



# SLOVENSKI STANDARD SIST EN ISO 10283:2006

01-april-2006

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Binders for paints and varnishes - Determination of monomeric diisocyanates in polyisocyanate resins (ISO 10283:1997)

Bindemittel für Beschichtungsstoffe - Bestimmung von monomeren Diisocyanaten in Polyisocyanatharzen (ISO 10283:1997)

Liants pour peintures et vernis - Détermination des diisocyanates monomeres dans les résines polyisocyanates (ISO 10283:1997)

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Ta slovenski standard je istoveten z: **EN ISO 10283:2006**

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**ICS:**

87.060.20      Veziva      Binders

**SIST EN ISO 10283:2006**      en

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ICS 87.060.20

English Version

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This European Standard was approved by CEN on 16 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.

CEN members are the national standards bodies of Austria, Belgium, 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.

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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

## Foreword

The text of ISO 10283:1997 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10283:2006 by Technical Committee CEN/TC 139 "Paints and varnishes", 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of an identical text or by endorsement, at the latest by August 2006, and conflicting national standards shall be withdrawn at the latest by August 2006.

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

### Endorsement notice

The text of ISO 10283:1997 has been approved by CEN as EN ISO 10283:2006 without any modifications.

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**Binders for paints and varnishes —  
Determination of monomeric diisocyanates  
in polyisocyanate resins**

*Liants pour peintures et vernis — Détermination des diisocyanates  
monomères dans les résines polyisocyanates*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10283 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 10, *Test methods for binders for paints and varnishes*.

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## Introduction

It is well-known fact that, due to the production methods used, all the commercial isocyanate resins named in this standard contain a certain amount of volatile monomeric isocyanates. This amount is generally less than 0,5 % relative to the resin as supplied. In view of the regulations relating to the handling of hazardous substances, it has become a matter of special concern that a generally accepted and applicable method of determination should be available. This standard is not intended to present a method suitable for the analytical determination of volatile isocyanates in any form and in any quantity. The standard specifies a method confined to determining the amounts of volatile isocyanates which occur in practice in isocyanate resins, namely about 0,1 % to 0,4 %. A further objective of the standard was to develop a method for determining with adequate accuracy as many as possible of the monomeric isocyanates which occur in isocyanate resins. It detects the principle isocyanates, namely toluene diisocyanate (TDI), hexamethylene diisocyanate (HDI), diphenylmethane diisocyanate (MDI) and isophorone diisocyanate (IPDI), and is a method considered by industry, authorities and institutes alike to be the state of the art.

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# Binders for paints and varnishes — Determination of monomeric diisocyanates in polyisocyanate resins

## 1 Scope

This International Standard specifies a gas-chromatographic method for determining monomeric diisocyanates such as toluene diisocyanate<sup>1)</sup>, hexamethylene diisocyanate, isophorone diisocyanate<sup>2)</sup>, diphenylmethane diisocyanate<sup>3)</sup> and other diisocyanates in isocyanate resins as defined in clause 3 and in solutions prepared from such resins, insofar as these are used in the formulation of paints and similar coating materials.

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 842 : 1984 Raw materials for paints and varnishes - Sampling.

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## 3 Definition

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For the purposes of this International Standard, the following definition applies.

**3.1 Isocyanate resin:** A synthetic resin, with or without solvent, based on aromatic, aliphatic or cycloaliphatic isocyanates containing isocyanate (NCO) groups.

NOTE 1: For the purposes of this International Standard, such isocyanate resins comprise:

- those which are manufactured from any diisocyanate, in particular toluene diisocyanate (TDI), hexamethylene diisocyanate (HDI), isophorone diisocyanate (IPDI), diphenylmethane diisocyanate (MDI), and which contain urethane and/or biuret and/or isocyanurate groups;
- those which are prepared from mixtures of the isocyanate resins given above.

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<sup>1)</sup> The term "toluene diisocyanate" is used here and in the following text for 4-methyl-1,3-phenylene diisocyanate (2,4-toluene diisocyanate) and 2-methyl-1,3-phenylene diisocyanate (2,6-toluene diisocyanate).

<sup>2)</sup> The term "isophorone diisocyanate" is used here and in the following text for 2-(isocyanatomethyl)-3,5,5-trimethylcyclohexylisocyanate. The stereoisomers are identified at the appropriate points in the text by (I) and (II).

<sup>3)</sup> The term "diphenylmethane diisocyanate" is used here and in the following text for 4,4-diisocyanatodiphenylmethane, 2,4-diisocyanatodiphenylmethane and 2,2-diisocyanatodiphenylmethane.