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**Surface active agents - Determination of static interfacial
tension**

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Table of Contents

Preface	
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Pull up liquid film method (A method)	1
5 drop weight method (B method)	7
6 Maximum bubble pressure method (C method)	9
7 Hanging drop method (D method)	10
8 Test report	13
Appendix A (informative) This document is compared with the ISO 304:1985 structure number	14
Appendix B (informative) Technical differences between this document and ISO 304:1985 and their reasons	15
Appendix C (Informative) Surface Tension Values of Several Pure Organic Liquids to Air (20°C)	16
Appendix D (informative) Diagram of measuring surface tension by ring method	17
Appendix E (Normative) The correction factor (f) of the circle method Table	19
Appendix F (Normative) Calibration coefficient table of drop weight method	24
Appendix G (Informative) Surface Tension of Water at Different Temperatures	27
Appendix H (Normative) Sn-1/H Numerical Table	28
Reference	39

foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents"

drafting:

This document is modified to adopt ISO 304:1985 "Determination of surface tension of surfactants by pulling up liquid film method":

Compared with ISO 304:1985, this document has more structural adjustments: For a list of structure number changes between the two files, see

Appendix A:

Compared with ISO 304:1985, there are more technical differences in this document, and vertical single

Lines (|) are marked: See Appendix B for a list of these technical differences and their causes:

The following editorial changes have been made to this document:

--- In order to coordinate with existing standards, change the name of the document to "Determination of Static Surface Tension of Surfactants";

--- Deleted Appendix C (informative);

--- Added Appendix G (informative) "Surface tension of water at different temperatures";

Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document describes the pull-up method, drop gravimetric method, maximum bubble pressure method and pendant drop method as methods for the determination of surfactants and

Method for Static Surface Tension of Aqueous or Organic Solutions of Various Surfactant Mixtures:

This document applies to the determination of the static surface tension of surfactant and detergent solutions, and also to the determination of pure

The static surface tension of a liquid or solution:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document:

QB/T 1223 Surfactant used as a test solvent for water specifications and test methods (QB/T 1223-2012, ISO 2456:

1986, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document:

3:1

surface tension surface tension

The tension acting on the surface of a phase and pointing to the interior of the phase is caused by the attraction between the molecules on the surface and the molecules below the surface:

Note: Surface tension refers specifically to the force on the interface between the liquid phase and the gas phase, expressed in millinewtons per meter (mN/m):

[Source: GB/T 5327-2008, 3:2:2]

3:2

static surface tension static surfacetension

The surface tension value of the solution that does not change with time is the equilibrium surface tension of the solution:

4 Pull up liquid film method (A method)

4:1 Principle

Where the stirrup ring or circular ring meets the surface of the liquid to be measured in the measuring cup, the measurement is applied perpendicularly to the ring to separate the ring from this liquid surface

The maximum force necessary; or make one edge of the plate in contact with the liquid surface, and measure the force applied perpendicularly to the plate to pull up the formed liquid film:

maximum force:

4:2 Instruments

4:2:1 Tension meter

Capable of assembling plates, stirrup rings and rings and shall include the following: