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Irish Standard
I.S. EN ISO 4629-2:2016

Binders for paints and varnishes - Determination of hydroxyl value - Part 2: Titrimetric method using a catalyst (ISO 4629-2:2016)

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National Foreword

I.S. EN ISO 4629-2:2016 is the adopted Irish version of the European Document EN ISO 4629-2:2016, Binders for paints and varnishes - Determination of hydroxyl value - Part 2: Titrimetric method using a catalyst (ISO 4629-2:2016)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4629-2

June 2016

ICS 87.060.20

English Version

Binders for paints and varnishes - Determination of hydroxyl value - Part 2: Titrimetric method using a catalyst (ISO 4629-2:2016)

Liants pour peintures et vernis - Détermination de l'indice d'hydroxyle - Partie 2: Méthode titrimétrique utilisant un catalyseur (ISO 4629-2:2016)

Bindemittel für Beschichtungsstoffe - Bestimmung der Hydroxylzahl - Teil 2: Verfahren mit Katalysator (ISO 4629-2:2016)

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Contents

Page

European foreword **3**

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European foreword

This document (EN ISO 4629-2:2016) has been prepared by Technical Committee ISO/TC 35 “Paints and varnishes” in collaboration with 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of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.

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INTERNATIONAL STANDARD

ISO 4629-2

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Binders for paints and varnishes — Determination of hydroxyl value —

Part 2: Titrimetric method using a catalyst

Liants pour peintures et vernis — Détermination de l'indice d'hydroxyle —

Partie 2: Méthode titrimétrique utilisant un catalyseur

Reference number
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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Reagents **2**
6 Apparatus **2**
7 Sampling **3**
8 Procedure **3**
8.1 Number of determinations 3
8.2 Test portion 3
8.3 Determination 3
8.4 Blank test 4
8.5 Determination of acid value 4
9 Expression of results **4**
10 Precision **4**
10.1 Repeatability 4
10.2 Reproducibility 4
11 Test report **5**
Bibliography **6**

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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The committee responsible for this document is ISO/TC 35, *Paints and varnishes*, Subcommittee SC 10, *Test methods for binders for paints and varnishes*.

ISO 4629 consists of the following parts, under the general title *Binders for paints and varnishes — Determination of hydroxyl value*:

— *Part 1: Titrimetric method without using a catalyst*

— *Part 2: Titrimetric method using a catalyst*

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Introduction

There are several different methods standardized for determining the hydroxyl value of resins. The classic method using pyridine without a catalyst is specified in ISO 4629-1. The advantages of the method using a catalyst are the following:

— the solvents used are less hazardous to health;

— the solvent consumption is lower;

— the method is faster due to shorter reaction times;

— the end point of the titration is easier to see;

— polyols are more readily soluble.

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Binders for paints and varnishes — Determination of hydroxyl value —

Part 2: Titrimetric method using a catalyst

1 Scope

This part of ISO 4629 specifies a titrimetric method for determining the hydroxyl value of resins, binders for paints and varnishes, primary alcohols, glycols and fats. Whether it can be applied for hydro carboxylic acids, phenolic hydroxyl groups, polyols such as trimethyl propane and substances containing aromatic groups have been activated for Friedel-Crafts acylation shall be decided on case-to-case basis.

Under the right conditions, the method is also applicable for determining the hydroxyl value of castor oil and its derivatives.

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.

ISO 660, *Animal and vegetable fats and oils — Determination of acid value and acidity*

ISO 2114:2000, *Plastics (polyester resins) and paints and varnishes (binders) — Determination of partial acid value and total acid value*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 4618, *Paints and varnishes — Terms and definitions*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and the following apply.

3.1
hydroxyl value
number of milligrams of potassium hydroxide (KOH) corresponding to hydroxyl groups that have been acetylated under specified test conditions in 1 g of the product tested

[SOURCE: ISO 4629-1:2016, 3.1]

4 Principle

The hydroxyl groups in polyols are acetylated with acetic anhydride. The excess acetic anhydride is titrated with alcoholic potassium hydroxide solution.

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