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

GB/T 11987-2022

Replacing GB/T 11987-1989

**Surface active agents - Technical alkane sulphonates -
Determination of total alkane sulphonates content**

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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" to be drafted.

This document replaces GB/T 11987-1989 "Determination of Total Alkane Sulfonate Content of Surfactant Industrial Alkane Sulfonate", and

Compared with GB/T 11987-1989, except for structural adjustment and editorial changes, the main technical changes are as follows.

--- The determination method was changed from the volumetric method to the same potentiometric titration method as in ISO 6122 (see 8.2, 6.2 of the 1989 edition).

This document is modified to adopt ISO 6122.1978 "Determination of total alkane sulfonate content of alkane sulfonate in surfactant industry".

Compared with ISO 6122.1978, this document has made the following structural adjustments.

---6.4 corresponds to 6.3 in ISO 6122.1978, 6.5 corresponds to 6.1 in ISO 6122.1978, and 6.7 corresponds to ISO 6122.1978

In 6.2, 6.1, 6.2, 6.3, 6.6, 6.8 have been added;

---Appendix A corresponds to 9.2 in ISO 6122.1978.

The technical differences between this document and ISO 6122.1978 and their reasons are as follows.

--- Replace ISO 607 (see Chapter 7) with the normatively quoted GB/T 13173 to adapt to my country's technical conditions and improve operability;

--- Replace ISO 894 (see 8.2) with the normatively quoted GB/T 38729-2020 to adapt to my country's technical conditions and improve operability

active;

--- Replace distilled water or water of equivalent purity with water conforming to GB/T 6682 grade 3 or above, in order to adapt to the technical conditions of our country, improve

High operability (see Chapter 5);

--- The calculation formula (1) of the total alkane sulfonate content has been changed, and the silver nitrate equivalent concentration T in ISO 6122.1978 is changed according to the current

In the normative expression changed to the concentration c of the amount of substance of silver nitrate;

--- Changed the expression of precision, compiled according to the actual situation in our country, and added according to the precision results given by ISO 6122.1978

Limits (see 9.2).

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 a method for the determination of the total alkane sulfonate content (sum of mono and di) in industrial alkane sulfonates containing small amounts of alkanes.

This document applies to the determination of the content of alkali metal salts in the sulfochlorination and sulfooxidation products of all normal alkanes.

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.

GB/T 6682 Analytical laboratory water specifications and test methods (GB/T 6682-2008,

ISO 3696.1987, MOD)

GB/T 13173 Surfactant detergent test method (GB/T 13173-2021, ISO 607.1980, ISO 697.

1981, ISO 4313.1976, ISO 4321.1977, ISO 4325.1990, ISO 21264.2019, MOD)

GB/T 38729-2020 Surfactant industry primary alkyl sodium sulfate test method (ISO 894.1977, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

alkanesulphonate

Alkali metal sulfonates present in the sulfochlorination and sulfooxidation products of pure linear alkanes with 12 to 20 carbon atoms.

4 principles

Disperse the test portion of industrial alkylsulfonate in sodium sulfate solution, and add a mixture of n-butanol and acetone to precipitate sodium sulfate decahydrate

compounds and some sodium chloride.

Filtration to obtain a mixture of alkane sulfonates (including mono- and di-alkane sulfonates) may also contain a small amount of sodium chloride.

Evaporate the solvent to remove a small amount of alkanes, determine the content of alkane sulfonate by gravimetric method, and determine the residual sodium chloride by potentiometric titration.

5 reagents

Unless otherwise specified, only reagents confirmed to be analytically pure and water that meets GB/T 6682 grade 3 or above are used in the analysis.