



BSI Standards Publication

**Plastics — Polymer polyols for use in the
production of polyurethanes — Determination
of the residual acrylonitrile and styrene
monomer content by gas chromatography**

National foreword

This British Standard is the UK implementation of ISO 21257:2024. It supersedes BS ISO 21257:2018, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/42, Fibre reinforced thermosetting plastics and prepregs.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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ISO 21257

**Plastics — Polymer polyols for use
in the production of polyurethanes
— Determination of the residual
acrylonitrile and styrene monomer
content by gas chromatography**

*Plastiques — Polyols polymères pour la production de
polyuréthanes — Détermination de la teneur résiduelle en
monomères d'acrylonitrile et de styrène par chromatographie en
phase gazeuse*

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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.

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

This second edition cancels and replaces the first edition (ISO 21257:2018), of which it constitutes a minor revision. The changes are as follows:

- the title has been changed to plural form to read: "Plastics — Polymer polyols for use in the production of polyurethanes — Determination of the residual acrylonitrile and styrene monomer content by gas chromatography";
- in [7.2.1](#), [7.2.2](#), [7.2.3](#), [7.3.1](#), [7.3.2](#) and [7.3.3](#), "to the nearest 1 mg" have been changed to "to the nearest 0,1 mg";
- in [8.3 Table 4](#), the table title has been changed to "[Table 4](#) — Typical retention times of acrylonitrile, styrene, internal standard and solvent with typical operating conditions in [Annex A](#)".

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.

Introduction

Polymer polyols are defined as very fine and stable dispersions of solid, vinylic polymers (for example, acrylonitrile/styrene copolymers are typical) in liquid polyether polyols.

Polymer polyol is used to improve the physical properties of seat cushions, especially hardness. Because the toxicity of acrylonitrile and styrene is high, it is important to establish an analytical method to determine residual amounts of these reactants.

The importance of residual toxicity has increased with the use of polyurethane foam, etc. which comes in contact with food and skin. This document is intended to help manufacturers evaluate the safety of their products.

