International Standard ISO 2456

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Surface active agents — Water used as a solvent for tests — Specification and test methods

Agents de surface — Eau employée comme solvant pour les essais — Spécifications et méthodes d'essai

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Foreword

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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 2456 was prepared by Technical Committee ISO/TC 91, *Surface active agents*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Surface active agents — Water used as a solvent for tests — Specification and test methods

0 Introduction

This International Standard was established by Technical Committee ISO/TC 91, *Surface active agents,* because it was considered as primordial, for the physical tests of surface active agents, to define a grade of water different from those retained for the analysis of inorganic chemical products, such as those specified in ISO 3696.

1 Scope

This International Standard specifies the requirements for water intended for the preparation of solutions with which certain physical tests of surface active agents and of products containing them are carried out.

In addition, it describes the conditions for preparing and storing such water and, in annex, the test methods suitable for checking the requirements.

2 Field of application

This International Standard concerns only the grade of water for certain physical tests (for example, for the determination of surface tension, of foaming power, etc.)

NOTE — For the other grades of water for analytical use, it is necessary to refer to ISO 3696. For usual analytical work, water of grade 3 of ISO 3696 should be used, unless otherwise specified.

3 References

ISO 304, *Surface active agents — Determination of surface tension by drawing up liquid films.*

ISO 3696, *Water for laboratory use — Specifications and test methods.* [1)]

4 Requirements

The water shall have a very low content of organic, inorganic and colloidal contaminants, shall be suitable as a solvent for physical tests of surface active agents, and shall comply with the following requirements. Methods of test for compliance with the following requirements are given in the annex.

a) Residue after evaporation on heating at 110 °C : 1,0 mg/kg max.

b) Electrical conductivity at 25 °C : 1 µS/cm max.

c) Oxidizable matter expressed in oxygen content ($1/2\ O_2$): 0,08 mg/l max.

d) Absorbance at 254 nm and 1 cm cell optical path length: 0,01 absorbance units max.

e) Reactive silica content (SiO_2): 0,02 mg/l max.

f) Surface tension at 20 °C : 71 to 72,8 mN/m min.

5 Preparation

Carry out in a nitrogen atmosphere a double distillation (if necessary, the first can be carried out with a 1 g/l solution of potassium permanganate), for example in a quartz or fused silica apparatus with ground glass joints without grease.

6 Storage

Contamination of water during storage in glass or inert plastic containers may arise principally from dissolution of soluble constituents from glass or plastic containers, or absorption of atmospheric carbon dioxide and of any other impurities present in the laboratory atmosphere.

1) At present at the stage of draft.