

INTERNATIONAL STANDARD

ISO 3001

Fourth edition
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Plastics — Epoxy compounds — Determination of epoxy equivalent

*Plastiques — Compositions époxydiques — Détermination de l'équivalent
époxy*



Reference number
ISO 3001:1999(E)

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.

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.

International Standard ISO 3001 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials*.

This fourth edition cancels and replaces the third edition (ISO 3001:1997), which has been technically revised.

Annex A forms an integral part of this International Standard.

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Plastics — Epoxy compounds — Determination of epoxy equivalent

1 Scope

This International Standard specifies a method for the determination of the epoxy equivalent and is applicable to all epoxy compounds. In the case of epoxyamines, it is necessary to apply the modification specified in annex A.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1

epoxy equivalent

the mass of resin, in grams, which contains one mole of epoxy groups

2.2

epoxy index

the number of moles of epoxy groups contained in 1 kg of resin

3 Principle

The epoxy groups in a test portion are reacted with nascent hydrogen bromide produced by the action of 0,1 mol/l standard volumetric perchloric acid solution on tetraethylammonium bromide. The end-point is determined either using crystal violet as indicator or by a potentiometric method.

4 Reagents

During the analysis, use only reagents of recognized analytical grade.

4.1 Glacial acetic acid.

4.2 Acetic anhydride, purity > 96 %.

4.3 Chloroform.

4.4 Potassium hydrogen phthalate.

4.5 Crystal violet, indicator solution.

Dissolve 100 mg of crystal violet in 100 ml of glacial acetic acid (4.1).

4.6 Perchloric acid, 0,1 mol/l standard volumetric solution.