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

**GB/T 4348.2-2014**

Replacing GB/T 4348.2-2002

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**Sodium hydroxide for industrial use -- Determination of sodium  
chloride content -- Mercury metric method**

工业用氢氧化钠 氯化钠含量的测定 汞量法

**(English Translation)**

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### Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 4348.2-2002 "sodium hydroxide for industrial use - Determination of mercury Method." And GB/T 4348.2-Compared to 2002, the main technical changes are as follows.

- Remove the foreword to international standards (see the 2002 edition of the International Standard foreword);
- Increasing the normative references (see Chapter 2);
- Increase warning (see Chapter 4);
- Revised analysis of the reagents and test water regulations (see 41, 2002 edition of Chapter 4);
- Marking an increase of single pipette level requirements (see 5.2);
- Increased Buret accuracy and grade requirements (see 5.3, 5.4 and 5.5);
- Increased laboratory sample requirements (see 61, 2002 version 6.1.);
- Modify the sample solution (11) the amount of nitric acid solution (see 62, 2002 version 6.2.);
- Added "Test Report" section (see Chapter 9);
- Increased normative appendix (see Appendix A, 2002 edition of 4.5.1 and 4.5.2).

The standard reference method using redrafted ISO 981. 1973 (2011) Determination of mercury content "industrial sodium chloride content Law ", and ISO 981. 1973 conformance degree (2011) is not equivalent.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee chlor-alkali chemical branch (SAC/TC63/SC6) centralized.

This standard was drafted. Xinjiang Zhongtai Chemical Co., Ltd. Jinxi Chemical Industry Institute.

## 1 Scope

This standard specifies the method for sodium hydroxide for industrial use in the determination.

This standard applies to sodium chloride content (mass fraction) is greater than 0.005% of the product.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 603 chemical reagent in test methods - Preparations with Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 29643 Industrial laboratory samples with sodium hydroxide and the main project prepared solution was measured Principle 3 in the pH2 ~ 3 solution, strong ionization of mercury in nitric acid chloride into weakly ionized mercuric chloride with hydrazine diphenylcarbazone directs Agents, with a slight excess of divalent mercury ions generated purple complex is the end.

## 4 Reagents and materials

Warning. toxic mercury nitrate. Nitric acid and sodium hydroxide is corrosive. The user's responsibility to take appropriate safety and health practices.

### 4.1

General provisions. The method of the reagents and water in the absence of other provisions indicated, refers analytical grade or above and GB/T 6682 in Three predetermined water or equivalent purity. Test preparation and products required, in the absence of other provisions, according to GB/T 603 provisions preparation.

### 4.2

nitric acid solution. 11. NO<sub>2</sub> content is high, the end point of the titration significant interference. When they find titration end did not change significantly when the nitrate Acid solution should be reconstituted.

### 4.3

nitric acid solution. 2mol/L.

**4.4**

Sodium hydroxide solution. 2mol/L.

Sodium chloride 4.5 Standard solution. 0.05mol/L. Weigh 500 °C to constant burning 1h reference reagent sodium chloride 2.9221g, add a little water Dissolved and transferred to 1000mL volumetric flask, dilute with water release to the mark.

**4.6**

nitrate mercury standard titration solution.  $c [1/2\text{Hg} (\text{NO}_3)_2] = 0.05\text{mol/L}$ . Calibrated according to Appendix A requirements.

**4.7**

nitrate mercury standard titration solution.  $c [1/2\text{Hg} (\text{NO}_3)_2] = 0.005\text{mol/L}$ . Single marking pipette mercuric nitrate Pipette calibration standard after Associate titration solution (see 4.6) 50mL, 500mL flask placed, diluted with water [dilution should be supplemented with an appropriate amount of nitric acid solution (see 4.2) to Prevent mercury nitrate decomposition] to the mark.

**4.8**

bromophenol blue indicator solution. 1g/L.

**4.9**

diphenylcarbazone hydrazide indicator solution. 5g/L.