

Masinate ohutus. Õhu kaudu levivate ohtlike ainete emissiooni hindamine. Osa 9: Saasteaine kontsentratsiooniparameeter, ruumimeetod
KONSOLIDEERITUD TEKST

Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 9: Pollutant concentration parameter, room method
CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1093-9:1999+A1:2008 sisaldab Euroopa standardi EN 1093-9:1998+A1:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 18.08.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 16.07.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1093-9:1999+A1:2008 consists of the English text of the European standard EN 1093-9:1998+A1:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 18.08.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 16.07.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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Võtmesõnad: emissioon, kontsentratsioon, mõõtmine, ohtlikud ained, ruumid, seadmete ohutus, testimise tingimused, õhu saastumine

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Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English Version

**Safety of machinery - Evaluation of the emission of airborne
hazardous substances - Part 9: Pollutant concentration
parameter, room method**

Sécurité des machines - Evaluation de l'émission de
substances dangereuses véhiculées par l'air - Partie 9:
Paramètre de concentration en polluant, méthode en salle
d'essai

Sicherheit von Maschinen - Bewertung der Emission von
luftgetragenen Gefahrstoffen - Teil 9:
Konzentrationsparameter des luftverunreinigenden Stoffes,
Prüfraumverfahren

This European Standard was approved by CEN on 4 September 1998 and includes Amendment 1 approved by CEN on 8 June 2008.

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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 document (EN 1093-9:1998+A1:2008) has been prepared by Technical Committee CEN/TC 114 "Safety of machinery", 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 January 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2008-06-08.

This document supersedes EN 1093-9:1998.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** and **A1**.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

A1 For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, 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 United Kingdom.

Introduction

This European Standard is a type B standard as stated in ENV 1070:1993.

This European Standard is a part of EN 1093. Part 1 of this European standard presents a selection of different methods for the evaluation of the emission of airborne hazardous substances from machines.

1 Scope

This European Standard specifies a room method for the measurement of the pollutant concentration parameter of a specified airborne hazardous substance from machines, located in a test room and operating the machines under defined conditions.

This method can only be used for machines with a local exhaust ventilation with an air flow rate ³ 500 m³/h and machines without recirculated air.

Measurement of the pollutant concentration parameter of a machine can serve for the:

- a) evaluation of the performance of a machine;
- b) evaluation of the improvement of the machine;
- c) comparison of machines within groups of machines with the same intended use (groups are defined by the function and materials processed);
- d) ranking of machines from the same group according to their pollutant concentration parameters;
- e) determination of the state of the art of machines with respect to their pollutant concentration parameter.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292-1:1991, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology.*

EN 292-2:1991, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications.*

EN292-2/A1:1995, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications; Amendment A1.*

ENV 1070:1993, *Safety of machinery – Terminology.*

EN 1093-1, *Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 1: Selection of test methods.*

ISO 2602:1980, *Statistical interpretation of test results - Estimation of the mean - Confidence interval*.

3 Definitions

For the purposes of this European Standard the definitions of ENV 1070:1993 and the following definition applies:

3.1

pollutant concentration parameter, room, P_{cr}

the measured concentration of a specified pollutant in defined position(s) near the machine. For the purpose of this European Standard the measurement points are at defined positions around the machine and the pollutant concentration parameter is the mean value of the measured concentrations.

4 Principle

The principle of the measurement method is to operate the machine with strong local exhaust ventilation ($\geq 500 \text{ m}^3/\text{h}$) under controlled conditions in a test room and to measure pollutant concentrations at defined positions (see 5.2).

The average concentration gives an indication of the emission of the machine and the standard deviation gives an indication of the dispersion of the pollutant emitted.

5 Measurement environment

5.1 Test room

The tests are performed in rooms meeting the following criteria:

- no other source of the specified pollutant in the test room;
- to ensure that the air flow from all measurement points is directed to the local exhaust ventilation, tests shall be carried out e.g. using a smoke cartridge;
- size of the room greater than 200 m^3 ;
- the distances between the machine and the walls and ceiling shall be greater than 2 m;
- no return air from local exhaust ventilations;
- properly designed supply of air to avoid cross-draughts in the zone of measurement points.

5.2 Location of measurement points

A minimum of 4 measurement points around the machine is necessary. Empirical techniques shall be used to ensure that the locations chosen are in areas of major emissions. The number and precise positions shall be specified in type C standards.