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**Binders for paints and varnishes —  
Determination of hydroxyl value —**

**Part 3:  
Rapid test**

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

*Partie 3: Méthode rapide*

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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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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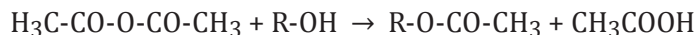
This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*.

A list of all parts in the ISO 4629 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

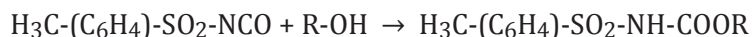
The most frequently described method for determining the hydroxyl number is conversion with acetic anhydride in pyridine with subsequent titration of the released acetic acid.



However, this method suffers from the following disadvantages:

- the sample is boiled under reflux for 1 h;
- the method cannot be automated;
- small hydroxyl numbers cannot be determined exactly;
- unpleasant and toxic pyridine is used.

For these reasons, a far simpler method was selected for automation. The (primary and secondary) hydroxyl groups are converted to acidic carbamate groups using toluene-4-sulfonyl-isocyanate.



The carbamate can then be titrated with the strong base tetrabutylammonium hydroxide (TBAOH) under non-aqueous conditions, i.e. in an organic solvent.

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