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Natural rubber latex – Determination of sludge content

Latex de caoutchouc naturel – Détermination de la teneur en sédiment

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[ISO 2005:1974](https://standards.iteh.ai/catalog/standards/sist/871fe37e-c295-481c-aaaa-501f42851a48/iso-2005-1974)

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Descriptors : elastomers, natural rubber, latex, tests, physical tests, determination of content, impurities.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 45 has reviewed ISO Recommendation R 2005 and found it suitable for transformation. International Standard ISO 2005 therefore replaces ISO Recommendation R 2005-1971.

<https://standards.iteh.ai/catalog/standards/sist/871fe37e-c295-481c-aaaa-501812851e18/iso-2005-1971>

ISO Recommendation R 2005 was approved by the Member Bodies of the following countries :

Australia	India	Sri Lanka
Austria	Israel	Sweden
Egypt, Arab Rep. of	Italy	Switzerland
France	Malaysia	Turkey
Germany	New Zealand	United Kingdom
Greece	South Africa, Rep. of	U.S.A.
Hungary	Spain	U.S.S.R.

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 2005 into an International Standard.

Natural rubber latex – Determination of sludge content

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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the sludge content 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*.

It is not suitable for compounded latex or vulcanized latex.

2 REFERENCE

ISO 123, *Rubber latex – Sampling*.

3 PRINCIPLE

Centrifuging of the latex and repeated washing of the resultant sludge with ammonia-alcohol solution. Drying of the sludge to constant mass.

4 REAGENT

Ammonia-alcohol solution of the following composition :

- Ammonium hydroxide, ρ $0,90 \pm 0,02$ g/ml 10 ml
- Ethanol, 95 % (V/V) minimum purity 340 ml
- Water 1 000 ml

The ammonium hydroxide shall be of recognized analytical reagent quality and the water used shall be distilled or of equivalent purity.

5 APPARATUS

Centrifuge producing a mean acceleration of approximately $12\,000\text{ m/s}^2$ with two 50 ml conical centrifuge tubes.

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 to counterbalance each other. Into each tube weigh, to the nearest 0,1 g, between 40 and 45 g of latex. 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 $12\,000\text{ m/s}^2$. Scoop off most of the cream layer and, using a pipette with an end opening of about 2 mm, draw off the supernatant latex to approximately 10 mm above the top of the sludge.

Fill the tube to the top with the ammonia-alcohol solution, 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 ml capacity. Evaporate to a low level and then dry at $70 \pm 2^\circ\text{C}$ until the loss in mass is less than 1 mg during a period of 30 min.

8 EXPRESSION OF RESULTS

The sludge content is given, as a percentage by mass, by 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 % between the two results is not considered significant.

9 TEST REPORT

The test report shall include the following particulars :

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

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