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English Version

**Determination of extractable perfluorooctanesulphonate (PFOS)
in coated and impregnated solid articles, liquids and fire fighting
foams - Method for sampling, extraction and analysis by LC-
qMS or LC-tandem/MS**

Détermination du sulfonate de perfluorooctane (SPFO)
extractible dans des articles solides couchés et imprégnés,
des liquides et des mousses anti-incendie - Méthode
d'échantillonnage, d'extraction et d'analyse par LC-MS ou
LC-MS/MS

Bestimmung von extrahierbarem Perfluorooctansulfonat
(PFOS) in beschichteten und imprägnierten
Feststoffartikeln, Flüssigkeiten und Feuerlöschschäumen -
Verfahren zur Probenahme, Extraktion und Analyse mittels
LC-MS oder LC-MS

This Technical Specification (CEN/TS) was approved by CEN on 25 October 2009 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 15968:2010) has been prepared by Technical Committee CEN/TC 382 "Project Committee - PFOS", the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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 REACH (1907/2006), annex XVII, designation 53 [1].

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

For implementation of REACH (1907/2006), annex XVII, designation 53 [1] the European Commission asked CEN to develop an European Technical Specification with test methods for measuring levels of PFOS containing compounds in preparations, semi-finished products and articles including textile and coated materials.

REACH (1907/2006), annex XVII, designation 53 [1] states that the substances that are under the Directive are perfluorooctanesulfonates (PFOS), that means substances with the formula $C_8F_{17}SO_2X$ (where X=OH, Metal salt (O-M+), halide, amide and other derivatives including polymers).

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1 Scope

This Technical Specification describes the determination of perfluorooctanesulfonate (PFOS) in concentrated extracts from coated and impregnated solid articles, liquids and fire extinguishing foams using high performance liquid chromatography-tandem mass spectrometry (LC-tandemMS) or quadrupole mass spectrometry (LC-qMS).

The method is applicable for a concentration range for PFOS in the extract solution of 0,5 µg/l to 50 µg/l.

WARNING — Persons using this Technical Specification should be familiar with normal 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 in accordance with this Technical Specification be carried out by suitably qualified staff.

2 Normative references

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

EN 20187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples* (ISO 187:1990)

EN ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning* (ISO 2419:2006)

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods* (ISO 3696:1987)

EN ISO 8130-9, *Coating powders — Part 9: Sampling* (ISO 8130-9:1992)

EN ISO 15194, *In vitro diagnostic medical devices — Measurement of quantities in samples of biological origin — Requirements for certified reference materials and the content of supporting documentation* (ISO 15194:2009)

ISO 8466-1, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*

3 Terms and definitions

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

3.1

analyte

substance or chemical constituent that is subjected to measurement

3.2

blank matrix

matrix which is largely identical with the analytical one, but does not contain the analyte or contains it in low and known content

NOTE Blanks are used to check the analytical process.