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

GB/T 5559-2010

Replacing GB/T 5559-1993

**Non-ionic surface active agents obtained from ethylene oxide
and ethylene oxide/propylene oxide block copolymers --
Determination of cloud point**

环氧乙烷型及环氧乙烷-环氧丙烷嵌段聚合型非离子表面活性剂 浊点的测定

(English Translation)

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 5559-1993 "Ethylene Oxide and Ethylene Oxide - Propylene Oxide Block Polymerization Nonionic Surfactant Cloud point of the determination ", compared with GB/T 5559-1993, the main technical changes are as follows.

--- Added foreword;

--- Added a reference file;

Increased precision section;

- an increase in the test report section;

--- increase the sampling section;

To improve the degree of adoption;

--- this standard with a conical bottle instead of iodine bottle;

- 5.3 and 7.3.2.2 of the original standard were deleted.

This standard uses the translation method equivalent to the international standard ISO 1065.:1991 "nonionic surfactants made from ethylene oxide and mixed Nonionic Surfactant - Determination of Cloud Point ".

And the normative reference in this standard international documents are consistent with the relationship between China's documents are as follows.

GB/T 22362-2008 Laboratory glass instrumentation flask (ISO 1773.:1997, NEQ) for ease of use, this standard has been modified as follows.

--- Change the standard name to "Ethylene Oxide and Ethylene Oxide - Propylene Oxide Block Polymerization Nonionic Surfactant Cloud Point Determination ".

This standard is proposed by the China Petroleum and Chemical Industry Association.

This standard is under the jurisdiction of the National Chemical Standardization Technical Committee (Special) Interacting Agent Subcommittee (SAC/TC63/SC8).

The drafting of this standard. Zhejiang Real Madrid Technology Co., Ltd., Shanghai Dyestuff Research Institute Co., Ltd.

1 Scope

This standard specifies five methods for determining the cloud point of nonionic surfactants.

Processes A, B and C are mainly applicable to nonionic surfactants derived from ethylene oxide and lipophilic condensation.

The choice of method A, B or C depends on the temperature at which the aqueous solution of the test product becomes turbid.

Methods D and E are intended for products not applicable to A, B, and C, which are adopted by the parties concerned. Such products include mixed non-ionic Surfactants such as nonionic surfactants derived from ethylene oxide/propylene oxide block copolymers. The choice of D and E methods depends on the temperature of the acidic aqueous solution of the product to be clouded. However, the E method does not apply to products derived from fatty acids or fatty acid esters.

Note: Products derived from fatty acids or fatty acid esters have a cloud point that can only be determined after confirming the reproducibility of the assay.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this file. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 6367 Surfactant Known Calcium Hardness Water Preparation (GB/T 6367-1997, idtISO 2174..1990) GB/T 6372-2006 Sampling method for surface active agents and detergents (ISO 607. 1980, IDT) ISO 1773. 1976 Laboratory glass apparatus

3 Method selection

Note: Some fairly pure ethylene oxide derivatives, such as dissolved in distilled water with very low conductivity, may not be able to determine their turbidity temperature. In this case, dissolve the liquid does not become cloudy at a certain temperature, while only a slight decrease in clarity is observed. However, instead of distilled water with sodium chloride aqueous solution (234 mg/L), Determination of turbidity temperature.

3.1

Method A.

If the aqueous solution of the sample is turbid between 10 ° C and 90 ° C, it is measured in distilled water (see 8.1).

3.2 Method B

If the aqueous solution of the sample becomes opaque at less than 10 ° C or if the sample can not be sufficiently dissolved in water, at 25% (mass fraction) Alcohol butyl ether (see 8.2). This method does not apply to certain samples containing low ethylene oxide and is insoluble in 25% (mass Fraction) of diethylene glycol butyl ether.

3.3 Method C

If the aqueous solution of the sample becomes turbid at temperatures above 90 ° C, it must be measured in sealed ampoules. The use of sealed ampoules can be operated at pressure Under a force to achieve a higher temperature than the boiling point of the solution at atmospheric pressure (see 8.3).

Note: The cloud point in the salt solution can also be determined with the consent of the parties concerned, but the method is not very sensitive and the results obtained in the salt solution are compared with the sealed ampoule method There is no simple correlation between the results obtained.