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

GB/T 38722-2020

**Surface active agents - Determination of interfacial tension -
Drawing up liquid films**

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Principle

5 Instruments

Foreword

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

This standard uses the redrafting method to amend and adopt ISO 6889.1986 "Surfactants use liquid film pulling method to determine interfacial tension".

The technical differences between this standard and ISO 6889.1986 and the reasons are as follows.

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

* Replace ISO 2456 (see 6.1.1 and 6.2.1) with QB/T 1223 modified to adopt international standards;

* ISO 862 is deleted.

---According to the description of the experimental process and the diagram, the symbol of "the force before the liquid film is pulled up" is modified (see 6.3.3).

This standard also made the following editorial changes.

---Modified the standard name;

--- Delete the note in Chapter 1;

---Modified the form of the entry reference file (see 3.1);

---In order to adapt to the domestic use habits of concentrated sulfuric acid solution, modified the expression method of concentrated sulfuric acid (see 6.2.2);

--- Modify the reference position of the appendix citation in the main text (see 6.4);

---The 6.3.2 suspension section of ISO 6889.1986 has been adjusted (see 6.3.2.1 and 6.3.2.2);

---Modified the numbering of the figures in the appendix of ISO 6889.1986 to comply with the compilation rules of my country's standards.

---Added references.

This standard was proposed by the China National Light Industry Council.

This standard is under the jurisdiction of the National Standardization Technical Committee for Surfactants and Detergents (SAC/TC272).

Drafting organizations of this standard. China Daily Chemical Research Institute Co., Ltd. [National Detergent Products Quality Supervision and Inspection Center (Taiyuan)], Shanghai Development

Mi Technology Co., Ltd., Suzhou Shipu Testing Technology Co., Ltd., Shenzhen Yanqian Technology Co., Ltd., surfactant and detergent industry

Productivity Promotion Center, Xiamen Amber Daily Chemical Technology Co., Ltd., Dongguan Intermediate New Materials Research Institute Co., Ltd.

1 Scope

This standard specifies the test method for measuring the interfacial tension of surfactants by pulling up the liquid film method.

This standard applies to two immiscible liquid phases (a water phase and a water phase) containing one or more anionic or nonionic surfactants.

Organic phase), also applicable to two immiscible liquid phase systems other than the above.

This standard is not applicable to the determination of the interfacial tension of two immiscible solution phase systems containing cationic surfactants.

Force can only be determined by titration volume method.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

QB/T 1223 Water specifications and test methods for surfactants used as test solvents (QB/T 1223-2012, ISO 2456.

1986, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Interfacial tension

The tension at the interface between two phases.

Note. Interfacial tension is expressed in millinewtons per meter (mN/m).

[GB/T 5327-2008, 3.2.2, definition 15]

3.2

Aging of liquid-liquid interface

The time between the formation of the interface and the pulling up of the interface liquid film in the measuring cup.

4 Principle

In order to pull up the interface film, vertical force is applied to the stirrup ring or ring, the interface liquid film phase between this ring and the two immiscible liquid phases in the measuring cup

Contact, measure the maximum force that may be applied before the liquid film ruptures.

This force should pass the maximum value during the measurement, otherwise the measurement is invalid.

5 Instruments

Common laboratory equipment and the following items.

5.1 Tensiometer, can be equipped with stirrup ring and ring, and should include the following items.

a) The horizontal platform can be moved vertically up and down with fine-tuning screws, equipped with a micrometer to estimate the vertical movement of 0.1mm.