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National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 12497:2005

ICS 67.250
85.060

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PAPER AND BOARD - PAPER AND BOARD INTENDED TO COME INTO CONTACT WITH FOODSTUFFS - DETERMINATION OF MERCURY IN AN AQUEOUS EXTRACT

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 12497

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English Version

Paper and board - Paper and board intended to come into contact with foodstuffs - Determination of mercury in an aqueous extract

Papier et carton - Papiers et cartons destinés à entrer en contact avec les denrées alimentaires - Détermination du mercure dans un extrait aqueux

Papier und Pappe - Papier und Pappe für den Kontakt mit Lebensmitteln - Bestimmung von Quecksilber in einem wässrigen Extrakt

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Foreword

This European Standard (EN 12497:2005) has been prepared by Technical Committee CEN/TC 172 “Pulp, paper and board”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2006, and conflicting national standards shall be withdrawn at the latest by February 2006.

This European Standard supersedes ENV 12497:1998. With regard to ENV 12497:1998 the following changes have been made:

a) implementation in a European Standard;

b) addition of the clause "Precision";

c) editorial updating.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope

This European Standard is one in a series of standards for the determination of heavy metals in an aqueous extract of paper and paperboard intended for contact with food. This European Standard specifies the test method for the determination of mercury in an aqueous extract.

It is applicable to paper and board with extractable mercury content exceeding 0,06 mg per kg.

NOTE 1 The above limit of determination is 5 times below the actual limit existing today or proposed in Europe.

NOTE 2 Mercury content levels below 0,06 mg per kg can be measured by this European Standard, if very sensitive equipment is available and if all other laboratory conditions fulfil the requirements for trace element analysis.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 645, *Paper and board intended to come into contact with foodstuffs — Preparation of a cold water extract*

EN 647, *Paper and board intended to come into contact with foodstuffs — Preparation of a hot water extract*

3 Principle

An aliquot portion of the stabilized cold water (see EN 645) or stabilized hot water extract (see EN 647) (see Clause 6) is analysed by atomic absorption spectrometry using cold vapour generation.

4 Reagents

4.1 General

All reagents and the water used shall be suitable for trace element analysis.

Store the solutions in high-density polyethylene/polypropylene bottles.

4.2 Nitric acid (HNO3), 65 % (d = 1,42)

4.2.1 Nitric acid (4.2), diluted 1 : 1 (*V/V*) with water

4.2.2 Nitric acid (4.2), diluted to 1,5 % (*V/V*) with water

4.3 Potassium permanganate ($KMnO_4$), 5 % aqueous solution (*m/V*)

NOTE Potassium permanganate solution is used to prepare the mercury stock solution. It is not needed if a commercially available standard solution is used (see 4.4).

4.4 Mercury, stock solution, 1000 mg/l

Warning: Mercury is toxic.

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