Determination of certain substances in electrotechnical products - Part 3-3: Screening - Polybrominated biphenyls, polybrominated diphenyl ethers and phthalates in polymers by gas chromatography-mass spectrometry using a pyrolyser / thermal desorption **accessory (Py/TD-GC-MS)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62321-3-3:2021 sisaldab Euroopa standardi EN IEC 62321-3-3:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62321-3-3:2021 consists of the English text of the European standard EN IEC 62321-3-3:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.10.2021.	Date of Availability of the European standard is 22.10.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.020.01, 43.040.10

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62321-3-3

October 2021

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English Version

Determination of certain substances in electrotechnical products - Part 3-3: Screening - Polybrominated biphenyls, polybrominated diphenyl ethers and phthalates in polymers by gas chromatography-mass spectrometry using a pyrolyser/thermal desorption accessory (Py/TD-GC-MS) (IEC 62321-3-3:2021)

Détermination de certaines substances dans les produits électrotechniques - Partie 3-3: Détection - Diphényles polybromés, diphényléthers polybromés et phtalates dans les polymères par chromatographie en phase gazeuse-spectrométrie de masse par pyrolyse/thermodésorption (Py/TD-GC-MS) (IEC 62321-3-3:2021)

Verfahren zur Bestimmung von bestimmten Substanzen in Produkten der Elektrotechnik - Teil 3-3: Screening der polybromierten Biphenyle, polybromierten Diphenylether und Phthalate in Polymeren durch Pyrolyse (Py-GC-MS) oder Thermodesorption-Gaschromatographie-Massenspektrometrie (TD-GC-MS) (IEC 62321-3-3:2021)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 111/626/FDIS, future edition 1 of IEC 62321-3-3, prepared by IEC/TC 111 “Environmental standardization for electrical and electronic products and systems” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62321-3-3:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022–07–19
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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62321-1:2013	NOTE Harmonized as EN 62321-1:2013 (not modified)
IEC 62321-2:2013	NOTE Harmonized as EN 62321-2:2014 (not modified)
IEC 62321-8:2017	NOTE Harmonized as EN 62321-8:2017 (not modified)
IEC 62321-3-1:2013	NOTE Harmonized as EN 62321-3-1:2014 (not modified)
IEC 62321-3-2:2020	NOTE Harmonized as EN IEC 62321-3-2:2020[1] (not modified)
IEC 62321:2008[2]	NOTE Harmonized as EN 62321:2009[3] (not modified)
ISO 3696	NOTE Harmonized as EN ISO 3696
ISO/IEC 17025	NOTE Harmonized as EN ISO/IEC 17025

[1] To be published. Stage at time of publication: prEN IEC 62321-3-2:2020.

[2] Withdrawn.

[3] Withdrawn.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
111/626/FDIS	111/632/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 62321 series, published under the general title *Determination of certain substances in electrotechnical products* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The widespread use of electrotechnical products has drawn increased attention to their impact on the environment. In many countries all over the world, this has resulted in the adaptation of regulations affecting wastes, substances and energy use of electrotechnical products.

The use of polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs) and certain phthalates in electrotechnical products is of concern in many regions of the world.

The purpose of this document is therefore to provide a test method that will allow the electrotechnical industry to determine the levels of polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs), di-isobutyl phthalate (DIBP), di-n-butyl phthalate (DBP), benzylbutyl phthalate (BBP), di-(2-ethylhexyl) phthalate (DEHP), di-n-octyl phthalate (DNOP), di-isononyl phthalate (DINP) and di-isodecyl phthalate (DIDP) in electrotechnical products on a consistent global basis.

WARNING – Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

DETERMINATION OF CERTAIN SUBSTANCES IN ELECTROTECHNICAL PRODUCTS –

Part 3-3: Screening – Polybrominated biphenyls, polybrominated diphenyl ethers and phthalates in polymers by gas chromatography-mass spectrometry using a pyrolyser/thermal desorption accessory (Py/TD-GC-MS)

1 Scope

This part of IEC 62321 specifies the screening analysis of polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs), di-isobutyl phthalate (DIBP), di-n-butyl phthalate (DBP), benzylbutyl phthalate (BBP), di-(2-ethylhexyl) phthalate (DEHP), di-n-octyl phthalate (DNOP), di-isononyl phthalate (DINP), and di-isodecyl phthalate (DIDP) in polymers of electrotechnical products using the analytical technique of gas chromatography-mass spectrometry using a pyrolyser/thermal desorption accessory (Py/TD-GC-MS).

This test method has been evaluated through the analysis of PP (polypropylene), PS (polystyrene), and PVC (polyvinyl chloride) materials containing deca-BDE between 100 mg/kg and 1 000 mg/kg and individual phthalates between 100 mg/kg to 4 000 mg/kg as depicted in Annex J. Use of the methods described in this document for other polymer types, PBBs (mono-deca), PBDEs (mono-deca) and phthalates or concentration ranges other than those specified above has not been specifically evaluated.

This document has the status of a horizontal standard in accordance with IEC Guide 108 [1][1].

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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[1] Numbers in square brackets refer to the bibliography.