ICS 13.060.50 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2016

STN	**Kvalita vody. Stanovenie tributylcínu (TBT) v celých vzorkách vody pomocou extrakcie na tuhej fáze (SPE) a plynovej chromatografie s hmotnostnou spektrometriou s trojitým kvadrupólom.**	**STN P CEN/TS 16692** 75 7495

Water quality - Determination of tributyltin (TBT) in whole water samples - Method using solid phase extraction (SPE) with SPE disks and gas chromatography with triple quadrupole mass spectrometry

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. 03/16

Táto predbežná STN je určená na overenie. Pripomienky zasielajte ÚNMS SR najneskôr do júla 2016.

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Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2016
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 16692

April 2015

ICS 13.060.50

English Version

Water quality - Determination of tributyltin (TBT) in whole water samples - Method using solid phase extraction (SPE) with SPE disks and gas chromatography with triple quadrupole mass spectrometry

Qualité de l'eau - Dosage du tributylétain (TBT) dans la totalité des échantillons d'eau - Méthode par extraction sur phase solide (SPE) avec disques SPE et chromatographie en phase gazeuse avec spectrométrie de masse triple quadrupôle

Wasserbeschaffenheit - Bestimmung von Tributylzinn (TBT) in Gesamtwasserproben - Verfahren mittels Festphasenextraktion (SPE) mit SPE-Disks und Gaschromatographie mit Triple-Quadrupole Massenspektrometrie

This Technical Specification (CEN/TS) was approved by CEN on 1 April 2014 for provisional application.

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Contents

Page

Foreword ... 3
Introduction ... 4
1 Scope ... 5
2 Normative references ... 5
3 Principle ... 5
4 Interferences ... 5
5 Reagents ... 6
6 Apparatus ... 8
7 Sampling ... 9
8 Procedure ... 9
8.1 Sample preparation ... 9
8.2 Derivatization ... 9
8.2.1 General ... 9
8.2.2 Derivatization procedure ... 10
8.3 Extraction with SPE-disks ... 10
8.4 Clean-up of the extract ... 11
8.5 Solvent concentration step ... 11
8.6 Gas chromatograph ... 11
8.7 Identification of individual compounds by GC-MS ... 11
8.8 Blank value measurements ... 12
9 Calibration ... 12
9.1 General requirements ... 12
9.2 Calibration of the GC-step ... 13
9.3 Calibration of the total procedure using the internal standard ... 14
9.4 Determination of procedural recovery values ... 15
9.5 Determination of derivatization standard recovery ... 15
10 Calculation ... 16
11 Expression of results ... 17
12 Test report ... 17
Annex A (informative) Suitable gas chromatographic conditions and example chromatograms ... 18
Annex B (informative) Repeatability and reproducibility data ... 20
Annex C (informative) Example of conditions for automated solid-phase extraction ... 21
Annex D (informative) Silica clean-up ... 22
D.1 Silica for the clean-up column ... 22
D.2 Clean-up column ... 22
D.3 Eluent for cleaning extract ... 22
D.4 Clean-up of extract ... 22
Bibliography ... 23

Foreword

This document (CEN/TS 16692:2015) has been prepared by Technical Committee CEN/TC 230 “Water analysis”, the secretariat of which is held by DIN.

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This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the Water Framework Directive (WFD, 2000/60/EC), and the Directive on Environmental Quality Standards (Directive 2008/105/EC).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

WARNING — Persons using this Technical Specification should be familiar with usual laboratory practice. This Technical Specification 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.

IMPORTANT — It is absolutely essential that tests conducted according to this Technical Specification be carried out by suitably trained staff.

Introduction

Tributyltin (TBT) is a priority substance listed in Annex X of the EU Water Framework Directive (WFD, Directive 2000/60/EC) for which Environmental Quality Standards (EQS) have been set at EU level for inland as well as other surface waters to protect the aquatic environment against chemical pollution (Directive 2008/105/EC). With the exception of metals, the EQSs are expressed as total concentrations in the whole water sample. Furthermore, analytical methods used in WFD monitoring need to meet certain requirements as regards the minimum limit of quantification and the maximum tolerable measurement uncertainty (Directive 2009/90/EC). So far, there is no standardized method available for the determination of TBT in whole water samples fulfilling those requirements. Hence, the European Commission mandated CEN to develop or improve standards in support of the implementation of the monitoring requirements of WFD.

Directive 2008/105/EC has been amended by Directive 2013/39/EU, however this standard has been developed for the analysis of TBT as listed in Annex A of Directive 2008/105/EC.

The annual average environmental quality standard (AA-EQS) value for TBT is 0,0002 µg/l and is defined for the concentration in the whole water sample, including suspended particulate matter (SPM) present in the sample. As compounds like TBT, sorb strongly to environmental solids, the fraction bound to particles may be substantial. Therefore it is important to be able to handle whole water samples within the analytical process. Identification and quantification of TBT at trace level concentrations often require both high sensitive chromatographic equipment and effective enrichment steps.

1 Scope

This Technical Specification specifies a method for the determination of tributyltin cation (TBT) in whole water samples. It is applicable to the analysis of TBT in surface water, which may contain suspended particulate matter (SPM) up to 500 mg/l (whole water samples), groundwater, drinking water and seawater. The working range is 0,04 ng/l to 20 ng/l. The LOQ will be mainly determined by the blank value obtained during validation of this method.

NOTE 1 The method has been successfully applied to seawater samples during method development, but sea water samples were not included in the interlaboratory comparison.

NOTE 2 In this document TBT is synonymous for tributyltin cation.

NOTE 3 Near the lower limit of the working range the measurement uncertainties may be higher.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

EN ISO 5667-3, *Water quality - Sampling - Part 3: Preservation and handling of water samples (ISO 5667-3)*

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