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

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**Water quality. Determination of extractable petroleum
hydrocarbons(C10-C40). Gas chromatography**

水质 可萃取性石油烃（C10-C40）的测定 气相色谱法

(English Translation)

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Foreword

In order to implement the "Law of the People's Republic of China on Environmental Protection" and the "Law of the People's Republic of China on Prevention and Control of Water Pollution", protect the environment, Protection of human health, regulate the determination of water extractable petroleum hydrocarbons, the development of this standard.

This standard specifies the determination of surface water, groundwater, domestic sewage, industrial wastewater and seawater extractable petroleum hydrocarbons (C10-C40) Gas Chromatography.

Appendix A of this standard is an informative annex.

This standard is released for the first time.

This standard by the Environmental Protection Department of Environmental Monitoring Division and Science and Technology Standards Division to develop.

This standard was drafted. National Environmental Analysis Test Center.

This standard verification unit. Shanghai Environmental Monitoring Center, Zhejiang Provincial Environmental Monitoring Center, Pearl River Basin Water Environment Monitoring Heart, Changde City Environmental Monitoring Station, Xiangtan City Environmental Protection Monitoring Station and Beijing Zhongke Yingman Environmental Testing Research Center.

This standard MEP approved on December 21, 2017.

This standard since February 1, 2018 implementation.

This standard is interpreted by the MEP.

1 Water quality extractability Determination of petroleum hydrocarbons (C10-C40) Gas Chromatography Warning. The solvents and standard samples used in the experiment are all toxic and harmful compounds, the solution should be prepared in the ventilation Cabinet, the operation should be worn as required provisions of protective equipment, to avoid contact with skin and clothing.

1 Scope of application

This standard specifies the determination of water extractable petroleum hydrocarbons (C10-C40) by gas chromatography.

This standard applies to surface water, groundwater, domestic sewage, industrial wastewater and seawater extractable petroleum hydrocarbons (C10-C40) the determination.

When the sample volume is 1000 ml, the detection limit is 0.01 mg/L and the lower limit of determination is 0.04 mg/L.

2 Normative references

This standard references the following documents or the terms of them. For dated references, the effective version Applicable to this standard.

GB 17378.3 Marine monitoring code Part 3 Sample collection, storage and transport HJ/T 91 Technical Specifications for Surface Water and Sewerage Monitoring HJ/T 164 Groundwater Environmental Monitoring Technical Specifications

3 Terms and definitions

Extractable petroleum hydrocarbons (C10-C40) extractable petroleum hydrocarbons Refers to the conditions specified in this standard can be extracted by dichloromethane and magnesium silicate is not adsorbed on the gas chromatogram Retention time between n-C10H22 (included) and n-C40H82 (included).

Note: The extractable petroleum hydrocarbons (C10-C40) under this definition include aliphatic, alicyclic, aromatic or alkylated aromatics and the like.

4 Method principle

Extraction of water with dichloromethane extractability of petroleum hydrocarbons, the extract was dehydrated, concentrated, purified, after the volume, with a Hydrogen flame ionization detector (FID) gas chromatograph detection, according to the retention time qualitative, according to the time window range Internal (C10-C40) chromatographic peak area and the standard quantitative comparison.

5 Reagents and materials

Unless otherwise specified, all analytical reagents used in the analysis are in accordance with national standards. The experimental water is distilled water.

5.1

Dichloromethane (CH_2Cl_2).

5.2

n-Hexane (C_6H_{14}).

5.3

anhydrous sodium sulfate (Na_2SO_4).

Burned at 500 °C 4h, cooled into the ground glass jar, placed in a desiccator to save.

25.4 silicon magnesium adsorbent.

Chromatography, 250 μ m-150 μ m (60 mesh -100 mesh), burning at 500 °C 4 h, cooled and then into the ground glass Bottle, placed in a desiccator to save.

5.5

Concentrated hydrochloric acid. ρ (HCl) = 1.19 g/ml.

5.6

hydrochloric acid solution. 1 1.

Take 50ml concentrated hydrochloric acid (5.5) slowly added to 50 ml of water.

5.7

Dichloromethane - n-hexane solution. 1 4.

5.8

C10-C40 n-alkane standard solution. the concentration of n-alkanes are ρ = 1000 mg/L, the solvent is n-hexane.

You can buy a certified standard solution. Proven, you can also choose a diesel/lubricant certified standard solution.

5.9

Carrier gas. nitrogen, purity $\geq$ 99.999%.

5.10

combustion gas. hydrogen, purity $\geq$ 99.99%.

5.11

combustion gas. air, to be removed moisture and organic matter.

6 Instruments and equipment

6.1

Sampling bottle. 1 L Brown glass bottle with grind plug.

6.2

Gas Chromatograph. Split/Splitless Inlet, Temperature Programmable, with Flame Ionization Detector (FID).

6.3

Column. Quartz capillary column, 30 m x 0.32 mm, film thickness 0.25 μ m, with 5% phenyl-95% methyl Polysiloxane, or use other equivalent column.