STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
METHODS OF TEST FOR TEXTILES

PART 7—QUANTITATIVE ANALYSIS OF FIBRE MIXTURES

AS 2001.7.5
BINARY MIXTURES OF CERTAIN PROTEIN FIBRES (WOOL, ANIMAL HAIR, SILK OR PROTEIN) AND CERTAIN OTHER FIBRES (METHOD USING ALKALINE SODIUM HYPOCHLORITE)

PREFACE

This standard is one of a series of methods for the quantitative analysis of binary and ternary fibre mixtures.

It is derived from BS 4407, Methods of Test: Quantitative Analysis of Fibre Mixtures, and is technically identical with the analogous method contained therein in Section 4.

METHOD

1 SCOPE. This standard sets out a method for the quantitative analysis of binary mixtures of certain protein fibres (wool, animal hair, silk or protein) and certain other fibres using alkaline sodium hypochlorite as the solvent for the protein fibres.

2 APPLICATION. This method is applicable, after removal of non-fibrous matter, to binary mixtures of—

(a) wool, animal hair, silk or protein based on casein; with

(b) cotton, cupro, polynosic (modal), viscose, acrylic, chlorofibres, nylon, polyester, polypropylene or glass.

3 REFERENCED DOCUMENT. The following standard is referred to in this standard:

AS 2001 Methods of Test for Textiles
2001.7.2 Part 7—Quantitative Analysis of Fibre Mixtures—General Requirements.

4 PRINCIPLE. The wool, animal hair, silk or protein is dissolved from a known dry mass of the mixture using alkaline sodium hypochlorite. The residue is collected, washed, dried and weighed. Its mass, corrected if necessary, is expressed as a percentage of the dry mass of the mixture. The percentage of wool, animal hair, silk or protein is found by difference.

5 REAGENTS. The following reagents, together with those specified in AS 2001.7.2, Clause 4, are required:

(a) *Hypochlorite reagent.* A solution of distilled or deionized water containing—

(i) 33 g/L to 37 g/L of available chlorine; and

(ii) sufficient sodium hydroxide to bring its concentration to 5 ± 0.5 g/L.

NOTE: The concentration in (i) above is obtained by diluting a stock solution of sodium hypochlorite of known concentration as determined according to Appendix A.

(b) *Dilute acetic acid.* A solution containing 5 mL of glacial acetic acid per litre of solution.

6 APPARATUS. The following apparatus, together with those items specified in AS 2001.7.2, Clause 5, is required:

Glass beaker, at least 500 mL capacity.

7 PROCEDURE. Follow the procedure described in AS 2001.7.2, Clause 8.3, and proceed as follows:

(a) To the specimen contained in the glass beaker add 100 mL of hypochlorite reagent per gram of specimen, stir vigorously to wet out the specimen and leave for 40 min, stirring vigorously at intervals.

(b) Filter the contents of the beaker through a weighed filter crucible and transfer any residual fibres to the crucible by washing out the beaker with more hypochlorite reagent.

(c) Drain the crucible with suction and wash the residue successively with water, dilute acetic acid, and finally water, draining the crucible with suction after each addition. Do not apply suction until each washing liquor has drained under gravity.

(d) Finally, drain the crucible with suction, dry the crucible and residue, and cool and weigh them (see AS 2001.7.2, Clauses 8.2.4, 8.2.5 and 8.2.6).

ISBN 0 7262 2785 4