

CCS Z 16

HJ

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

HJ 696-2014

**Water quality. Determination of turpentine. Gas chromatography
method**

水质 松节油的测定 气相色谱法

(English Translation)

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Foreword

To implement the Environmental Protection Law of the People's Republic of China and the Law of the People's Republic of China on Water Pollution Prevention and Control, to protect the environment, this standard is formulated to ensure human health and standardize the determination method of turpentine in water.

This standard specifies gas chromatography for the determination of turpentine in water.

This standard is the first release.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. Taizhou Environmental Monitoring Center Station.

This standard is verified by. Jiangsu Environmental Monitoring Center, Wuxi Environmental Monitoring Center Station, Suzhou Environmental Monitoring Center Station, Changzhou Environmental Monitoring Center, Zhenjiang Environmental Monitoring Center Station and Taizhou Environmental Monitoring Center Station.

This standard was approved by the Ministry of Environmental Protection on March 31, 2014.

This standard has been implemented since July 1, 2014.

This standard is explained by the Ministry of Environmental Protection.

Water quality turpentine - Determination of gas chromatography Warning. The reagents and standard solutions used in this method are volatile toxic compounds. The preparation process should be in the fume hood.

Carry out; protective equipment should be worn as required to avoid contact with skin and clothing.

1 Scope of application

This standard specifies gas chromatography for the determination of turpentine in water.

This standard applies to the determination of turpentine in surface water, groundwater, industrial wastewater and domestic sewage.

When the sample amount is 100ml, the detection limit of this standard is 0.03mg/L, and the lower limit of determination is 0.12mg/L.

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

HJ/T 91 Surface Water and Wastewater Monitoring Technical Specifications HJ/T 164
Technical Specifications for Groundwater Environmental Monitoring

3 Principle of the method

The turpentine in the sample is extracted with dichloromethane, and the extract is dehydrated and dried, and the gas phase is detected by a hydrogen flame ionization detector.

The chromatographic test was performed according to the retention time of alpha-pinene and beta-pinene, the main components in turpentine, and quantified by external standard method.

4 Reagents and materials

Analytical purification reagents in accordance with national standards were used for analysis, unless otherwise stated.

Sub-water or distilled water.

4.1

Dichloromethane. pesticide residue level.

4.2

Turpentine standard solution. rho = 20 mg/ml, the solvent is methanol.

4.3

Standard use of turpentine. accurately transfer a certain amount of turpentine standard solution (4.2) with dichloromethane (4.1) A standard use solution with a mass concentration of 1000.0 mg/L was released.

4.4 Sodium Chloride (NaCl)

After burning at 400 ° C for 4 h, it was cooled and placed in a ground glass bottle and stored in a desiccator.

4.5 Anhydrous sodium sulfate (Na₂SO₄)

After burning at 400 ° C for 4 h, it was cooled and placed in a ground glass bottle and stored in a desiccator.

4.6 Nitrogen. purity $\geq 99.999\%$.

4.7 Hydrogen. purity $\geq 99.95\%$.

4.8 Gas. Compressed air.

5 Instruments and equipment

5.1

Gas Chromatograph. Hydrogen flame ionization detector.

5.2

Column 1. quartz capillary column, 30m x 0.25mm, coated with 5% phenylmethylpolysiloxane, film thickness 0.25 μ m, or other equivalent capillary column.

5.3

Column 2. quartz capillary column, 30m x 0.25mm, internally coated with 35% phenylmethylpolysiloxane, film thickness 0.25 μ m, or other equivalent capillary column.

5.4

Oscillator.

5.5

separatory funnel. 250 ml.

5.6

Microinjectors. 10 μ l, 100 μ l, 250 μ l.

5.7

Drying column. glass column with a length of 250mm and an inner diameter of 20mm, and the glass piston is not coated with lubricating oil. At the lower end of the column, put less A glass wool or glass fiber filter paper was added, and 10 g of anhydrous sodium sulfate (4.5) was added.

5.8

Box type electric furnace.

5.9

Common instruments and equipment used in general laboratories.

6.1 Sample collection and preservation

Samples were taken with reference to the relevant regulations of HJ/T 91 and HJ/T 164.

Samples were taken using a 250 ml hard-ground glass bottle or a brown threaded glass bottle with a Teflon septum. At 4 ° C Store underneath, extract within 48h, and extract for 7d.