



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 1948-1:2006

ICS 13.040.40

**STATIONARY SOURCE EMISSIONS -
DETERMINATION OF THE MASS
CONCENTRATION OF PCDDS/PCDFS AND
DIOXIN-LIKE PCBS - PART 1: SAMPLING OF
PCDDS/PCDFS**

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
<http://www.nsai.ie>

Sales
<http://www.standards.ie>

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1948-1

March 2006

ICS 13.040.40

Supersedes EN 1948-1:1996

English Version

**Stationary source emissions - Determination of the mass
concentration of PCDDs/PCDFs and dioxin-like PCBs - Part 1:
Sampling of PCDDs/PCDFs**

Emissions de sources fixes - Détermination de la
concentration massique en PCDD/PCDF et PCB de type
dioxine - Partie 1: Prélèvement

Emissionen aus stationären Quellen - Bestimmung der
Massenkonzentration von PCDD/PCDF und dioxin-
ähnlichen PCB - Teil 1: Probenahme von PCDD/PCDF

This European Standard was approved by CEN on 23 January 2006.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard (EN 1948-1:2006) has been prepared by Technical Committee CEN/TC 264 "Air quality", 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of an identical text or by endorsement, at the latest by September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

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 European Standard supersedes EN 1948-1:1996.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to support Essential Requirements of EU Directive 94/67/EC of 16 December 1994 [i] on the incineration of hazardous waste. This directive is now replaced by EU Directive 2000/76/EC of 4 December 2000 on the incineration of waste [ii] and this European Standard also supports the Essential Requirements of the new EU Directive 2000/76/EC (see also Annex E).

The precision and the performance characteristics were determined between 1992 and 1995 in four comparative and validation trials at waste incinerators sponsored by the European Commission, the European Free Trade Association and the German Federal Environment Agency.

The revision of this EN between 2001 and 2004 only refers to the normative part. The information given in the informative annexes as examples of operation are kept unchanged, as they represent the state of the art at time of the validation measurements of EN 1948:1996 between 1992 and 1995.

This European Standard EN 1948:2006 consists of three parts dealing with the determination of the mass concentration of PCDDs and PCDFs in stationary source emissions:

Part 1: Sampling of PCDDs/PCDFs;

Part 2: Extraction and clean-up of PCDDs/PCDFs;

Part 3: Identification and quantification of PCDDs/PCDFs.

All three parts are necessary for the performance of the dioxin measurements.

In addition for the sampling, extraction and analyses of dioxin-like PCBs the Technical Specification CEN/TS 1948-4¹ is developed and will be transferred to a European Standard after corresponding validation measurements or after an approval time of three years respectively.

Important changes made in the revision of EN 1948-1:

1. **Title:** Broadening of the title with regard to the future EN 1948-4 for the determination of dioxin-like PCBs
2. **Foreword:**

¹) To be published.

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- Deletion of all precursor documents which were basis for elaboration of EN 1948 as well as the names of the standardisation bodies involved in the elaboration of EN 1948
 - Update of the hint regarding mandate of the standardisation project and regarding fulfilment of the Essential Requirements of EU Directives 94/67/EC and 2000/76/EC
 - Addition of a hint, that the revision only refers to the normative parts of the standard. The Informative Annex B "Examples of operation" is kept unchanged and represents the state of the art at time of the validation measurements of EN 1948:1996 between 1992 and 1995
 - Addition of hint with regard to the future document EN 1948-4 dealing with the analyses of dioxin-like PCBs
3. **Introduction:** New hint that only skilled operators who are trained in handling highly toxic compounds should apply the method described in this European Standard (identical to EN 1948-2 and EN 1948-3)
4. **Scope:**
- Addition of a hint, that EN 1948 can be applied for wide concentration ranges and various emission sources
 - Addition of a hint, that the described measurement methods are suitable for determination of other low-volatile substances, e.g. of dioxin-like PCBs
5. **Normative references:**
- Update of the references to EN 1948-2:2006, EN 1948-3:2006
 - Reference to EN 13284-1:2001 regarding determination of low range mass concentration of dust instead of ISO 9096, therefore deletion of all references to ISO 9096 and replacement by EN 13284-1:2001
 - Additional normative reference to EN ISO/IEC 17025:2005
 - Deletion of reference to ISO 4793:1980
6. **Clause 3 Terms and definitions:**
- Distinction between Clause 3 "Terms and definitions" and Clause 4 "Symbols and abbreviations" resulting in a different numbering of the following chapters
 - Corrected definition of "field blank" for clarification
 - Corrected definition of "analytical blank" for clarification
 - Corrected definition of "sampling standard": only furans
 - "Syringe standard" renamed to read "recovery standard"
 - Corrected definition of "recovery standard": only dioxins
 - Additional definition of "dioxin-like PCBs"
 - Additional definition of "flue gas sample volume"
 - Additional definition of "measurement series" resp. "sampling campaign"

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