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CCS G76



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

**GB/T 22599-2008**

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**Water treatment chemicals - Determination of arsenic content**

水处理化学品 砷含量测定方法

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### Foreword

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 is drafted by: CNOOC Tianjin Chemical Research & Design Institute. The main drafters of this standard. Li Lin, Shao Hongqian, Bai Ying. Water treatment chemical method for the determination of arsenic

### 1 Scope

GB/T 22599-2008 is the Chinese national standard on water treatment chemicals - determination of arsenic content, 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 23 December 2008 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 September 2009. 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 method for the determination of water treatment chemicals arsenic content. This standard diethyl dithiocarbamate silver spectrophotometry for the determination of arsenic content in  $1\mu\text{g} \sim 20\mu\text{g}$  (As) range Within the test solution; Gutzeit method for the determination of arsenic content in  $1\mu\text{g} \sim 5\mu\text{g}$  (As) within the scope of the test solution.

## 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 602 Determination of impurities in chemical reagents prepared standard solution ( GB/T 602-2002,

ISO 6353-1. 1982, NEQ) with

GB/T 603 chemical reagent in test methods - Preparations with ( GB/T 603-2002, ISO 6353-1. 1982, NEQ)

GB/T 6682 analytical laboratory use specifications and test methods ( GB/T 6682-2008, ISO 3696. 1987, MOD) 3-diethyl dithiocarbamate spectrophotometry silver

3.1 Method summary In acidic medium, with a zinc reduction of arsenic, arsine is generated (Evolving AsH<sub>3</sub>), pyridine was treated with diethyl dithiocarbamate silver absorbed, generating Purple soluble colloidal silver, the maximum absorption wavelength at 540nm, absorbance was measured.

3.2 Reagents and materials Reagent used in this method, unless otherwise specified, shall use analytical reagent and in line with

GB/T 6682 stipulated three of water. Impurity standard solution, test preparation and products required, did not indicate when the other requirements, according to GB/T 602,

GB/T 603 of Regulation Set preparation. Safety Tips. Some reagents used in the method of toxic or corrosive, dangerous part of the operation. This method does not disclose the Possible security problems, care should be taken and the user's responsibility to take appropriate safety and health practices.

3.2.1 arsenic-free zinc particles.

3.2.2 KI solution. 150g/L.

3.2.3 stannous chloride solution. Dissolving 40g of stannous chloride (SnCl<sub>2</sub> · 2H<sub>2</sub>O) in a mixture of 25mL of water and 75mL hydrochloric acid.

3.2.4 diethyl dithiocarbamate silver [Ag (DDTC)] pyridine solution. 5g/L. Dissolving 1.25g diethyl dithiocarbamate silver in pyridine and diluted with pyridine to 250mL brown volumetric flask, to avoid the light Irradiation for a period of two weeks.