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**Rare earth products packing,
marking, transport and storage**

稀土产品的包装、标志、运输和贮存

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Rare earth products packing, marking, transport and storage

1 Scope

This Standard specifies the packing, marking, transport, storage and quality certificate of rare earth mineral products, scraps of neodymium-iron-boron, individual rare earth compounds, mixed rare earth compounds, individual rare earth metals, mixed rare earth metals, rare earth alloys, rare earth permanent magnetic materials, rare earth hydrogen storage materials, rare earth luminescent materials, polishing powder, terbium-dysprosium-iron giant magnetostrictive materials, rare earth magnetic refrigerating materials, rare earth catalytic materials, rare earth heating materials and other rare earth products.

This Standard applies to rare earth mineral products, scraps of neodymium-iron-boron, individual rare earth compounds, mixed rare earth compounds, individual rare earth metals, mixed rare earth metals, rare earth alloys, rare earth permanent magnetic materials, rare earth hydrogen storage materials, rare earth luminescent materials, polishing powder, terbium-dysprosium-iron giant magnetostrictive materials, rare earth magnetic refrigerating materials, rare earth catalytic materials, rare earth heating materials and other rare earth products.

Clause 4 and Clause 7 of this Standard only apply to rare earth mineral products, scraps of neodymium-iron-boron, individual rare earth compounds, mixed rare earth compounds, individual rare earth metals 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 190 Packing symbol of dangerous goods

GB/T 191 Packing - Pictorial marking for handling of goods

For powdery rare earth concentrate products, the inner packing adopts plastic bags, and the plastic film used for the plastic bags shall comply with the provisions of GB/T 4456 or GB/T 10003. The outer packing is plastic woven bags, which shall comply with the provisions of GB/T 8946. For radioactive rare earth mineral products, the packing shall comply with the relevant provisions of GB 190 and GB 18871.

3.2.2 Scraps of neodymium-iron-boron

Scraps of neodymium-iron-boron materials include neodymium-iron-boron production and processing recycling materials and waste materials containing neodymium-iron-boron. Neodymium-iron-boron production and processing recycled materials are grinding mud, material skin, material ends, powder, slag, scraped products, defective products, etc. that are generated during the production and processing of neodymium-iron-boron; waste materials containing neodymium-iron-boron are scraped parts containing neodymium-iron-boron, removed from scrapped devices, etc. Scraps of neodymium-iron-boron shall be packed in iron drums or woven bags. For muddy and powdery (dry powder, moist powder) scraps of neodymium-iron-boron, it shall use packing methods such as water-sealing to isolated it from air. If there are other special requirements, they shall be agreed upon between the supply and demand parties.

3.2.3 Rare earth compounds

Rare earth compounds can be solid or liquid, for example: rare earth oxides, carbonates, fluorides, phosphates, oxalates and hydroxides are mostly in powder form, and rare earth chlorides, nitrates or sulfates are granular crystals or in liquid form. Solid rare earth compounds shall be placed in sealed waterproof packages; the inner packing is plastic bags, plastic bottles or glass bottles, and the outer packing is cartons, iron barrels (plastic barrels, wooden barrels, fiber barrels), woven bags of various specifications (including ton bags). Liquid rare earth compounds shall be placed in sealed packages with anti-corrosion properties; the inner packing is plastic bottles or glass bottles, and the outer packing is iron barrels (plastic barrels), etc., or it can be directly placed in closed plastic barrels or plastic containers without outer packing. If the demand party has special requirements, they shall be agreed upon between the supply and demand parties.

3.2.4 Rare earth metals, alloys, quick-setting flakes, metal powder

The product shall take anti-oxidation measures as needed (such as vacuuming, filling with inert gas, etc.). The inner packing adopts plastic bags, which shall meet the requirements of GB/T 4456, and the outer packing is iron drums. If the demand party has special requirements, they shall be agreed upon between

demand parties.

3.2.11 Rare earth catalytic materials

The packing box shall be designed to be waterproof and anti-collision, to ensure that the product is not damaged during transportation. If the demand party has special requirements, they may be agreed upon between the supply and demand parties.

3.2.12 Rare earth heating materials

The inner packing of the product shall be moisture-proof and shock-proof, and the outer packing adopts iron drums or wooden boxes to ensure that the product is not damaged during transportation. If the demand party has special requirements, they may be agreed upon between the supply and demand parties.

3.2.13 Other rare earth products

Pack according to relevant requirements, and it shall meet the nature of the product or the requirements in the corresponding technical standards. If the demand party has special requirements, they may be agreed upon between the supply and demand parties.

4 Labeling, marking

4.1 Package labeling

At the conspicuous position outside of the package, there shall be an obvious label that does not fade and has a certain degree of moisture resistance. The label shall at least indicate:

- a) Name of the supply party.
- b) For rare earth mineral products, it shall indicate the name or abbreviation of the manufacturing enterprise (if the manufacturing enterprise and the supply party are the same organization, there is no need to repeat). For rare earth mineral products produced in China after September 29, 2018, the name of the manufacturing enterprise (rare earth mine) shall be in the list of rare earth mines, smelting and separation enterprises announced by the six major rare earth groups in the corresponding year. See Annex A for examples of the abbreviation of rare earth mines, and see Annex B for examples of the list of rare earth mineral products.
- c) For scraps of neodymium-iron-boron, it shall indicate the name or abbreviation of the manufacturing enterprise (if the manufacturing

and packing indication marks, such as words and marks of “CAUTION AGAINST WET”, “THIS SIDE UP” and “LIFT HERE”. The graphics shall comply with the provisions of GB/T 191.

4.2.3 For rare earth metals or metal powder with active chemical properties, the packing mark shall comply with the provisions of GB 190 and GB 17914.

4.2.4 Radioactive products shall be given a three-lobed mark according to the provisions of GB 190.

5 Transport

5.1 Carriages, cabins and containers for transport of products shall be kept clean, dry and pollution-free.

5.2 It is not allowed to transport products in the same carriage (cabin) with corrosive chemicals and wet materials.

5.3 When transporting in an open hood, it shall be covered with a waterproof tarp to ensure that the products are not immersed in rain or snow.

5.4 When the products are transferred or unloaded at the station or wharf, it shall be loaded and unloaded in a suitable way to prevent damage to the package and bumps on the products.

5.5 Flammable and explosive products shall be transported according to GB 17914.

5.6 Radioactive products shall be transported according to GB 11806.

5.7 Tank trucks or plastic barrels are required for transport of liquid rare earth products. When filling liquid rare earth products, sufficient volume shall be reserved to prevent expansion.

6 Storage

All products shall be ventilated, dry, protected from light, and kept clean. They shall not be stored together with acid, alkali and other products. The storage environment shall not contain volatile substances, and corrosive and strong oxidizing gases. The packing barrels used to store neodymium-iron-boron sludge shall be regularly checked for water sealing and sealing measures.

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