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**Fugitive and diffuse emissions of common concern to industry sectors - Fugitive dust emission rate estimates by Reverse Dispersion Modelling**

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<p>Standard on kinnitatud Eesti Standardikeskuse 25.03.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p>	<p>This standard is ratified with the order of Estonian Centre for Standardisation dated 25.03.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p>
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<p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>The standard is available from Estonian standardisation organisation.</p>

**ICS** 13.040.40

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ICS 13.040.40

English Version

**Fugitive and diffuse emissions of common concern to industry sectors - Qualification of fugitive dust sources by Reverse Dispersion Modelling**

Emissions fugitives et diffuses concernant divers secteurs industriels - Estimations des taux d'émissions fugitive de poussières par Modélisation de Dispersion inverse

Fugitive und diffuse Emissionen von allgemeinem Interesse für Industriebereiche - Berechnung fugitiver Emissionsquellstärken aus Immissionsmessungen mit der RDM (Reverse Dispersion Modelling)-Methode

This European Standard was approved by CEN on 30 November 2007.

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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 CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 15445:2008) 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of an identical text or by endorsement, at the latest by July 2008, and conflicting national standards shall be withdrawn at the latest by July 2008.

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 has been elaborated under a mandate of the European Commission/DG Enterprise to support essential requirements of the IPPC Directive (96/61/EC) and by voluntary action of industry.

The horizontal approach of common concern to industrial sectors is to gather industries concerned by diffuse/fugitive emissions and to develop methods suiting their needs. The industries of three trade associations have participated: EUROFER, EUROMETAUX and CEFIC. For practical reasons the two developed measurement methods, one for dusts and the other for gases are published as two separate standards. This standard has not been developed for Air Quality Control purposes and therefore shall not be used for monitoring by authorities.

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 the United Kingdom.

## 1 Scope

This standard specifies a Reverse Dispersion Modelling method to qualify the fugitive emission rates of diffuse fine and coarse dust sources of industrial plants or areas. The application needs calculations using a dispersion model, and the definition of a sampling experimental set-up taking into account field data such as number, height and width of diffuse dust sources, sampling distances, and meteorological information.

The RDM method does not allow quantification in absolute figures of the dust emission rates because of an undetermined accuracy depending on various site conditions, but it is a tool which enables each industrial plant to identify its dust sources that emit the most, and then to implement actions reducing their importance by self-control and related improvement process as part of environmental management.

In this framework, the RDM method should not be used to control or verify any compliance with air quality threshold global values which might be contained in an operating permit, or to carry out comparison between different plants belonging to the same industrial sector.

## 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 12341, *Air Quality – Determination of the PM<sub>10</sub> fraction of suspended particulate matter – Reference method and field test procedure to demonstrate reference equivalence of measurement methods*

## 3 Terms and definitions

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

### 3.1

#### **fugitive dust emission**

uncontrolled dust emission to the atmosphere from diffuse emission.

EXAMPLE Windblown dust from stock piles, diffuse dust from workshop buildings, dust from handling dry bulk goods, re-suspension by traffic etc.

### 3.2

#### **suspended particulate matter**

SPM

notion of all particles surrounded by air in a given, undisturbed volume of air

### 3.3

#### **PM<sub>10</sub>**

fraction of SPM corresponding to a sampling target specification as defined in EN 12341

### 3.4

#### **aerodynamic diameter ( $D_{ae}$ )**

to any particle, characterized by a physical diameter  $D_{ph}$  and a density, corresponds a  $D_{ae}$ : it is the diameter of a spherical particle of a specific mass of  $1 \text{ g/cm}^3$ , which would have the same limit falling velocity in undisturbed air

### 3.5

#### **fine dust**

fraction of SPM which particles display a physical diameter ( $D_{ph}$ ) lower than  $10 \mu\text{m}$