

ICS 13.060.50; 71.040.40
CCS G 76



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

GB/T 14640-2017

Replacing GB/T 14640-2008

**Determination of potassium and sodium in water for industrial
circulating cooling system and boiler**

工业循环冷却水和锅炉用水中钾、钠含量的测定

(English Translation)

Issued on: November 1, 2017

Implemented on: May 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Rules

5 Determination of potassium content --- atomic absorption spectrometry

5.1 Principle

Foreword

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

This standard replaces GB/T 14640-2008 "Determination of potassium and sodium content in industrial circulating cooling water and boiler water," and GB/T 14640-2008 compared to the main technical changes are as follows.

--- Modify the static method for the potential method (see 6.2, 2008 version 5.2);

--- Increasing the flame emission spectrometry method for the determination of potassium and sodium (see Chapter 7);

--- Added test report (see Chapter 8).

This standard uses the redrafted law reference ISO 9964-1:1993 "Determination of water quality sodium and potassium Part 1. Atomic Absorption Spectrometry Determination of sodium ", ISO 9964-2:1993" Water quality - Determination of sodium and potassium - Part 2. Determination of potassium by atomic absorption spectrometry ", ISO 9964-3.

1993 "Determination of water quality sodium and potassium Part 3. Flame emission spectrometric determination of sodium and potassium" preparation, and ISO 9964-1:1993, ISO 9964-2:1993, ISO 9964-3:1993 The degree of consistency is not equivalent.

This standard proposed by the China Petroleum and Chemical Industry Federation.

This standard by the National Standardization Technical Committee water treatment chemicals Technical Committee (SAC/TC63/SC5) centralized.

This standard drafting unit. Henan Qingshuiyuan Technology Co., Ltd., Guangzhou Special Pressure Equipment Testing Institute, Ningbo City, special equipment Inspection and Research Institute, Jiangsu Province, Changzhou Branch of Special Equipment Safety Supervision and Inspection Institute, Xiamen City, China Measurement Technology Co.,

Ltd., CNOOC Tianjin Chemical Research and Design Institute Co., Ltd., Jiashan green materials plant, Nanjing University Yixing Environmental Protection Research Institute, Tianjin is up to science and technology limited liability the company.

1 Scope

This standard specifies the industrial circulating cooling water and boiler water potassium, sodium determination.

This standard atomic absorption spectrometry for potassium content of 0.1mg/L ~ 50mg/L, sodium content of 0.1mg/L ~ 500mg/L of the test Potentiometric method for the determination of sodium content of 0.01mg/L ~ 100mg/L, flame emission spectrometry for potassium content of 0.1mg/L ~ 10mg/L, sodium content of 0.1mg/L ~ 10mg/L determination.

This standard is also applicable to all kinds of industrial water, raw water and domestic water potassium, sodium determination.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 602 chemical reagent impurity standard solution preparation GB/T 603 chemical reagent test methods used in the preparation of preparations and products GB/T 4470 flame emission, atomic absorption and atomic fluorescence spectrometry terms GB/T 6682 analytical laboratory water specifications and test methods GB 6819 Acetylene dissolved

3 Terms and definitions

GB/T 4470 defined terms and definitions apply to this document.

4 Rules

Caution --- The strong acids used in this standard are corrosive, and should be avoided when inhaled or in contact with the skin. Splashed body immediately with large Flush with water, serious illness should seek medical treatment immediately.

Reagents and water used in this standard, unless otherwise specified, analytical reagents should be used and in line with the provisions of GB/T 6682 two water.

Test impurities in the standard solution, preparations and products, did not indicate when the other requirements, according to GB/T 602, GB/T 603 of the rules Prepared.

5.1 Principle

Cesium chloride solution was added to the sample as an ionization inhibitor to directly absorb the sample to the air/acetylene flame of the atomic absorption spectrometer, Absorbance was measured at a wavelength of 766.5 nm.