

<b>STN</b>	<b>Stanovenie obsahu určitých látok v elektrotechnických výrobkoch</b> <b>Časť 3-3: Preverovanie polybrómovaných bifenylov, polybrómovaných difenyléterov a ftalátov v polyméroch plynovou chromatografiou s hmotnostnou spektrometriou s použitím príslušenstva pyrolyzér/tepelná desorpcia (Py/TD-GC-MS)</b>	<b>STN</b> <b>EN IEC 62321-3-3</b>  34 6705
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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/TDGCMS)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/21

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**EN IEC 62321-3-3**

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October 2021

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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 phthalates 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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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**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)**

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phtalates dans les polymères par chromatographie en phase gazeuse-  
spectrométrie de masse par pyrolyse/thermodésorption (Py/TD-GC-MS)**

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**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)**

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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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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- 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.

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## 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]<sup>1</sup>.

#### 2 Normative references

There are no normative references in this document.

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