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International Standard



457

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**Soaps — Determination of chloride content —  
Titrimetric method**

*Savons — Dosage des chlorures — Méthode titrimétrique*

Second edition — 1983-08-15

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**Descriptors** : surfactants, soaps, chemical analysis, determination of content, chlorides, volumetric analysis.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (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 authorized 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 457 was developed by Technical Committee ISO/TC 91, *Surface active agents*, and was circulated to the member bodies in June 1982.

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

Australia	Germany, F. R.	Romania
Austria	Hungary	South Africa, Rep. of
Belgium	Iran	Spain
Chile	Japan	Switzerland
China	Mexico	USA
Czechoslovakia	Netherlands	USSR
Egypt, Arab Rep. of	Poland	
France	Portugal	

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (i.e ISO 457-1976).

# Soaps — Determination of chloride content — Titrimetric method

## 1 Scope and field of application

This International Standard specifies a method for determining the chloride content of commercial soaps, excluding compounded products; this method is applicable to soaps having a chloride content, expressed as sodium chloride, equal to or greater than 0,1 % (*m/m*).<sup>1)</sup>

## 2 Principle

Determination of the chloride content by argentimetric titration after decomposition of a test portion and separation of fatty acids by filtration.

## 3 Reagents

During the analysis, use only reagents of recognized analytical reagent quality and only distilled water or water of at least equivalent purity.

**3.1 Nitric acid**,  $\rho$  approximately 1,42 g/ml, about 70 to 80 % (*m/m*) solution, which has been boiled until colourless.

**3.2 Ammonium iron(III) sulfate**, about 10 % (*m/m*) solution.

**3.3 Ammonium thiocyanate**, standard volumetric solution,  $c(\text{NH}_4\text{SCN}) \approx 0,1 \text{ mol/l}$ .

**3.4 Silver nitrate**, standard volumetric solution,  $c(\text{AgNO}_3) \approx 0,1 \text{ mol/l}$ .

## 4 Apparatus

Ordinary laboratory apparatus, and in particular :

**4.1 Beaker**, capacity 100 ml, tall form, complying with the requirements of ISO 3819.

**4.2 One-mark volumetric flask**, capacity 200 ml, complying with the requirements of ISO 1042.

**4.3 Boiling water bath.**

## 5 Sampling

Sampling of soaps will form the object of a future International Standard.

## 6 Procedure

### 6.1 Test portion

Weigh, to the nearest 0,01 g, approximately 5 g of the laboratory sample into the beaker (4.1).

### 6.2 Determination

Dissolve the test portion (6.1) in 50 ml of hot water. Transfer the solution quantitatively to the one-mark volumetric flask (4.2), effecting this by washing with small portions of water. Add 5 ml of the nitric acid solution (3.1), and immediately add 25,0 ml of the silver nitrate solution (3.4). Place the flask on the

1) The potentiometric method specified in ISO 4323 can be used for products having a chloride content, expressed as sodium chloride, higher or lower than 0,1 % (*m/m*).