



INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 673

ANALYSIS OF SOAPS

DETERMINATION OF FOREIGN MATTER
OF LOW SOLUBILITY IN ETHANOL

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 673, *Analysis of soaps – Determination of foreign matter of low solubility in ethanol*, was drawn up by Technical Committee ISO/TC 91, *Surface active agents*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1963 and led, in 1964, to adoption of a Draft ISO Recommendation.

In October 1965, this Draft ISO Recommendation (No. 834) was circulated to all the ISO Member Bodies for enquiry. It was approved subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	Hungary	South Africa,
Austria	Ireland	Rep. of
Belgium	Israel	Spain
Brazil	Japan	Sweden
Canada	Netherlands	Switzerland
Chile	New Zealand	U.A.R.
Colombia	Poland	United Kingdom
France	Portugal	Yugoslavia
Germany	Romania	

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in February 1968 to accept it as an ISO RECOMMENDATION.

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ANALYSIS OF SOAPS
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1. SCOPE

The purpose of this ISO Recommendation is to provide a method of qualitative examination for foreign matter contained in commercial soaps, excluding compounded products, and of low solubility in ethanol, and to specify the method of determining them quantitatively. This foreign matter may be inorganic (carbonates, borates, perborates, chlorides, sulphates, silicates, phosphates, iron oxide, etc.) or organic (starches, dextrans, caseins, sugars, cellulose derivatives, alginates, etc.).

2. PRINCIPLE

(applicable to both qualitative examination and quantitative determination)

Dissolution of the soap in ethanol. The undissolved residue represents the "foreign matter of low solubility in ethanol".

3. QUALITATIVE EXAMINATION

3.1 Reagent

Ethanol, 95 % (v/v).

3.2 Apparatus

3.2.1 *Conical flask, 400 to 500 ml, preferably with a ground-glass neck, which can be fitted to a reflux condenser.*

3.2.2 *Reflux condenser, preferably with a ground-glass neck.*

3.2.3 *Measuring cylinder, 100 ml.*

3.2.4 *Analytical balance.*

3.3 Procedure

3.3.1 Test portion. Weigh about 5 g of the previously dried sample into the conical flask.

NOTE. — In the case of soaps in which the water content is high (liquid soaps, soft soaps) weigh a larger quantity of the sample, sufficient to yield about 5 g of dry residue, and evaporate to dryness.

3.3.2 Examination. Add to the test portion about 100 ml of the ethanol (3.1). Connect to the reflux condenser. Bring to a gentle boil and keep at the boil until the soap has completely dissolved. The undissolved portion is due to the presence of foreign matter in the soap. Actually, under the conditions of the experiment, small amounts of substances accompanying all soaps (alkali carbonate and chloride) pass into solution.

4. QUANTITATIVE DETERMINATION

4.1 Reagent

Ethanol, absolute.

4.2 Apparatus

Usual laboratory apparatus not otherwise specified and the following items :

4.2.1 *Evaporating dish.*

4.2.2 *Stirring rod.*

4.2.3 *Conical flasks*, 400 to 500 ml, preferably with ground-glass neck, which can be fitted to a reflux condenser.

4.2.4 *Reflux condenser*, preferably with ground-glass neck.

4.2.5 *Water-bath.*

4.2.6 *Filter paper*. *

4.2.7 *Funnel.*

4.2.8 *Watch glass.*

4.2.9 *Measuring cylinder*, 200 or 250 ml.

4.2.10 *Oven*, thermostatically controlled at a temperature of 100 to 105 °C.

4.2.11 *Desiccator.*

4.2.12 *Analytical balance.*

4.3 Procedure

4.3.1 Test portion. Weigh in the evaporating dish, to the nearest 0.01 g, about 5 g of the sample.

NOTE. — In the case of soaps in which the water content is high (liquid soaps, soft soaps), weigh a larger quantity of the sample, sufficient to yield about 5 g of dry residue, and evaporate to dryness.

- * Other methods of filtration may be used, but attention should be paid to the possibility of the filtering medium becoming clogged.