

INTERNATIONAL STANDARD

**ISO
893**

Second edition
1989-11-15

Surface active agents — Technical alkane sulfonates — Methods of analysis

Agents de surface — Alcanesulfonates techniques — Méthode d'analyse



Reference number
ISO 893 : 1989 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 893 was prepared by Technical Committee ISO/TC 91, *Surface active agents*.

This second edition cancels and replaces the first edition (ISO 893 : 1978), of which it constitutes a minor revision.

Annexes A and B of this International Standard are for information only.

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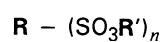
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Printed in Switzerland

Introduction

Alkane sulfonates have the general formula



where

R is a saturated aliphatic radical having a chain length of about 12 to 20 carbon atoms;

R' is an alkali metal;

n may be 1 or 2.

They are obtained by sulfochlorination and sulfoxidation of straight-chain paraffins free from branched-chain compounds.

They are alkali metal salts of mono- and disulfonic acids.

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Surface active agents — Technical alkane sulfonates — Methods of analysis

1 Scope

This International Standard specifies methods of analysis of technical alkane sulfonates. It covers the following determinations:

- measurement of pH;
- determination of water content;
- determination of free alkali or free acid;
- determination of matter extractable by light petroleum;
- determination of total alkane sulfonate content;
- determination of alkane monosulfonate content;
- determination of sulfite content;
- determination of sulfate content;
- determination of chloride content.

It also sets out, in annexes:

A: a general scheme of analysis;

B: a method for the determination of total salts content.

This International Standard is applicable to technical alkane sulfonates in powder, paste or liquid form, free from any products extraneous to their manufacture.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 607 : 1980, *Surface active agents and detergents — Methods of sample division*.

ISO 894 : 1977, *Surface active agents — Technical sodium primary alkylsulphates — Methods of analysis*.

ISO 1104 : 1977, *Surface active agents — Technical sodium alkylarylsulphonates (excluding benzene derivatives) — Methods of analysis*.

ISO 4314 : 1977, *Surface active agents — Determination of free alkalinity or free acidity — Titrimetric method*.

ISO 4316 : 1977, *Surface active agents — Determination of pH of aqueous solutions — Potentiometric method*.

ISO 4317 : 1977, *Surface active agents — Determination of water content — Karl Fischer method*.

ISO 4318 : 1989, *Surface active agents and soaps — Determination of water content — Azeotropic distillation method*.

ISO 6121 : 1988, *Surface active agents — Technical alkane sulfonates — Determination of alkane monosulfonates content by direct two-phase titration*.

ISO 6122 : 1978, *Surface active agents — Technical alkane sulphonates — Determination of total alkane sulphonates content*.

ISO 6844 : 1988, *Surface active agents — Determination of mineral sulfate content — Titrimetric method*.

ISO 6845 : 1989, *Surface active agents — Technical alkane sulfonates — Determination of the mean relative molecular mass of the alkane monosulfonates and the alkane monosulfonate content*.

3 General principle¹⁾

Dissolution of the laboratory sample in an appropriate volume of water so that the technical alkane sulfonate content is approximately 20 % (m/m) to 30 % (m/m).

From an aliquot portion of this solution, known as the diluted sample, preparation of an aqueous alcoholic solution from which the products extractable by light petroleum are isolated.

1) See the general scheme of analysis in annex A.