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**Plastics — Aromatic isocyanates for use  
in the production of polyurethanes —  
Determination of total chlorine**

*Plastiques — Isocyanates aromatiques utilisés pour la production de  
polyuréthannes — Dosage du chlore total*



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## Foreword

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The main task of technical committees is to prepare International Standards. 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.

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ISO 26603 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials*.

## Introduction

Isocyanates are typically produced by phosgenation of an aromatic amine using chlorine-substituted benzenes (e.g. o-dichlorobenzene) as reaction solvents. ISO 15028 is used to determine the hydrolyzable chlorine content of the isocyanates. The test methods in this International Standard are used to determine the total chlorine content of aromatic isocyanates. The difference between the total chlorine content and the hydrolyzable chlorine content is a measure of the reaction solvents left in the product, and therefore is a useful tool for assessing product quality.

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# Plastics — Aromatic isocyanates for use in the production of polyurethanes — Determination of total chlorine

**SAFETY PRECAUTIONS** — Persons using this International Standard should be familiar with normal laboratory practice, if applicable. This International Standard 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

This International Standard is used to determine the total chlorine content of aromatic isocyanates used in the preparation of polyurethanes. The difference between the total chlorine content and the hydrolyzable chlorine content (see ISO 15028) is a measure of the process solvents left in the product. Both test methods are applicable to a variety of organic compounds, including aliphatic isocyanates, but the amount of sample used might need to be adjusted. These test methods can be used for research or for quality control.

**NOTE** This International Standard is technically equivalent to ASTM D 4661-03.

## 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 3696, *Water for analytical laboratory use — Specification and 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 definitions apply.

### 3.1

#### **isocyanates**

organic compounds containing one or more NCO groups

### 3.2

#### **polyurethane**

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

### 3.3

#### **hydrolyzable chlorine**

organic or inorganic chlorine compounds formed in the production of isocyanates that react with methanol under the conditions of ISO 15028 to liberate hydrogen chloride