
**Textiles — Determination of certain
flame retardants —**

**Part 2:
Phosphorus flame retardants**

*Textiles — Détermination de certains retardateurs de flamme —
Partie 2: Retardateurs de flamme phosphorés*

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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The committee responsible for this document is ISO/TC 38, *Textiles*.

ISO 17881 consists of the following parts, under the general title *Textiles — Determination of certain flame retardants*:

- *Part 1: Brominated flame retardants*
- *Part 2: Phosphorus flame retardants*

Textiles — Determination of certain flame retardants —

Part 2: Phosphorus flame retardants

WARNING — This International Standard calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage. It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

1 Scope

This part of ISO 17881 specifies a test method for determining some phosphorous flame retardants in textiles by high performance liquid chromatography – tandem mass spectrometry (HPLC-MS/MS).

The method is applicable to all kinds of textile products.

NOTE For tris (1-aziridiny) phosphineoxide (TEPA), only unbonded TEPA is extractable.

2 Principle

The flame retardants are extracted from textile specimen by ultrasonic generator with acetone. The flame retardants in the specimen are identified and quantified by HPLC-MS/MS.

3 Reagents

Unless otherwise specified, use only reagents of recognized analytical grade.

3.1 Tris (2,3-dibromopropyl) phosphate (TRIS), CAS no. 126-72-7.

3.2 Tris (1-aziridiny) phosphineoxide (TEPA), CAS no. 545-55-1.

3.3 Tris (2-chloroethyl) phosphate (TCEP), CAS no. 115-96-8.

3.4 Acetone.

3.5 Acetonitrile (ACN).

3.6 Ammonium acetate solution, 10 mmol/l.

4 Apparatus

4.1 High performance liquid chromatography – tandem mass spectrometry (HPLC-MS/MS).

4.2 Ultrasonic generator, with a frequency from 35 kHz to 45 kHz.

4.3 Evaporator device, with water bath at 40 °C.