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

**GB/T 14415-2007**

Replacing GB/T 14415-1993

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**Water for industrial circulating cooling system and boiler -  
Determination of solids matter**

工业循环冷却水和锅炉用水中固体物质的测定

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### Foreword

This standard also replace the GB/T 14415-1993 "boiler water and cooling water analysis method of solid substances in the Determination" GB/T 15893.4-1995 "Industrial circulating cooling water of dissolved solids - Gravimetric method." The main difference compared with the standard GB/T 14415-1993 as follows:

--- Deletion of the suspended solids measurement method after burning residues and reductions. The main difference compared with the standard GB/T 15893.4-1995 as follows:

--- Increased the determination of the total solids. The standard proposed by the People's Republic of 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, China Petroleum & Chemical Corporation water treatment chemicals assessment center. The main drafters of this standard. Shao Hongqian, Jindong, Bai Ying, Li Lin, Zhu Zhuanjun. This standard replaces the standard release case.

--- GB/T 14415-1993;

--- GB/T 15893.4-1995. Industrial circulating cooling water and boiler water in Determination of solid matter

### 1 Scope

GB/T 14415-2007 is the Chinese national standard on water for industrial circulating cooling system and boiler - determination of solids matter, in the field of chemical technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 13 August 2007 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 February 2008. Classification: ICS 71.040.40, CCS G76. This page is published from the official record of the standard held by the Chinese standards administration: the

identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the natural water, industrial cooling water, boiler water total solids, dissolved solids measurement method. This standard applies to the determination of boiler water and industrial cooling water circulating solid material.

## 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.

GB/T 6903 boiler water and cooling water General Analysis

## 3 Determination of total solids

This method is applicable to the total solids content of greater than 25mg/L of natural water, cooling water, water of furnace-like determination.

3.1 Principle In this method, a volume of the water sample, and placed in an evaporating dish of known mass evaporated, transferred 105 °C ~ 110 °C oven drying to constant. The remaining residue is the resultant of the total solids in water.

3.2 instruments and equipment The following general laboratory instruments and equipment.

3.2.1 evaporating dish. 100mm (platinum, quartz, or porcelain evaporating dish).

3.2.2 water bath.

3.3 Analysis Steps Analysis of the process followed in the relevant provisions of GB/T 6903's.

3.3.1 Wash evaporating dish and placed 105 °C ~ 110 °C oven drying to constant and set aside.

3.3.2 Pipette a certain amount of water to fully shake sample (total solids content of greater than 25mg) in a known mass of the evaporating dish placed on a steam heater hair. When a large volume of water sample, you can use low-temperature furnace, a hot plate or infrared heating plate evaporation, condensation (be careful not to boil the water sample), not Off additional water sample until the volume was reduced after 20mL ~ 30mL to move to the boiling water bath pot continue evaporated to dryness. In order to prevent impurities in the environment Pollution, should be placed on a tripod in an evaporating dish, and stamped

with a watch glass or skirted. Note also that the water bath water can not be connected with the evaporating dish Touch, in order to avoid contamination evaporating dish, affect the measurement results.

3.3.3 The water has evaporated and the residue samples along with evaporating dish placed in an oven 105 °C ~ 110 °C, the drying to constant weight.

3.4 Calculation Results Water samples total solids concentration  $\rho_{01}$  and its value in milligrams per liter (mg/L) said, according to the formula (1).  $\rho_{01} = (M_1 - m_1) \times 10^6 / V_p$  (1) Where. Value  $m_1$  2

--- after drying and evaporation of the total solid mass of the dish in grams (g); Value  $m_1$

--- evaporating dish of mass in grams (g); Value  $V_p$  1

--- water sample volume in milliliters (mL).