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

GB/T 14643.5-2009

Replacing GB/T 14643.5-1993

**Examination of bacteria and algae in industrial circulating
cooling water - Part 5: Examination of sulfate-reducing bacteria
- MPN test**

工业循环冷却水中菌藻的测定方法 第5部分：硫酸盐还原菌的测定 MPN法

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Foreword

GB/T 14643 "Determination of industrial circulating cooling water bacteria and algae" is divided into the following sections.

- Part 1. Determination of slime-forming bacteria plate count
- Part 2. Determination of soil bacteria plate count
- Part 3. slime fungi plate count
- Part 4. Soil fungi plate count
- Part 5. Determination of sulfate-reducing bacteria MPN method
- Part 6. Determination of iron bacteria MPN method This section GB/T 14643 Part 5. This Part replaces GB/T 14643.5-1993 "Industrial circulating cooling water - Determination of sulfate-reducing bacteria MPN method." This portion of the GB/T 14643.5-1993 compared to no change in technical content, but the text structure and text of the modify. This section of the Appendix A, Appendix B, Appendix C is a normative appendix. This part is proposed by the China Petroleum and Chemical Industry Association. This part of the National Standardization Technical Committee of Chemical Water Treatment Chemicals Branch (SAC/TC63/SC5) centralized. This section is responsible for drafting unit. CNOOC Tianjin Chemical Research & Design Institute, Tianjin Pacific Technology Co., Ltd. The main drafters of this section. Zhuzhuan Jun, Zhang Quan, Shaohong Qian, Li Lin, Bai Ying. This section was first released in 1993. Industrial circulating cooling water - Determination of bacteria and algae Part 5. Determination of sulfate-reducing bacteria MPN method

1 Scope

GB/T 14643.5-2009 is the Chinese national standard on examination of bacteria and algae in industrial circulating cooling water - part 5: examination of sulfate-reducing bacteria - mpn test, 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 18 May 2009 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 2010. 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.

GB/T 14643 provisions of this part of the determination of industrial circulating cooling water sulfate-reducing bacteria. This section applies to industrial circulating cooling water - Determination of sulfate-reducing bacteria, but also for the raw water, domestic water and slime also Sulfate Determination of the original bacteria.

2 Normative references

The following documents contain provisions which, through

GB/T 14643 reference in this text, constitute provisions of this part. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 603 chemical reagent test methods in the formulation and preparation of products (GB/T 603-2002,

ISO 6353-1 with. 1982, NEQ)

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

3 Method summary

Law multi-tube fermentation technique, $(29 \pm 1) ^\circ\text{C}$ cultured 21d, if you produce a black inner tube and precipitated with hydrogen sulfide odor, It indicates a positive reaction, the MPN technique being tested samples of sulfate-reducing bacteria counts.

4 Reagents and materials

The reagents used in this section, unless otherwise specified, shall use analytical reagent and in line with GB/T 6682 stipulated three of water. Test preparation and the desired products, did not indicate when the other requirements, according to GB /603 provisions of the preparation T.

4.1 dipotassium hydrogen.

4.2 ammonium chloride.

4.3 sodium sulfate.

4.4 calcium chloride.

4.5 magnesium sulfate.

4.6 sodium lactate.

4.7 yeast extract. biochemical reagents.

4.8 ferrous ammonium sulfate.

4.10 sodium chloride.

4.11 Sodium hydroxide solution. 40g/L.

4.12 hydrochloric acid solution. 1 + 11.

4.13 sodium thiosulfate.

4.14 ethanol. 75% (volume fraction).