

HG

CHEMICAL INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HG/T 4066-2015

Replacing HG/T 4066-2008

Lithium hexafluorophosphate

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(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces HG/T 4066-2008 "Lithium hexafluorophosphate and cell liquor of lithium hexafluorophosphate - Part 1: Lithium hexafluorophosphate". Compared with HG/T 4066-2008, the main technical changes, except editorial changes, are as follows.

- MODIFY the description of the application scope of lithium hexafluorophosphate, in the Scope (see 1; 1 of the 2008 edition);
- ADJUST the index requirements for lithium hexafluorophosphate, dimethyl carbonate (DMC) insoluble matter, free acid (as HF), sulfate (as SO₄), chloride (as Cl), iron (Fe), sodium (Na) (see 4.2; 4.2 of the 2008 edition);
- ADD the index requirements for calcium (Ca), cadmium (Cd), chromium (Cr), copper (Cu), magnesium (Mg), nickel (Ni), lead (Pb), zinc (Zn), arsenic (As) (see 4.2);
- MODIFY the test method, which adopts GB/T 19282-2014 (see 5.3 ~ 5.9; 5.4 ~ 5.12 of the 2008 edition).

1 Scope

This standard specifies the requirements, test methods, inspection rules, marking, labeling, packaging, transportation, storage for lithium hexafluorophosphate.

This standard applies to lithium hexafluorophosphate. This product is used for the electrolyte salt of lithium ion battery electrolyte and lithium ion supercapacitor electrolyte.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB 150.1 Pressure vessels - Part 1: General requirements

GB 150.2 Pressure vessels - Part 2: Materials

GB 150.3 Pressure vessels - Part 3: Design

GB 150.4 Pressure vessels - Part 4: Fabrication, inspection and testing, and acceptance

GB 190-2009 Packing symbol of dangerous goods

GB/T 191-2008 Packaging - Pictorial marking for handling of goods

GB/T 6678 General principles for sampling chemical products

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 19282-2014 Analytic method for lithium hexafluorophosphate

3 Molecular formula and relative molecular mass Molecular formula. LiPF₆

Relative molecular mass. 151.9 (according to 2013 international relative atomic mass)

5.1 Visual inspection

In the glove box, use visual inspection method to judge the appearance.

5.2 Identification test

Carry out identification, according to the provisions in 3.2 of GB/T 19282-2014.

5.4 Determination of dimethyl carbonate (DMC) insoluble content

It is determined, according to the provisions of 3.8 in GB/T 19282-2014.

5.5 Determination of moisture

It is determined, according to the provisions of 3.7 in GB/T 19282-2014.

5.8 Determination of chloride (as Cl) content

The determination shall be carried out, according to the provisions of 3.4 or 3.5 in GB/T 19282-2014. The ion chromatography, which is specified in 3.4, shall be the arbitration method.

6 Inspection rules

6.1

This standard adopts type inspection and exit-factory inspection. Type inspection and exit-factory inspection shall meet the following requirements. continuously produced by the same materials, under basically the same production conditions, as a batch. Each batch of products does not exceed 5 t.

6.3

The number of sampling units shall be determined, in accordance with the provisions of GB/T 6678.

6.4

If one of the inspection results does not meet the requirements of this standard, it shall be re-sampled from twice the amount of products for re-inspection. In the re-inspection result, even if only one index does not meet the requirements of this standard, the whole batch of products is considered unqualified.

7 Signs, labels

7.1

There shall be firm and clear signs on the outer packaging of lithium hexafluorophosphate products, which indicate the following information. manufacturer's name, address, product name, net content, batch number or production date, shelf life, this standard number, "toxic substances" sign specified in GB 190-2009, the "Avoid rain" and "Avoid sun" signs specified in GB/T 191-2008.

8 Packaging, transportation, storage

8.1

Lithium hexafluorophosphate shall be packaged under airtight and dry conditions.

For products, which have a net content of not less than 25 kg, they are packaged in stainless steel drums, that meet the requirements of GB 150.1 ~ 150.4.

8.2

It is strictly forbidden to be inverted during transportation. There shall be a cover to avoid exposure to sunlight and rain; it shall prevent the package from being damaged.

8.3

Keep the original packaging drum intact and airtight; place it in a cool, dry and well-ventilated warehouse.

8.4

Lithium hexafluorophosphate has a shelf life of not more than 6 months, from the date of manufacture, under the packaging, transportation, storage conditions, which are specified in this standard. However, if it passes the inspection after beyond this period, it can still be used.