INTERNATIONAL STANDARD 125

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Rubber — Natural latex — Determination of alkalinity

Caoutchouc — Latex naturel — Détermination de l'alcalinité

Second edition — 1977-11-15

UDC 678.031.5 : 543.241.2 **Ref. No. ISO 125-1977 (E)**

Descriptors : rubber, latex, natural rubber, chemical analysis, determination of content, alkalinity.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

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.

International Standard ISO 125 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products.* This second edition incorporates the modifications set out in a draft Amendment circulated to the member bodies in August 1976.

This Amendment was approved by the member bodies of the following countries :

Austria	Hungary	Spain
Belgium	India	Sweden
Brazil	Italy	Turkey
Bulgaria	Netherlands	United Kingdom
Canada	New Zealand	U.S.A.
France	Poland	U.S.S.R.
Germany	Romania	

No member body expressed disapproval of the Amendment.

This second edition cancels and replaces the first edition (i.e. ISO 125-1974) which had been approved by the member bodies of the following countries :

Australia	India	Sri Lanka
Austria	Ireland	Sweden
Belgium	Korea, Rep. of	Switzerland
Chile	Malaysia	Turkey
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	U.S.A.
France	Romania	U.S.S.R.
Germany	South Africa, Rep. of	
Hungary	Spain	

No member body had expressed disapproval of the document.

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Printed in Switzerland

Rubber — Natural latex — Determination of alkalinity

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the alkalinity of natural rubber latex which contains preservative agents and which has been submitted to some type of concentration process.

The method is not necessarily suitable for latices from natural sources other than *Hevea brasiliensis* or for synthetic rubber latices, compounded latex, vulcanized latex or artificial dispersions of rubber.

2 REFERENCES

ISO 123, *Rubber latices — Sampling*.

ISO 976, *Rubber latices — Determination of pH.*

3 PRINCIPLE

Titration of latex to pH 6,0 in the presence of a stabilizer, either electrometrically or, alternatively, with methyl red as visual indicator, and calculation of its alkalinity from the quantity of acid which is required.

4 REAGENTS

Distilled water or water of equivalent purity shall be used wherever water is specified.

4.1 Stabilizer solution : 5 % (*m/m*) solution of a non-ionic stabilizer of the ethylene oxide condensate type. Before use, the pH of the solution shall be adjusted to a value of 6,0 ± 0,1.

The following reagents shall be of recognized analytical quality :

4.2 Sulphuric acid or **hydrochloric acid,** 0,1 N standard volumetric solution.

4.3 Methyl red, 0,1 % solution in ethanol of 95 % minimum purity.

This solution is not required when electrometric titration is used.

5 APPARATUS

The following apparatus is required when electrometric titration is used :

5.1 pH meter, equipped with glass electrode and saturated calomel cell, and capable of being read to 0,02 unit.

5.2 Glass electrode, of a type suitable for use in solutions of pH up to 12,0.

5.3 Mechanical stirrer, with earthed (grounded) motor and non-metallic paddle, or **magnetic stirrer.**

6 SAMPLING

Carry out the sampling in accordance with one of the methods specified in ISO 123.

7 PROCEDURE

Calibrate the pH meter using the method specified in ISO 976.

To about 200 ml of water contained in a 400 ml beaker add, while stirring, 10 ml of the stabilizer solution (4.1). Weighing to the nearest 10 mg, add by difference from a weighing bottle between 5 and 10 g of the latex and stir thoroughly.

Insert the electrodes and, with continual stirring, add from a burette 0,1 N sulphuric acid or hydrochloric acid solution (4.2) until the pH is reduced to a value of 6,0 ± 0,05. Add the acid drop by drop on approaching the end point.

As an alternative to electrometric titration, use methyl red (4.3) as visual indicator, taking the end point as the colour change to pink.

Carry out the determination in duplicate.