

Adhesives - Determination of isocyanate content

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Adhesives - Determination of isocyanate content

Adhésifs - Détermination de la teneur en isocyanate

Klebstoffe - Bestimmung des Isocyanatgehaltes

This European Standard was approved by CEN on 13 January 2013.

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Foreword

This document (EN 1242:2013) has been prepared by Technical Committee CEN/TC 193 “Adhesives”, the secretariat of which is held by AENOR.

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of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

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 supersedes EN 1242:2005.

The main technical significant change is:

- Inclusion of ethanol in the list of reagents (Clause 5)

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1 Scope

This European Standard specifies a method for the determination of the isocyanate content of adhesives, adhesive components and their basic constituents.

It is not applicable to products containing blocked isocyanate groups which can be liberated by the reagents used in this test method.

2 Normative references

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

EN 923:2005+A1:2008, *Adhesives — Terms and definitions*

EN 1067, *Adhesives — Examination and preparation of samples for testing*

EN ISO 385, *Laboratory glassware — Burettes (ISO 385)*

EN ISO 648, *Laboratory glassware — Single-volume pipettes (ISO 648)*

EN ISO 1042, *Laboratory glassware — One-mark volumetric flasks (ISO 1042)*

EN ISO 15605, *Adhesives — Sampling (ISO 15605)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 923:2005+A1:2008 and the following apply.

3.1 isocyanate content

percentage (mass/mass) of isocyanate groups (-NCO) in the product under test

4 Principle

A weighed quantity of product is converted in presence of an excess of dibutyl amine dissolved in toluene or another solvent forming urethanes. The unreacted dibutyl amine is backtitrated with hydrochloric acid, in the presence of a colour indicator or potentiometrically.

5 Reagents

5.1 Dibutyl amine, analytical grade [or freshly distilled].

NOTE As "dibutyl amine" either di-*n*-butylamine or di-isobutylamine can be used.

5.2 Toluene, dry, analytical grade.

NOTE Depending on the nature of the isocyanate other analytical grade solvents (e.g. dioxane, xylene, butane-2-one, ethyl acetate, chlorobenzene, dimethylformamide) or solvent mixtures can be used provided the product is dissolved completely without chemical reaction and it is ensured that equivalent results are obtained. Urethane prepolymers can be dissolved in dry toluene or xylene. When the specified conversion with dibutyl amine is completed propan-2-ol can be added before titration.