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

GB/T 11276-2007

Replacing GB/T 11276-1989; GB/T 11278-1989

**Surface active agents -- Determination of the critical
micellization concentration**

表面活性剂 临界胶束浓度的测定

(English Translation)

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Foreword

The standard counter ion activity measurements corresponding to ISO 6840. 1982 "hydroxide and hydrogen bromide cationic surfactants Determination of the critical micelle concentration of the counter ion activity measurement ", and ISO 6840. 1982 is non-equivalent degree of consistency; measuring the surface ring Tension method corresponds to ISO 4311. 1979 "Determination of anionic and non-ionic surfactant critical micelle concentration is measured with a plate or ring the method of "the amount of surface tension, and ISO 4311. 1979 is equivalent to the degree of non-uniformity.

This standard after integration at the same time instead of GB/T 11276-1989 "cationic surfactant (hydroxide and hydrogen bromide) critical Determination of micelle concentration of counter ion activity measuring method "and GB/T 11278-1989" anionic and non-ionic surfactant critical micelle Concentration measurement ring measuring surface tension. " this standard and GB/T 11276-1989 and GB/T 11278-1989 compares major differences are.

--- Standard Specification name as "surfactant critical micelle concentration determination";

--- The two national standards identical content merge into a single chapter;

--- Increase the foreword.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard is under the jurisdiction of Chemical Industry Standardization Technical Committee surfactant.

This standard was drafted. Shanghai Dyestuffs Research Institute Co., Ltd.

Drafters of this standard. Zhuangyong Bin, Cao Dan.

This standard was first published in 1989.

Determination of surfactant critical micelle concentration

1 Scope

This standard specifies the determination of surfactant critical micelle concentration.

The standard counter ion activity measuring method for the determination of cationic surfactants critical micelle concentration; determination of surface tension ring Applicable to the determination of anionic and non-ionic surfactant critical micelle concentration.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, all subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, whether under this standard to encourage the parties to reach an agreement and research You can use the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 5549 surfactant was determined by drawing up liquid films surface tension (neq ISO 304. 1985) GB/T 6372 surfactant and detergent sample division method (GB/T 6372-2006, ISO 607. 1977, IDT)

3 Terms and Definitions

Aggregates in a surfactant solution above a certain critical micelle concentration of the molecules or ions thereof.

Specific concentration of surfactant in the solution is actually within a narrow temperature range. Above this concentration in particular, micelles the emergence and increasing cause sudden changes in the relationship between the physical properties of the solution and the concentration of some.

Ionic surfactant solubility increased sharply when the temperature is actually within a narrow temperature range, at this temperature, the solubility Equal to the critical micelle concentration (C.M.C).

Principle 4

4.1 Cationic surfactant critical micelle concentration determination

Polycrystalline membrane ion-selective electrode, reference electrode cell measurement range of concentrations including the potential value of the expected critical micelle concentration, root According to the electrode potential and ion activity relationship --- Nernst equation, that the corresponding chloride or bromide ion activity, draw the potential value and concentration FIG logarithmic function, singularity quite critical micelle

concentration curve.

4.2 Determination of anionic and non-ionic surfactant critical micelle concentration

Determination of a series of different concentrations of anionic and non-ionic surface tension of the surfactant solution in a concentration including the critical micelle concentration.

Drawn to the surface tension as ordinate, the logarithm of concentration as the horizontal curve, this singular point on the curve is the critical micelle concentration.

5 Reagents and materials

5.1

Distilled water. meet the specifications of the three water laboratory water requirements;

5.2

ethanol. chemically pure;

5.3

Potassium chloride. AR;