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CCS Z17



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

GB/T 17923-2017

Replacing GB/T 17923-1999

**Analytical method for oily sewage from marine petroleum
development industry - Infrared spectrophotometry**

海洋石油开发工业含油污水分析方法 红外分光光度法

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Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 17923-1999 "Offshore oil development industrial oily wastewater analysis." This standard and GB/T 17923- The main changes compared to.1999 are as follows:

--- Analysis methods by non-dispersive infrared spectrophotometry changed to infrared spectrophotometry, the original version

5.1 and other terms of non-color Scattered infrared measuring instrument were changed to

6.1 and other provisions of this version of the infrared spectrophotometer;

--- The extraction solvent used was changed from carbon tetrachloride to tetrachlorethylene, that is, the carbon tetrachloride in the original version

4.1 and other provisions were all changed More in this version

5.2 and other provisions of the PCE;

--- Removed the original version of the sample extract over the purifying part of the content, namely 6.1 ~ 6.3, 6.5 ~ 6.6, 7.1.2 ~ 7.1.4, 7.2.6 ~

7.2.9 and other terms;

--- Increase the method of precision reference range, precision changes to version 10 in the laboratory relative standard deviation of 2.8% ~ 4.2%. Correctness from the original version of the 9 recovery rate range of 87.4% ~ 104% change to this version of 10 recovery rate range 80.8% ~ 104%, and the relative standard deviation between laboratories was 9.7%.

This standard proposed by the State Oceanic Administration. This standard by the National Marine Standardization Technical Committee (SAC/TC283) centralized. This standard was drafted unit. National Marine Environmental Monitoring Center, National Oceanographic Metrology Center, Beijing Huaxia Kechuang Instrument Co., Ltd. the company. The main drafters of this standard. Zhao Shilan, Yao Ziwei, Han Gengchen, Jiang Wenbo, Wang

Yuhong. This standard replaces the standards previously issued as.

--- GB/T 17923-1999. Offshore oil development Industrial oily wastewater analysis methods
Infrared spectrophotometry

1 Scope

GB/T 17923-2017 is the Chinese national standard on analytical method for oily sewage from marine petroleum development industry - infrared spectrophotometry, in the field of natural and applied sciences. 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 1 November 2017 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 May 2018. Classification: ICS 07.060, CCS Z17. 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 use of infrared spectrophotometry Determination of Offshore Oil Industry in the discharge of oil-contaminated water in the analysis step Steps, calculation methods and quality control requirements. This standard applies to People's Republic of China within the waters, territorial waters, contiguous zone, exclusive economic zone, the continental shelf and the People's Republic of China jurisdiction Determination of oil in oily wastewater from offshore oil development industry in other seas.

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 17378.3 Marine monitoring code Part 3. Sample collection, storage and transport

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Oilysewage In the process of developing offshore oil containing fat (fatty acids, soap, fat, wax, etc.) and a variety of oils (mineral oil, animal and vegetable oils) The sewage.

4 Principle

Extraction of oily wastewater with tetrachlorethylene in the oil, respectively, with an infrared

spectrophotometer extract was measured at 2930cm⁻¹ (CH

2 Stretching vibration of the CH bond in the group), 2960 cm⁻¹ (stretching vibration of the CH bond in the CH₃ group) and 3030 cm⁻¹ (in the aromatic ring CH key stretching vibration) at the absorbance value, absorbance value is proportional to the concentration of oil.

5 Reagents and their preparation

5.1 Pure water Ultrapure water preparation system, the conductivity of not more than 18.2MΩ·cm (25 °C).

5.2 Tetrachlorethylene (C₂Cl₄). Analytical purity, should be measured at the wavelength of no absorption or low absorption. Refer to Appendix A for processing.

5.3 n-Hexadecane (CH₃ (CH₂)₁₄CH₃) Chromatographic purity. 5.4 2,2,4-trimethylpentane. Also known as isooctane [Isooctane, (CH₃)₃CCH₂CH (CH₃)₂], chromatographic purity.

5.5 Benzene (C₆H₆). Chromatographic purity.

5.6 Hydrochloric acid solution (1 1) 50 mL of concentrated hydrochloric acid (HCl, ρ = 1.18 g/mL, superior grade pure) was slowly added to 50 mL of water.

5.7 Anhydrous sodium sulfate (Na₂SO₄) Analytical purity, a certain amount of anhydrous sodium sulfate into the porcelain crucible, placed in a muffle furnace at 500 °C ± Activated at 20 °C for 4h, cooled to 200 °C in a furnace, then transferred to a desiccator, cooled to room temperature, filled into a milled glass jar and dried in a desiccator