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

GB/T 6324.1-2004

**Test method of organic chemical products -- Part 1: Water
miscibility test of liquid organic chemical products
(English Translation)**

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Foreword

GB/T 6324 Test method of organic chemical products consists of six parts.

- Part 1. Water miscibility test of liquid organic chemical products;
- Part 2. Determination of dry residue after evaporation on a water bath for volatile organic liquids;
- Part 3. Determination of permanganate-reducing substances;
- Part 4. Determination of trace sulfur in organic liquid products - Microcoulometric method;
- Part 5. Determination of trace quantities of carbonyl compounds in organic chemicals;
- Part 6. Determination of color for liquids - Tristimulus colorimetry.

This Part is the first part of GB/T 6324.

This Part was redrafted on the basis of adopting the Standard of American Society for Testing and Materials ASTM D 1722.1998 Standard Test Method for Water Miscibility of Water-Soluble Solvents (English version). Annex A lists the comparison on clause number between this Part and ASTM D 1722.1998.

Considering national conditions of China, this Part made some modifications

when adopting ASTM D 1722.1998. The technical differences are as follows.

- modified "1.9, the ratio of sample and water miscibility" specified in 3.1 of ASTM D 1722.1998 to "select an appropriate ratio of sample to water miscibility for different product sample" (Clause 7 of this Part) because different products contain different impurities, the effect of the miscibility of the sample with water shall be different, then it shall be inappropriate to fix a ratio;
- modified "the test temperature is room temperature or other temperature specially referred by the supplier and the buyer" specified in 1.3 of ASTM D 1722.1998 to "the test temperature is $(20\pm1)^{\circ}\text{C}$ " (Clause 7 of this Part) because temperature affects the solubility of substance then in order to ensure the consistency of test conditions, this Part specifies the test temperature.

This Part replaces GB/T 6324.1-1986 Organic chemical products for industrial use--Standard test method for water miscibility.

Compared with GB/T 6324.1-1986, the main changes are as follows.

- added "Terms and definitions" and "Meaning and application of the method" (see Clause 3 and Clause 5);
- modified the name of this Part from "Organic chemical products for industrial use--Standard test method for water miscibility" to "Test method of organic chemical products - Part 1. Water miscibility test of liquid organic chemical products" (see the cover);
- modified the ratio of sample to water immiscibility from "select the ratio of sample immiscibility in water at 1.2, 1.3 or 1.4, or other specified ratio" to "according to requirements for impurities insoluble in water in different product samples and product specifications, select the appropriate ratio of sample to water miscibility" (Clause 4 of Edition 1986, Clause 7 of this Edition) [Translator NOTE. actually it is in Clause 8 of this Edition];

- modified the expression of test results from "sample measurement results shall be expressed by clear or slightly turbid after the test sample is miscible with distilled water" to "If the sample-water mixed solution is as clear and bright or freed from mixed oil as the blank test solution, the sample shall be reported as 'test passed'. If it is tested as unclear or oil-mixed, it shall be reported as 'test failed'" (Clause 5 of Edition 1986, Clause 9 of this Edition);

- specified that when this test method is used by product standard, "For interpretation of "unclear or opaque" of different chemical products can be specified in the product standard or the contract in advance" (see 5.3).

Annex A of this Part is informative.

This Part was proposed by China Petroleum and Chemical Industry Association.

This Part shall be under the jurisdiction of Subcommittee on Organic, National Technical Committee on Chemical of Standardization Administration of China (SAC/TC 63 / SC 2).

The drafting organization of this Part. Beijing Research Institute of Chemical Industry, China Petroleum & Chemical Corporation.

Main drafter of this Part. Hu Yanfeng.

This Part was issued in April 1986 for the first time.

Test method of organic chemical products - Part 1. Water miscibility test of liquid organic chemical products

1 Scope

This Part of GB/T 6324 specifies qualitative test method for impurities in water-insoluble substances contained in liquid organic chemical products.

This Part is applicable to liquid organic chemicals that can be thoroughly mixed with water in any proportion and maintain chemical stability.

2 Normative references

The following standards contain the provisions which, through reference in this Part, constitute the provisions of this Part. For dated references, subsequent amendments (excluding corrections) or revisions do not apply to this Part.

However, the parties who enter into agreement based on this Part are encouraged to investigate whether the latest versions of these documents are applicable. For undated reference documents, the latest versions apply to this Part.

GB/T 6325-1994 Terminology of analysis for organic chemical product

3 Terms and definitions

For the purposes of this Part of GB/T 6324, the following terms and definitions apply.

3.1 water miscibility test

under specified conditions, the liquid sample is mixed with water to observe changes in oil degree

4 Method summary

According to a determined proportion, take a certain volume of sample into a colorimetric tube. Add water to 100 mL.

5.1 The liquid organic chemical products which can be completely miscible

with water usually contain alkanes, olefins, higher alcohols or ketones, aromatic hydrocarbons and other impurities insoluble in water.

5.2 When the product standard uses this test method, the results can be used

as the product standard specifications.

5.3 For interpretation of "unclear or opaque" of different chemical products

can be specified in the product standard or the contract in advance.