

INTERNATIONAL STANDARD



2916

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Wool — Determination of alkali content

Laine — Détermination de la teneur en alcali

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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 2916 was drawn up by Technical Committee ISO/TC 38, *Textiles*, and circulated to the Member Bodies in November 1972.

It has been approved by the Member Bodies of the following countries :

Australia	Hungary	Romania
Belgium	India	South Africa, Rep. of
Brazil	Iran	Spain
Bulgaria	Israel	Sweden
Canada	Italy	Thailand
Czechoslovakia	Japan	Turkey
Denmark	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	U.S.A.
Finland	Norway	U.S.S.R.
France	Poland	
Germany	Portugal	

No Member Body expressed disapproval of the document.

Wool — Determination of alkali content

0 INTRODUCTION

This International Standard is based on the IWTO test method 21-69 drawn up by the International Wool Textile Organization.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the alkali content of wool.

The method is applicable to undyed wool in any form; for example, loose fibres, card sliver, tops, yarn or fabric. It can be used with dyed wool if the amount of dye extracted in the course of the test does not affect the determination of the end-point of the titration.

2 PRINCIPLE

Extraction of the alkali from a weighed quantity of wool by immersion in dilute boric acid solution. Determination of the amount of alkali extracted, by titration with a standard volumetric solution of hydrochloric acid.

3 REAGENTS

3.1 Boric acid solution.

Dissolve 10 g of boric acid (analytical reagent grade) in 1 l of distilled water.

3.2 Hydrochloric acid, N/20 solution.

Standardize this solution by titration with freshly standardized sodium hydroxide solution.

3.3 Methyl red — Methylene blue indicator :

- a) A 1 g/l solution of methyl red in absolute ethanol.
- b) 4 ml of a 10 g/l aqueous solution of methylene blue mixed with 96 ml of ethanol with warming.

4 APPARATUS

4.1 Conical flasks with glass stoppers, capacity 250 ml.

4.2 Erlenmeyer flasks, capacity 250 ml.

4.3 Microburette, 2 ml.

4.4 Pipettes, 50 and 100 ml.

4.5 Weighing bottle with lid.

4.6 Sintered-glass crucible, with pore diameter between 100 and 160 μm .

4.7 Analytical balance, accurate to 0,000 5 g.

4.8 Desiccator.

4.9 Oven for drying samples at $105 \pm 2^\circ\text{C}$.

4.10 Mechanical shaking device (optional).

5 SAMPLING AND PREPARATION OF TEST SPECIMENS

Take a representative sample of mass not less than 10 g from the material to be tested.

If the dichloromethane extract of the sample is greater than 1 %, degrease with dichloromethane as follows :

Extract the sample with dichloromethane for 1 h in a Soxhlet apparatus, at the minimum rate of 6 cycles per hour. Evaporate the dichloromethane from the cleaned sample and remove all vegetable matter and foreign substances from the wool. If the sample is yarn or cloth, dissect into short lengths of yarn (approximately 1 cm) and leave to attain equilibrium with the laboratory atmosphere. Felted materials that cannot be dissected into yarn must first be cut up into small pieces.