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

GB/T 14424-2008

Replacing GB/T 14424-1993

**Industrial circulating cooling water -- Determination of residual
chlorine**

工业循环冷却水中余氯的测定

(English Translation)

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Foreword

This standard corresponds to ISO 7393-1. 1985 "Water quality - Determination of free chlorine and total chlorine - Part 1. N, N- diethyl-1,4-benzenedicarboxylic ". 1985 (English version) and ISO 7393-2" Water quality - Determination of free chlorine and total chlorine - Part 2. amine titration N, N- diethyl-1,4-phenylene Diamine colorimetric method "(in English), this Standard and ISO 7393-1. 1985 and ISO 7393-2. 1985 is not equivalent degree of consistency.

This standard replaces GB/T 14424-1993 "boiler water and cooling water - Determination of chlorine analysis." this standard compared with GB/T 14424-1993, the main changes are as follows.

- Standard name from the "boiler water and cooling water - Determination of chlorine analysis method" to "industrial circulating cooling water residual chlorine Measurement ";
- Cancel the GB/T 14424-1993 visual colorimetry of DPD and o-tolidine visual colorimetry;
- 0.10mg/L ~ --- by the scope of GB/T 14424-1993 provisions of 1.50mg/L expanded to 0.03mg/L ~ 2.50mg/L.

Appendix A of this standard is an informative annex.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee of Chemical Water Treatment Chemicals Branch (SAC/TC63/SC5) centralized.

This standard was drafted. Tianjin Chemical Engineering Research and Design Institute.

1 Scope

This standard specifies the industrial circulating cooling water residual chlorine, free chlorine measurement method.

This standard applies to raw water and industrial cooling water residual chlorine, free chlorine analysis, measurement range of 0.03mg/L ~ 2.5mg/L.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

Preparation of GB/T 601 chemical reagent standard titration solution

3 Terms and Definitions

The following terms and definitions apply to this standard.

With free chlorine, combined chlorine, or present in the form of coexistence of the two chlorine.

With hypochlorous acid, hypochlorite or solubility of elemental chlorine in the form of chlorine.

Chlorine to chloramines and organic chloramines form of chlorine.

4.1.1 Determination of free chlorine

When the pH value of 6.2 to 6.5, free chlorine in the sample with N, N-diethyl-1,4-phenylenediamine (hereinafter referred to as DPD) direct reaction, to form a red compound, in the 510nm wavelength, determined by spectrophotometry. Interference elimination Appendix A.

4.1.2 Determination of chlorine

When the pH value of 6.2 to 6.5, in the presence of an excess of potassium iodide, the sample chlorine reacts with DPD to form a red compound, in 510nm wavelength, determined by spectrophotometry. Interference elimination Appendix A.

4.2 Reagents and materials

Reagent used in this method, unless otherwise specified, use only analytical reagent and water in line with the provisions of 5.2.1. Drop test standards required Fixed solution, did not indicate when the other requirements, according to the provisions of GB/T 601 was prepared.

4.2.1

Water (excluding oxidizing and reducing substances).

Distilled water must be tested according to the following steps. Take two 250mL flasks, first place 100mL bottle of water to be tested and 1g of potassium iodide mixed, 1min, add 5.0mL and 5.0mL DPD buffer solution mixed solution. Placed in the second bottle 100mL water sample to be tested and mix two drops of sodium hypochlorite solution II, 2min, add 5.0mL and 5.0mL DPD solution buffered solution Liquid mixing.