

International Standard



6837

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Surface active agents — Water dispersing power in dry cleaning solvents

Agents de surface — Pouvoir de dispersion d'eau dans les solvants de nettoyage à sec

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

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.

International Standard ISO 6837 was developed by Technical Committee ISO/TC 91, *Surface active agents*, and was circulated to the member bodies in November 1981.

It has been approved by the member bodies of the following countries:

Australia	Hungary	Romania
Austria	Ireland	South Africa. Rep. of
Belgium	Japan	Spain
China	Korea Rep. of	Switzerland
Egypt, Arab Rep. of	Mexico	USSR
France	Netherlands	
Germany, F.R.	Poland	

No member body expressed disapproval of the document.

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

Surface active agents — Water dispersing power in dry cleaning solvents

0 Introduction

Dry cleaning detergents, and related auxiliary products used for prespotting and prebrushing, may solubilize or emulsify greater or lesser amounts of water in organic solvents.

Water dispersing power is defined as the ability of a dry cleaning detergent to solubilize or emulsify water in dry cleaning solvents.

The purpose of the method described in this International Standard is to determine the water dispersing power in a simple and easy manner.

The method is not suitable for accurate measurement of the solubilizing power of surface active agents.

There is no value in knowing the exact rate of solubilization, as the action is quite different in the presence of fabrics. In the latter case, there are three effects which occur at different rates, i.e.:

- a) relatively fast absorption of water by the textiles;
- b) relatively slow solubilization of water in the solvent containing the cleaning detergent;
- c) desorption of water from the textile due to its solubilization in the solvent containing the cleaning detergent.

Because of the larger active surface area, the rate at which effect c) occurs is greater than that at which effect b) occurs.

Furthermore, the method uses considerably greater quantities of solvent in order to reduce as much as possible the error due to azeotropic evaporation of the solvent.

The value of the water solubilizing power and of the water emulsifying power depends, to a large extent, on the procedure, and also on the concentration of surface active agents in the organic solvent, on the nature of the solvent, on the method of preparation of the mixture and on the temperature of the mixture.

In accordance with its definition, the water solubilizing power represents the maximum quantity of water which may be solubilized in the solvent by the surface active agent.

Similarly, the water emulsifying power represents the maximum quantity of water which may be emulsified in the solvent by the surface active agent. These properties, together with other properties, enable a dry cleaning detergent, a prespotting product or prebrushing product to be characterized.

1 Scope and field of application

This International Standard specifies a method for the determination of the water solubilizing power and the water emulsifying power of a dry cleaning detergent or similar auxiliary product with a usual concentration of 3 to 5 g/l in cleaning vats.

The method is applicable to other concentrations of auxiliary products in the solvent.

The method described in this International Standard is not recommended for higher concentrations of auxiliary products containing the surface active agent in the solvent and water, for example as is the case in chemical cleaning processes using brushing or spraying.

2 References

ISO 385/1, *Laboratory glassware — Burettes — Part 1: General requirements*.¹⁾

ISO 565, *Test sieves — Woven metal wire cloth, perforated plates and electroformed sheet — Nominal sizes of openings*.²⁾

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

ISO 648, *Laboratory glassware — One-mark pipettes*.

ISO 2456, *Surface active agents — Water used as a solvent for tests*.³⁾

ISO 3819, *Laboratory glassware — Beakers*.³⁾

ISO 4788, *Laboratory glassware — Graduated measuring cylinders*.

ISO 4797, *Laboratory glassware — Flasks with conical ground joints*.

1) At present at the stage of draft. (Partial revision of ISO/R 385-1964.)

2) At present at the stage of draft. (Revision of ISO 565-1972.)

3) At present at the stage of draft.