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

GB/T 46992-2025

**Technical specification for the classification and
comprehensive utilization of recyclable rare earth secondary
resources**

可回收利用稀土二次资源分类与综合利用技术规范

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1 Scope

GB/T 46992-2025 is the Chinese national standard covering the rare earths already above ground - scrap magnets, spent catalysts, polishing powders, phosphors and the residues of processing - classified by what they contain and by the route that can recover it. Recovering rare earths from what has already been mined is the only alternative to mining more. First edition. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the classification and coding, as well as the recovery and comprehensive utilization technologies, for recyclable rare earth secondary resources (hereinafter referred to as "rare earth secondary resources"). This document applies to the classification and comprehensive utilization of rare earth secondary resources. This document does not apply to wastes listed in the National Hazardous Waste Inventory, nor to radioactive rare earth residues with radionuclide activity concentrations exceeding the exemption values specified in GB 27742.

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 3095, Ambient air quality standards

GB 12348, Emission standard for industrial enterprises noise at boundary

GB 26451, Emission standards of pollutants from rare earths industry

GB 29435, Norm of energy consumption per unit production of rare earth metallurgical enterprise

GB/T 46213, Technical specification for remanufacturing of Nd-Fe-B bonded magnet wastes

HJ 1091, Technical Guidelines for Pollution Prevention and Control in the Recycling and Utilization of Solid Waste

HJ 1125, Technical specification for application and issuance of pollutant permit -- Rare and rare earth metals smelting industry

HJ 1200, Technical specification for application and issuance of pollutant permit -- Industrial solid waste (Trial) XB/T 807, Technical specification for recycling of waste sintered NdFeB magnets XB/T 816, Technical specifications for waste water treatment and reuse of rare earth metallurgy

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 rare earth secondary resources Rare earth-containing materials generated during production, processing, or consumption that no longer possess their original utility value, but whose contained rare earth elements can be restored to a state of utility through processing. NOTE

1. Rare earth secondary resources include, but are not limited to, rare earth-containing recoverable materials generated during production and processing activities - such as the manufacture of rare earth magnetic materials, phosphors, hydrogen storage alloys, polishing powders, catalysts, crystals, ceramics, and sputtering targets, as well as smelting operations - as well as rare earth-containing materials and scrap recovered from the dismantling of discarded components and waste products generated during consumption. NOTE

2. After processing, rare earth secondary resources can be reused or utilized for the extraction of valuable elements, such as rare earths.

3.2 comprehensive utilization of rare earth secondary resources Production activities involving the recovery of rare earth elements and other valuable elements from rare earth secondary resources.

3.3 secondary resources of rare earth magnetic material Recyclable materials generated during the production and processing of rare earth magnetic materials - including grinding sludge, cuttings, shavings, scrap trimmings, slag, and rejected parts - as well as rare earth magnetic material-containing components recovered from the dismantling of waste electronic devices and other end-of-life products.

3.4 secondary resources of rare earth phosphor Recyclable materials generated during the

production and processing of rare earth phosphors, as well as materials containing rare earth phosphors recovered from the dismantling of discarded components arising from consumption processes.

3.5 secondary resources of rare earth hydrogen storage alloy Recyclable materials generated during the production and processing of rare earth hydrogen storage alloys, as well as materials containing rare earth hydrogen storage alloys recovered from the dismantling of discarded components following their consumption.

3.6 secondary resources of rare earth polishing powder Recyclable materials generated during the production and processing of rare earth polishing powders, as well as waste materials containing rare earth polishing powders generated during consumption.

3.7 secondary resources of rare earth catalyst Recyclable materials generated during the production and processing of rare earth catalysts - including rare earth-containing rejects, as well as spent rare earth catalysts exhibiting reduced activity or total deactivation - along with rare earth catalyst-containing materials and scrap recovered from the dismantling of obsolete components discarded during the consumption phase.

3.8 secondary resources of rare earth crystals Recyclable materials generated during the production and processing of rare earth crystals - including substandard intermediates, furnace residues, cutting scraps, grinding residues, and rejected products - as well as rare earth crystal-containing materials recovered from the dismantling of discarded components generated during the consumption phase.

3.9 secondary resources of rare earth ceramics Recyclable materials generated during the production and processing of rare earth ceramics, as well as rare earth-containing ceramic materials recovered from the dismantling of discarded components following their consumption.

3.10 secondary resources of rare earth targets Recyclable materials generated during the production, processing, and consumption of rare earth sputtering targets - including grinding sludge, cuttings, shavings, offcuts, rejects, and residual targets.

3.11 secondary resource of rare earth-containing metallurgical Rare earth-containing recyclable materials generated during hydrometallurgical separation and pyrometallurgical processes, as well as waste and scrap materials generated during consumption.

4 Classification and coding of rare earth secondary resources

4.1 Classification of rare earth secondary resources Rare earth secondary resources are primarily classified into nine major categories. secondary resources of rare earth magnetic material, secondary resources of rare earth phosphor, secondary resources of rare earth hydrogen storage alloy, secondary resources of rare earth polishing powder, secondary resources of rare earth catalyst, secondary resources of rare earth crystals, secondary

resources of rare earth ceramics, secondary resources of rare earth targets and secondary resource of rare earth- containing metallurgical. The specific rare earth elements predominant within each of these rare earth secondary resources categories are listed in Annex A.

4.2 Coding of rare earth secondary resources

4.2.1 The classification and coding of rare earth secondary resources is divided into the following three levels.

- a) The first level represents rare earth secondary resources, denoted as SRRE;
- b) The second level constitutes the primary classification of rare earth secondary resources. 01 denotes secondary resources of rare earth magnetic material; 02 denotes secondary resources of rare earth phosphor; 03 denotes secondary resources of rare earth hydrogen storage alloy; 04 denotes secondary resources of rare earth polishing powder; 05 denotes secondary resources of rare earth catalyst; 06 denotes secondary resources of rare earth crystals; 07 denotes secondary resources of rare earth ceramics; 08 denotes secondary resources of rare earth targets; 09 denotes secondary resource of rare earth-containing metallurgical.