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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 26522-2026

Replacing GB/T 26522-2011

Refined nickel chloride

精制氯化镍

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Standardization Administration of the PRC

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 26522-2011 "Refined Nickel Chloride". Compared with GB/T 26522-2011, the main differences are structural adjustments and editorial changes. Aside from the modifications, the main technical changes are as follows:

a) The scope has been changed (see Chapter 1, Chapter 1 of the.2011 edition);

b) The requirements and analytical methods for sulfates have been removed (see sections

5.12 of the.2011 edition);

c) The requirements for zinc, iron, copper, lead, and arsenic have been revised, and the requirements for grades and first-class products have been deleted (see 5.2,

4.2 of the.2011 edition);

d) Requirements and analytical methods for calcium, magnesium, sodium, and pH have been added (see 5.2, 6.4, 6.5, and 6.9);

e) The accuracy requirements for electrically heated constant temperature drying ovens have been changed (see 6.3.1.3.2, 6.3.2.2.7, 6.8.3.2, and

5.4.1.4 of the.2011 edition). 5.4.2.2.7, 5.9.3.2, 5.9.4);

f) The analytical methods for the content of cobalt, zinc, iron, copper, lead, cadmium, chromium, manganese, arsenic, and mercury have been changed (see 6.4, 6.6, 6.7, and 5.5~ of the.2011 edition). 5.8, 5.10, 5.11). 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 Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Technical Committee on Chemical Standardization (SAC/TC63). This document was drafted by: Jinchuan Group Nickel Salt Co., Ltd., Quzhou Huayou Resource Recycling Technology Co., Ltd., and GEM Co., Ltd. CNOOC Tianjin Chemical Research and Design Institute Co., Ltd., Jilin Jien Nickel Industry Co., Ltd., Guangdong Guanghua Technology Co., Ltd., Hunan Fucheng New Materials Technology Co., Ltd. The main drafters of this document are. Gong Jibao, Li Yan, Xu Kaihua, Zhang Kai, Wen Song, Huang Xinmei, Yao Yang, Dong Cunwu, Qin Hui, Wang Yaning, and Zhao Chaoyue. Chen Caijin, Han Junwen, Shen Yukun, Shen Yanling, Wang Fenghai, Wang Ying. This document was first published in.2011, and this is its first revision. Refined nickel chloride

1 Scope

GB/T 26522-2026 is the Chinese national standard covering refined nickel chloride - the electrolyte salt of nickel plating and a precursor for battery cathode material, specified on assay and on the copper, iron, cobalt and zinc that would co-deposit or poison a cathode. It replaces GB/T 26522-2011 and has been in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, replacing GB/T 26522-2011. The document is under the responsibility of the China Petroleum and Chemical Industry Federation. This page is published from the official record of the 2026 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 requirements, test methods, inspection rules, marking and accompanying documents, as well as packaging, transportation and storage of refined

nickel chloride. This document applies to the production, inspection, and sale of refined nickel chloride.

Note. This product is mainly used in electroplating, electroless nickel plating, catalysts, ceramics and glass, corrosion inhibitors and electronic chemicals, etc.

4.Molecular formula and relative molecular mass Molecular formula. NiCl2·6H2O Relative molecular mass. 237.68 (based on 2022 international relative atomic mass)

5 Requirements

5.1 Appearance. Green or grass-green monoclinic prismatic crystals.

5.2 Refined nickel chloride shall be tested in accordance with the test methods specified in this document and shall conform to the requirements of Table 1.

6.Test Methods Warning. Some reagents used in this test method are toxic or corrosive. Operators should exercise extreme caution. If splashed onto skin, seek immediate medical attention. Rinse with water; severe cases require immediate medical attention. When using flammable materials, never heat with an open flame.

6.1 General Provisions Unless otherwise specified, all reagents and water used in this document refer to analytical grade reagents and those specified in GB/T 6682-2008. Grade III water. Unless otherwise specified, the standard titration solutions, preparations, and products used in the test shall conform to HG/T 3696.1 and Prepared according to the specifications of HG/T 3696.3.

6.2 Visual Inspection Under natural light, the appearance is determined visually on a white-backed petri dish or white porcelain plate.

6.3.1 Weight method (arbitration method)

6.3.1.1 Principle In ammoniacal solutions, tartaric acid is added to form soluble complexes with impurities such as iron and aluminum to eliminate interference. This is achieved using dimethylglyoxime and nickel. A red precipitate of nickel dimethylglyoxime was formed. The precipitate was filtered, washed, dried, and weighed to calculate the nickel content.

6.3.1.2 Reagents or materials 6.3.1.2.1 Ethanol solution. 1 4. 6.3.1.2.2 Hydrochloric acid solution. 1 1. 6.3.1.2.3 Ammonia solution. 1 1. 6.3.1.2.4 Ammonium chloride solution..200 g/L. 6.3.1.2.5 Tartaric acid solution..200g/L. 6.3.1.2.6 Dimethylglyoxime ethanol solution. 10 g/L.

6.3.1.3 Instruments and Equipment 6.3.1.3.1 Glass sand crucible. 5μm~15μm. 6.3.1.3.2 Electric constant temperature drying oven. The temperature can be controlled at 105°C±2°C.

6.3.1.4 Test Procedure Weigh approximately

2.0 g of sample, accurate to 0.0002 g, and place it in a 250 mL beaker. Add 2 mL of hydrochloric acid solution and 50 mL of water, and heat to [temperature missing]. Dissolve, cool to room temperature, transfer completely to a 100 mL volumetric flask, dilute with water to the mark, and shake well. Transfer 10 mL of the test solution to a 400 mL beaker using a pipette, add 150 mL of water, 5 mL of ammonium chloride solution, and 5 mL of alcohol. Prepare a petrolic acid solution, cover with a watch glass, and heat to boiling. Cool to 70°C-80°C, then slowly add 30 mL of dimethyl ethylene glycol while continuously stirring. Prepare an aldehyde oxime ethanol solution by adding ammonia solution dropwise to adjust the pH to 8-9 (test with precise pH paper), then add an excess of 1-2 mL. Hold at 70°C~80°C for 30 min, filter through a glass sand crucible that has been dried to constant mass at 105°C±2°C, and wash with ethanol solution. Dry at 105°C±2°C for 4 to 5 times until the quality is constant.

6.3.1.5 Experimental Data Processing The nickel content is expressed as the mass fraction of nickel (Ni), w1, and is calculated according to formula (1).

6.3.2 Complexometric Titration

6.3.2.1 Principle The sample was decomposed with acid, and impurities such as copper, iron, calcium, and magnesium were masked with potassium sodium tartrate, ammonium fluoride, and sodium thiosulfate at an ammoniacal pH of 8-9. In the solution, ammonium purpurate was used as an indicator, and the solution was titrated with standard disodium ethylenediaminetetraacetate solution until the solution turned purple-red.

6.3.2.2 Reagents or materials 6.3.2.2.1 Ammonium fluoride. 6.3.2.2.2 Hydrochloric acid solution. 1 1. 6.3.2.2.3 Ammonia solution. 1 1. 6.3.2.2.4 Potassium sodium tartrate solution. 150 g/L. 6.3.2.2.5 Sodium thiosulfate solution. 500 g/L. 6.3.2.2.6 Standard titration solution of disodium ethylenediaminetetraacetate. c(EDTA)~0.02mol/L. 6.3.2.2.7 Ammonium purpurate indicator. 1g ammonium purpurate and 100g sodium chloride (dried at 105°C±2°C for 2h and cooled in a desiccator) However, they were mixed and ground finely in a mortar.

6.3.2.3 Test Procedure 6.3.2.3.1 Preparation of test solution Weigh approximately

1.0 g of sample, accurate to 0.0002 g, and place it in a 250 mL beaker. Add 50 mL of water and 2 mL of hydrochloric acid solution, and heat to dissolve. Solution. After cooling to room temperature, completely transfer the solution to a 250mL volumetric flask, dilute with water to the mark, and shake well. 6.3.2.3.2 Test Transfer 25 mL of the test solution to a 500 mL Erlenmeyer flask, add 1 g to 2 g of ammonium fluoride and 10 mL of potassium sodium tartrate solution. Add 15 mL of sodium thiosulfate solution and

0.1 g of ammonium purpurate indicator, shake well, and then add ammonia solution