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

GB/T 21179-2026

Replacing GB/T 21179-2007

Recycled nickel and nickel alloy raw materials

回收镍及镍合金原料

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. This document replaces GB/T 21179-2007 "Nickel and Nickel Alloy Scrap". Compared with GB/T 21179-2007, the main differences are in structural adjustments and compilation. Aside from the logical changes, the main technical changes are as follows:

a) The classification of raw materials has been changed, removing Category I pure nickel waste and Category III nickel waste powder; nickel-manganese battery waste and hybrid battery waste have also been removed. The content of yellow slag; change "catalyst waste" to "recycled nickel catalyst raw material"; change "nickel salt" to "recycled nickel compound raw material". Materials (see Table 1, 2007 edition);

b) The grade requirements for recycled nickel alloy raw materials have been changed, and the phrase "Grade 1. composed of nickel alloy scrap of the same grade or with similar chemical composition" has been removed. Composition. "Level

2. Composed of nickel alloy scrap of different grades" (see Table 1, Table 1 in 2007 edition).

c) The grade requirements for recycled nickel compound feedstock have been changed, from " $\text{Ni} \geq 10.0\%$ " to "Grade 1. $\text{wNi} \geq 40.0\%$; Grade 2. 5.0% ". $\leq \text{wNi} < 40.0\%$ (see Table

1,.2007 edition);

d) The inspection rules have been changed (see Chapter 7, Chapter 6 of the.2007 edition);

e) Added accompanying file content (see 8.4);

f) The contents of the "Purchase Order Details" section have been changed (see Chapter 9, Chapter 8 in the.2007 edition).

g) The quality certificate has been removed (see

7.4 of the.2007 edition). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Nonferrous Metals Industry Association. This document is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC 243). This document was drafted by: Jinchuan Group Co., Ltd., Nonferrous Metals Technology and Economic Research Institute Co., Ltd., and Jingmen GEM Co., Ltd. New Materials Co., Ltd., BaoTi Group Co., Ltd., Quzhou Huayou Resource Recycling Technology Co., Ltd., Yichang Bangpu Recycling Technology Co., Ltd. Ganzhou Hanrui New Energy Technology Co., Ltd., and Jinchuan Group Nickel Cobalt Co., Ltd. The main drafters of this document are. Yang Shuxia, Zhang Peng, Guo Qi, Ma Ting, Wu Shuaijin, Cheng Shaoyi, Lin Ruoxu, Yin Zhitao, Xu Kaihua, and Li Lanlan. Hu Zhijie, Wang Hao, Qin Ruyong, Zhang Kun, Cheng Wei, Tang Shenghe, Xiao Peng. This document was first published in.2007, and this is its first revision. Recycling nickel and nickel alloy raw materials

1.Scope This document specifies the categories and sources, technical requirements, test methods, and inspection regulations for recycled nickel and nickel alloy raw materials (hereinafter referred to as "raw materials"). Rules, markings, packaging, transportation, storage, and accompanying documents and order contents. This document applies to nickel and nickel alloy raw materials that have been preliminarily sorted and recycled.

4.Raw material categories and sources The raw materials are classified into six categories according to their state of existence. Category I. Recycled nickel battery raw materials; Category II. Recycled nickel alloy raw materials; Category III. Recycled nickel sludge. Raw materials; Category IV. Raw materials for recovering nickel catalysts; Category V. Raw materials for recovering nickel compounds; Category VI. Raw materials for recovering nickel slag and nickel dust. Specific requirements for each type of raw material... Please refer to Table 1.

5 Technical Requirements

5.1 Chemical composition The chemical composition of nickel in the raw materials should conform to the requirements in Table 1.

5.2 Appearance Quality

5.2.1 No other waste materials should be mixed into the raw materials.

5.2.2 There should be no visible impurities in the raw materials.

5.3 Hazardous substances

5.3.1 The raw materials should not contain flammable or explosive substances.

5.3.2 The raw materials shall not contain hazardous substances as defined by national regulations, such as those found in sealed containers or pressure vessels.

5.4 Other Requirements

5.4.1 Raw materials shall be recycled and traded in accordance with the categories, groups (if any), and grades specified in this document. Other raw materials not listed in this document shall be disposed of... Place them in similar categories.

5.4.2 National cultural relics mixed in with raw materials shall be handled in accordance with relevant national regulations.

5.4.3 If the buyer has other special requirements, they shall be determined through negotiation between the supplier and the buyer and shall be noted in the purchase order.

6.1 Chemical composition

6.1.1 The chemical composition analysis of recycled nickel battery raw materials shall be carried out in accordance with the provisions of YS/T 1342.1.

6.1.2 The analytical method for determining the actual nickel alloy content of recycled nickel alloy raw materials is as follows:

- a) Extract a sample from the raw material, weigh and record the sample mass m ;
- b) When the sample contains non-nickel metals and inclusions, it should be crushed and sorted; if it cannot be separated, it should be treated as non-nickel metals.
- c) Weigh and record the mass m_1 of the separated nickel alloy.

6.1.3 The chemical composition analysis methods for other raw materials shall be carried out in accordance with the provisions of GB/T 15923, YS/T 341.1, YS/T 707, etc., or as specified by the supplier. It needs to be determined through negotiation between both parties and noted in the order form.

6.2 Appearance Quality The appearance quality of the raw materials is inspected visually.

6.3 Hazardous substances Hazardous substances in raw materials are inspected visually.

6.4 Other requirements Other requirements for raw materials shall be determined by sensory inspection or by negotiation between the supplier and the buyer.

7.1 Inspection and Acceptance

7.1.1 The raw materials shall be inspected by the supplier or a third party, and the quality of the raw materials shall comply with the provisions of this document and the purchase order.

7.1.2 The buyer may inspect the received raw materials in accordance with the provisions of this document or the purchase order. If the inspection results are inconsistent with those of this document or the purchase order... If any discrepancies are found, the item should be sealed separately and the supplier notified within 15 days of receipt. The matter should be resolved through negotiation between the supplier and the buyer. If arbitration is required, it should be conducted by [the relevant authority/organization]. Both the supplier and the buyer will jointly take samples and process them at the buyer's location.

7.2 Batching Raw materials should be submitted for inspection in batches. Each batch should consist of raw materials of the same category, group (if any), and grade, with no limit on batch weight.

7.3 Test Items and Sampling

7.3.1 The inspection items for raw materials shall comply with the provisions of Table 2.

7.3.2 Raw material sampling shall be conducted randomly and in accordance with the provisions of Table 2.

7.4 Judgment of Test Results

7.4.1 The numerical rounding of the test results shall be performed in accordance with the provisions of GB/T 8170, and the rounding value comparison method shall be used for determination.

7.4.2 If any of the test results for the chemical composition, appearance quality, hazardous substances, or other requirements of the raw materials fails to meet the requirements, the entire batch of raw materials shall be deemed unfit. The material is substandard.

8 Marking, packaging, transport, storage and accompanying documents

8.1 Marking Each batch of raw materials should be labeled with the following information.

- a) Supplier's name;
- b) Raw material category, group (if any), and grade requirements;
- c) Batch number;