
INTERNATIONAL STANDARD



696

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Surface active agents — Measurement of foaming power — Modified Ross-Miles method

*Agents de surface — Mesurage du pouvoir moussant — Méthode de
Ross-Miles modifiée*

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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 696 was drawn up by Technical Committee ISO/TC 91, *Surface active agents*. It was submitted directly to the ISO Council, in accordance with clause 6.11 of the Directives for the technical work of ISO.

This International Standard cancels and replaces ISO Recommendation R 696-1968, which had been approved by the Member Bodies of the following countries :

Austria	Ireland	South Africa, Rep. of
Belgium	Israel	Spain
Brazil	Italy	Sweden
Canada	Japan	Switzerland
Chile	Korea, Rep. of	Turkey
Czechoslovakia	Netherlands	Egypt, Arab Rep. of
France	New Zealand	United Kingdom
Germany	Poland	U.S.S.R.
Greece	Portugal	Yugoslavia
Hungary	Romania	

No Member Body had disapproved the Recommendation.

Surface active agents — Measurement of foaming power — Modified Ross-Miles method

0 INTRODUCTION

The method specified in this International Standard makes it possible to check one of the characteristics of surface active agents which it is important to take into account in order to assess their potential use.

The precisely defined conditions specified for this method do not necessarily correspond to practical conditions of use. Consequently, the results obtained do not necessarily provide information regarding the behaviour of products under actual conditions of application. The use of this method, and the assessment of the results obtained, must therefore depend upon the aims sought after. In particular, application of the method to products having a low foaming power may lead to results which have no practical interest.

1 SCOPE

This International Standard specifies a method of measurement of the foaming power of a surface active agent.

2 FIELD OF APPLICATION

The method is applicable to all surface active agents. Measurement of the foaming power of solutions of readily hydrolysable agents, however, does not give reliable results, as the hydrolysis products collect in the films of liquid and affect the persistence of the foam.

NOTE — The persistence of liquid films is very sensitive to the presence of particles of insoluble matter. This method of measurement of foaming power should be used only with the greatest of care, therefore, for measuring the foaming power of compositions based on surface active agents of which solution is rarely complete.

Foaming power is also very sensitive to small variations in composition. Consequently, the results obtained on formulated products should be interpreted with caution.

The method is not applicable for measurement of the foaming power of very dilute solutions of surface active agents, such as river waters containing surface active agents.

3 REFERENCES

ISO 607, *Surface active agents — Detergents — Methods of sample division.*¹⁾

ISO/R 862, *Surface active agents — Glossary.*

ISO/R 1042, *One-mark volumetric flasks.*

ISO 2174, *Surface active agents — Preparation of water with known calcium hardness.*

ISO . . . , *Graduated measuring cylinders.*²⁾

4 DEFINITIONS

4.1 foaming power : The ability to produce foam.³⁾

NOTE — In this International Standard, foaming power is characterized by the volume of foam obtained under specific experimental conditions. The decay of this volume of foam during the 5 min following its formation is also relevant.

4.2 foam : A mass of gas cells separated by thin films of liquid and formed by the juxtaposition of bubbles, giving a gas dispersed in a liquid.³⁾

5 PRINCIPLE

Measurement of the volume of foam obtained after running 500 ml of a solution of a surface active agent, from a height of 450 mm, on to a liquid surface of the same solution.

6 APPARATUS

Ordinary laboratory apparatus, and

6.1 Test apparatus

6.1.1 Components of apparatus (see figures 1 and 2)

6.1.1.1 Separating funnel of 1 l capacity, consisting of a spherical bulb joined to the upper end of a tube about 200 mm long, having a tap at the lower end. The separating funnel carries a mark, 150 mm above the axis of the tap,

1) In preparation. (Revision of ISO/R 607.)

2) In preparation.

3) Definition taken from ISO/R 862.