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GB/T 16479-2020

Replacing GB/T 16479-2008

Light rare earth carbonate

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Foreword

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

This Standard replaces GB/T 16479-2008 “Light rare earth carbonate”. Compared with GB/T 16479-2008, in addition to editorial modifications, the main technical changes are as follows:

- modified text description of the scope (see Clause 1 of this Edition);

- modified normative references (see Clause 2 of this Edition);

- added product classification (see 3.1 of this Edition);

- added character designations (see 3.1, 3.2 of this Edition);

- added content requirements for lanthanum oxide (La_2O_3) in all product designations (see 3.2 of this Edition);

- added radioactivity requirements for product designations $(LaCe)_x(CO_3)_y$-65Ce, $(LaCePr)_x(CO_3)_y$-58Ce (see 3.2 of this Edition);

- added content requirements for praseodymium oxide (Pr_6O_{11}), neodymium oxide (Nd_2O_3), manganese oxide (MnO_2), sodium oxide (Na_2O), and lead oxide (PbO) of product designation $(LaCe)_x(CO_3)_y$-65Ce (see 3.2 of this Edition);

- modified some content requirements for product designation $(LaCe)_x(CO_3)_y$-65Ce; modified the total rare earth (REO) content from not less than 44% to not less than 45%, cerium oxide (CeO_2) content from not less than 62% to 62%~68%, sulfate (SO_4^{2-}) content from not more than 0.05% to not more than 0.03%, chloride (Cl^-) content from not more than 0.2% to not more than 0.15%, calcium oxide (CaO) content from not more than 0.5% to not more than 0.05%, magnesium oxide (MgO) content from not more than 0.1% to not more than 0.01% (see 3.2 of this Edition, 3.1 of Edition 2008);

- added content requirements for neodymium oxide (Nd_2O_3), sodium oxide (Na_2O) and lead oxide (PbO) of product designation $(LaCePr)_x(CO_3)_y$-58Ce (see 3.2 of this Edition);

- modified some content requirements for product designation $(LaCePr)_x(CO_3)_y$-58Ce; modified the total rare earth (REO) content from not less than 44% to not less than 45%, praseodymium oxide (Pr_6O_{11}) content from not less than 4% to 4%~7%, content of other rare earth impurities from the margin to not more than 0.3%, calcium oxide (CaO) content from not more than 0.5% to not more than 0.2%, alumina (Al_2O_3) content from not

Light rare earth carbonate

1 Scope

This Standard specifies technical requirements, test methods, inspection rules, marks, packaging, transport, storage and quality certificates for light rare earth carbonate.

This Standard is applicable to light rare earth carbonate prepared by chemical method with bastnaesite-monazite mixed concentrate as raw material. It is mainly used to separate single rare earths, prepare rare earth polishing materials, catalytic materials, and mixed rare earth metals.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

GB/T 12690 (all parts), *Chemical analysis methods of non-rare earth impurities in rare earth metals and the oxides*

GB/T 16484 (all parts), *Chemical analysis methods of rare earth chloride and light rare earth carbonate*

GB/T 17803, *Designation system for rare earth products*

3 Technical requirements

3.1 Product classification

The products are divided into three designations: $(LaCe)_x(CO_3)_y$-65Ce, $(LaCePr)_x(CO_3)_y$-58Ce, $(LaCePrNdEu)_x(CO_3)_y$-0.2Eu, according to chemical composition. The representation methods for product designation shall meet the requirements of GB/T 17803.

3.2 Chemical composition

The chemical composition of the product shall meet the requirements of Table

4 Test methods

4.1 Chemical composition

4.1.1 The analysis methods for the total content of rare earths, the proportion of rare earths (La_2O_3, CeO_2, Pr_6O_11, Nd_2O_3, Eu_2O_3), other rare earth impurities, non-rare earth impurities (Fe_2O_3, SO_4^{2-}, Cl^-, CaO, MgO, ZnO, MnO_2, Na_2O, PbO) and acid-insoluble substances are carried out according to the provisions of the corresponding part of GB/T 16484.

4.1.2 The analysis methods for fluorine content (F^-) and alumina (Al_2O_3) are carried out in accordance with the provisions of the corresponding part of GB/T 12690.

4.1.3 The analysis method of radioactivity is carried out according to the supplier's current method.

4.2 Numerical rounding

Numerical rounding is carried out in accordance with the provisions of GB/T 8170.

4.3 Appearance quality

Under natural scattered light, conduct visual inspection.

5 Inspection rules

5.1 Inspection and acceptance

5.1.1 The product is inspected by the supplier's technical supervision department to ensure that the quality of the product meets the requirements of this standard and fill in the quality certificate.

5.1.2 The purchaser shall inspect the products received. If the inspection result does not conform to the provisions of this Standard, it shall be submitted to the supplier within 2 months from the date of receipt of the product. It shall be solved by supplier and purchaser via negotiation. If arbitration is required, it can be carried out by an organization recognized by both parties. Jointly conduct sampling at purchaser's.

5.2 Batching

Products shall be submitted for inspection in batches. Each batch shall be composed of products of the same designation.

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