solution with the highest concentration of 10 times the absorbance measurements, the standard deviation should not exceed the average absorbance of 1.0% With the lowest concentration of standard solution (not "zero" concentration of the standard) measuring the absorbance of 10 times, the standard deviation should not exceed the maximum 0.5% concentration of the standard average absorbance.

--- Linear curve. The curve is divided into five sections according to concentration, than the highest and the lowest section of the absorbance difference between the absorbance difference of the segment is not Less than 0.85.