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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

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## **Rubber — Nitrile latex — Determination of residual acrylonitrile content**

*Caoutchouc — Latex de nitrile — Détermination de la teneur en acrylonitrile résiduel*

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Reference number  
ISO 3899 : 1988 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3899 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 3899 : 1976), of which it constitutes a minor revision.

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# Rubber — Nitrile latex — Determination of residual acrylonitrile content

## 1 Scope

This International Standard specifies a method for the determination of the residual acrylonitrile content of nitrile rubber latices which have a residual acrylonitrile content of less than 0,2 % (*m/m*).

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 123 : 1985, *Rubber latex — Sampling*.

ISO 1042 : 1983, *Laboratory glassware — One-mark volumetric flasks*.

## 3 Principle

Distillation of a test portion of latex and collection of the distillate in methanol. Addition of *n*-dodecyl mercaptan to the distillate and titration of the excess with a standard iodine solution.

## 4 Reagents

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

**WARNING** — All recognized health and safety precautions shall be taken when using the procedure specified in this International Standard.

**4.1 Silicone antifoaming agent**, which does not affect the result of the determination.

**4.2 Methanol**.

**4.3 Propan-2-ol**.

**4.4 Mercaptan solution**, 1,25 % (*m/m*) *n*-dodecyl mercaptan in propan-2-ol.

**4.5 Potassium hydroxide**, 6 % (*m/m*) solution in 95 % (*V/V*) ethanol. The ethanol shall be free from aldehydes.

**4.6 Acetic acid**, glacial.

**4.7 Iodine**, standard volumetric solution,  $c(I_2) = 0,0125 \text{ mol/dm}^3$ , freshly standardized with a standard reference solution of sodium thiosulfate.

## 5 Apparatus

Ordinary laboratory apparatus and

**5.1 Distillation apparatus**, consisting of distillation flask of capacity 500 cm<sup>3</sup>, stillhead, vertical water-cooled condenser and receiver of capacity 100 cm<sup>3</sup> with glass stopper through which pass a glass tube connected to the condenser and a shorter exit glass tube leading into a beaker of capacity 50 cm<sup>3</sup>.

**5.2 One-mark volumetric flask**, of capacity 100 cm<sup>3</sup>, conforming with the requirements of ISO 1042.

**5.3 Conical flask**, of capacity at least 250 cm<sup>3</sup>.