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

GB/T 629-2026

Replacing GB/T 629-1997

Chemical reagent - Sodium hydroxide

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Table of Contents

1	Scope
3	Terms and Definitions
5	Technical Requirements
6	Test Methods
6.2	Sodium hydroxide
6.2.2	Determination Method Measure
6.5	Chloride
6.5.2	Ion Chromatography
6.5.2.3	Determination Method Weigh
6.10	Magnesium
6.10.1	Flame Atomic Absorption Spectrometry (Arbitration Method)
6.10.2	Inductively Coupled Plasma Atomic Emission Spectrometry
6.11	Aluminum
6.12	Potassium
6.13	Calcium
6.14	Iron
6.15	Nickel
6.16	Zinc
7	Inspection Rules

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 629-1997 "Chemical Reagent Sodium Hydroxide". Compared with GB/T 629-1997, the main differences are in structural adjustments and compilation. Aside from the logical changes, the main technical changes are as follows:

a) The technical requirements for sodium hydroxide have been changed. The analytical purity requirement has been adjusted from " $\geq 96.0\%$ " to " $\geq 97.0\%$ ". The chemical purity requirement is... Please adjust the requirement from " $\geq 95.0\%$ " to " $\geq 96.0\%$ " (see Chapter 5, Chapter 4 of the 1997 edition);

b) The technical requirements for the clarity test were changed from "qualified" to " ≤ 2 ", " ≤ 4 ", and " ≤ 6 " (see Chapter 5, 1997). Chapter 4 of the edition);

c) A chloride ion chromatography method has been added for determination (see 6.5.2);

d) Five new inductively coupled plasma atomic emission spectrometry (ICP-AES) methods for determining magnesium, aluminum, iron, nickel, and zinc have been added (see 6.10.2, 6.11.2,...). (6.14.2, 6.15.2, 6.16.2)

e) Two additional determination methods for calcium have been added. flame atomic absorption spectrometry and inductively coupled plasma atomic emission spectrometry (see...). (

6.13.2 and 6.13.3)

f) The inspection rules were changed (see Chapter 7, Chapter 6 of the 1997 edition);

g) Packaging and labeling have been changed (see Chapter 8, Chapter 7 of the 1997 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 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: Nanjing Guoyuan Standard Technical Service Co., Ltd., Shandong Provincial Institute of Product Quality Inspection, and Beijing Chemical Reagent Research Institute. Research Institute Limited Liability Company, Hunan Huihong Reagent Co., Ltd., Zhejiang Haizhou Pharmaceutical Co., Ltd., Yonghua Chemical Co., Ltd., Jiangsu Provincial Institute of Product Quality Supervision and Inspection, Nanjing Municipal Institute of Product Quality Supervision. The main drafters of this document are. Liu Qianqian, Qiu Ailing, Zhao Jifei, Wang Yuhua, Zhu Sihao, Wang Biwei, Yin Yanhong, Gu Aiguo, and Tang Haoyang. Xu Nan, Xu Jiyuan, Duan Xiangjiang, Zhou Jingjing. The release history of this document and the document it replaces is as follows:

---First published in 1965 as GB/T 629-1965, first revised in 1977, second revised in 1981, and third revised in 1997. This revision;

---This is the fourth revision. Chemical reagent. Sodium hydroxide Warning

---Some of the testing procedures specified in this document may lead to hazardous situations. Users are responsible for taking appropriate safety and health precautions. Implement the measures and ensure they comply with the conditions stipulated by relevant national laws and regulations.

1 Scope

GB/T 629-2026 is the Chinese national standard covering reagent grade sodium hydroxide

- the grades from analytical to guaranteed, the assay, the carbonate that forms on any exposure to air, and the limits on chloride, sulfate, silicate and the heavy metals. It replaces GB/T 629-1997, a standard twenty-nine years old, and it belongs with the industrial grades of GB/T 11212-2026 revised in the same period. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 629-1997. 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 properties, technical requirements, inspection rules, packaging, and marking of the chemical reagent sodium hydroxide, and describes the corresponding tests. method. This document applies to the testing of the chemical reagent sodium hydroxide.

Note. The chemical reagent sodium hydroxide has the molecular formula NaOH, a relative molecular mass of 40.00 (based on the 2022 international relative atomic mass), and the CAS number is 1310-. 73-2.

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Characteristics Sodium hydroxide is a white, uniform granular or flaky solid. It readily absorbs moisture and carbon dioxide from the air, is corrosive, and is readily soluble in water.

5 Technical Requirements

The technical requirements for sodium hydroxide shall comply with the provisions of Table 1.

6 Test Methods

6.1 General Provisions Unless otherwise specified in this chapter, all standard titrants, standard solutions, preparations and products used shall comply with GB/T 601, GB/T 602, and GB/T 603. Prepared according to GB/T 603, laboratory water should meet the Class III water standard in GB/T 6682, and all reagents used should be of analytical grade or higher. In addition, all samples were weighed to an accuracy of 0.01g, and all solutions used were expressed as percentages "%" except for "ethanol (95%)", which were all mass fractions.

6.2 Sodium hydroxide

6.2.1 Preparation of test solution Quickly weigh 25g of sample, place it in an Erlenmeyer

flask, add 200 mL of carbon dioxide-free water, and immediately stopper with a rubber stopper fitted with a soda lime tube. After dissolving, cool and transfer to a 250 mL volumetric flask, then dilute to the mark.

6.2.2 Determination Method Measure

10.00 mL of the test solution and pour it into a stoppered conical flask. Add 95 mL of carbon dioxide-free water and 5 mL of barium chloride solution (100 g/L), shake well, and let stand for 15 minutes. Add 2 drops of phenolphthalein indicator solution (10 g/L), and titrate with standard hydrochloric acid solution [$c(\text{HCl}) = 1 \text{ mol/L}$]. Titrate until the red color of the solution disappears. Retain the solution and continue to determine the sodium carbonate content. The mass fraction (w_1) of sodium hydroxide is calculated according to formula (1).

6.3 Carbonates Add 10 drops of bromocresol green-methyl red indicator to the solution after sodium hydroxide determination (6.2.2), and titrate with standard hydrochloric acid solution. [$c(\text{HCl}) = 1 \text{ mol/L}$] Titrate until the solution changes from green to dark red, boil for 2 minutes, cool, and continue titrating until the solution turns dark red. The mass fraction of sodium carbonate (w_2) is calculated according to formula (2).

6.4 Clarity Test Take 100 mL of the test solution (6.2.1), and its turbidity should not exceed that of grade 2 (superior purity) and grade 4 as specified in Table 2 of HG/T 3484-1999. Clarity standard No. 6 (analytical grade) or No. 6 (chemically pure).

6.5 Chloride

6.5.1 Turbidimetric method (arbitration method) Take 5 mL of the test solution (6.2.1), neutralize it with nitric acid solution (25%), dilute it to 20 mL, and then test it according to the provisions of GB/T 9729. The turbidity of the solution should not exceed that of the standard turbidity solution. The standard turbidity solution is prepared by taking

0.010 mg (analytical grade),

0.025 mg (analytical grade), or

0.050 mg (chemically pure) chloride solution. (Cl) standard solution, diluted to 20 mL, and treated simultaneously with the same volume of test solution.

6.5.2 Ion Chromatography

6.5.2.1 Reagents, Materials and Instruments Comply with the provisions of Chapters 5 and 6 of GB/T 34672-2017.

6.5.2.2 Instrument Conditions Chromatographic column. 250 mm long, 4 mm inner diameter; polystyrene-divinylbenzene polymer with quaternary ammonium salt functional groups, particle size... 9 μm , pH tolerance range 0–14, or other chromatographic columns