
**Plastics — Polyols for use in the
production of polyurethanes —
Determination of basicity (total amine
value), expressed as percent nitrogen**

*Plastiques — Polyalcools utilisés pour la production de
polyuréthannes — Détermination de la basicité (valeur totale
d'amines) en pourcentage d'azote*



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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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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials*.

This second edition cancels and replaces the first edition (ISO 25761:2008), which has been technically revised.

Introduction

Polyurethanes are produced by the catalysed reaction of isocyanates with polyols. The basicity of the polyol employed affects the rate of reaction and speed of cure of the product. It is therefore necessary to determine the basicity in order to predict reactivity and monitor product quality.

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SAFETY STATEMENT — Persons using this document should be familiar with normal laboratory practice, if applicable. This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory requirements.

1 Scope

The method specified in this International Standard measures the basic constituents in polyols that are soluble in glacial acetic acid and reactive with perchloric acid. Samples containing 0,3 % to 10 % of nitrogen have been evaluated by this method. The method is applicable to amine-based polyols, polyether polyols and polyether polyol blends that are used in polyurethane reactions. The results are measures of batch-to-batch uniformity and may be used to estimate reactivity in polyurethane reactions.

It is also permissible to express the results in equivalents of base per gram of sample.

NOTE This method is technically equivalent to that in ASTM D 6979.

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.

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

ISO 4788, *Laboratory glassware — Graduated measuring cylinders*

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

ISO 6353-1, *Reagents for chemical analysis — Part 1: General test methods*

ISO 6353-2, *Reagents for chemical analysis — Part 2: Specifications — First series*

ISO 6353-3, *Reagents for chemical analysis — Part 3: Specifications — Second series*

3 Terms and definitions

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

3.1

polyol

polymer based on ethylene oxide and/or propylene oxide which contains two or more hydroxyl groups

3.2

polyurethane

polymer prepared by the reaction of an organic di- or polyisocyanate with a compound containing two or more hydroxyl groups

3.3

percent nitrogen

quantity of perchloric-acid-titratable base in a sample, expressed as a mass percentage of nitrogen