

International Standard



2005

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

Natural rubber latex concentrate — Determination of sludge content

Latex concentré de caoutchouc naturel — Détermination de la teneur en sédiment

Second edition — 1985-10-15

ITeH STANDARD PREVIEW
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ISO 2005:1985

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UDC 678.031 : 543.869

Ref. No. ISO 2005-1985 (E)

Descriptors : rubber, natural rubber, latex, concentrates, tests, determination of content, sediments.

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.

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 2005 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

ISO 2005 was first published in 1974. This second edition ~~cancels and replaces~~ the first edition, of which it constitutes a minor revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Natural rubber latex concentrate — Determination of sludge content

1 Scope and field of application

This International Standard specifies a method for the determination of the sludge content of natural rubber latex concentrate which contains preservative agents and which has been prepared by some type of concentration process.

The method is not necessarily suitable for latices from natural sources other than *Hevea brasiliensis*.

It is not suitable for compounded latex or vulcanized latex.

2 Reference

ISO 123, *Rubber latex — Sampling*.

3 Principle

A test portion is centrifuged and the resultant sludge washed repeatedly with ammonia-alcohol solution. The sludge is then dried to constant mass.

4 Reagents

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

Ammonia and alcohol, solution having the following composition:

— Ammonia hydroxide solution, ρ $0,90 \pm 0,02$ g/cm ³	10 cm ³
— Ethanol, 95 % (V/V) minimum purity	340 cm ³
— Water	1 000 cm ³

5 Apparatus

Ordinary laboratory apparatus and

5.1 Centrifuge, producing a mean acceleration of approximately $12\,000$ m/s² with two 50 cm³ conical centrifuge tubes.

5.2 Pipette, of suitable capacity, having an end opening of diameter approximately 2 mm.

6 Sampling

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

7 Procedure

Carry out the determination in duplicate, using the two centrifuge tubes (5.1) to counterbalance each other. Into each tube weigh, to the nearest $0,1$ g, between 40 and 45 g of latex concentrate. Treat each tube as follows:

Cover the end of the tube, to prevent formation of a surface skin during centrifuging, and centrifuge for 20 min at a mean acceleration of approximately $12\,000$ m/s². Scoop off most of the cream layer and, using the pipette (5.2), draw off the supernatant liquid to approximately 10 mm above the top of the sludge.

Fill the tube to the top with the ammonia-alcohol solution (clause 4), recentrifuge for 25 min, and pipette off the supernatant liquid to approximately 10 mm above the top of the sludge. Repeat this procedure until the supernatant liquid is clear after centrifuging.

Decant the supernatant solution to the 10 mm mark and transfer the sludge quantitatively, using some of the ammonia-alcohol solution, to a tared heat-resistant beaker of about 200 cm³ capacity. Evaporate to a low level and then dry at 70 ± 2 °C until the loss in mass is less than 1 mg during a period of 30 min.

8 Expression of results

Calculate the sludge content, as a percentage by mass, using the formula

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion ;

m_1 is the mass, in grams, of dried sludge.

A difference of 0,002 % (*m/m*) between the two results shall not be considered significant.

9 Test report

The test report shall include the following particulars :

- a) reference to this International Standard ;
- b) identification of the test sample ;
- c) the results and the method of expression used ;
- d) any unusual features noted during the determination ;
- e) any operation not included in this International Standard or in the International Standard to which reference is made, or regarded as optional.

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