
**Rubber and rubber additives —
Determination of total nitrogen content
using an automatic analyser**

*Caoutchouc et additifs pour caoutchouc — Dosage de l'azote total à l'aide
d'un analyseur automatique*

Sample Document

get full document from standards.iteh.ai



Reference number
ISO 15672:2000(E)

© ISO 2000

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

Sample Document

get full document from standards.iteh.ai

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15672 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analyses*.

Sample Document

get full document from standards.iteh.ai

Sample Document

get full document from standards.iteh.ai

Rubber and rubber additives — Determination of total nitrogen content using an automatic analyser

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This International Standard specifies an instrumental (automatic analyser) method for the determination of total nitrogen in rubber and rubber additives.

2 Terms and definitions

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

2.1

sample

unit selected to represent the material to be analysed

2.2

test portion

actual material used in the analysis

2.3

control sample

material with a recognized level of nitrogen, analysed with each set of test portions

3 Principle

3.1 Specified is a reliable, rapid, instrumental (automatic) method for determining total nitrogen in rubber and rubber additives. The nitrogen is determined by a single instrumental procedure consisting of weighing a test portion, placing it in the instrument and initiating the (subsequently automatic) analytical process. The analysis may be controlled manually to a limited degree, and a capability to perform computations automatically may be provided by the instrument used to perform the analysis.

3.2 The actual process can vary substantially from instrument to instrument because a variety of means can be used to meet the primary requirements of the method. The method includes the following:

- a) conversion of nitrogen-containing materials to nitrogen oxides in an oxygen stream;
- b) reduction of the nitrogen oxides to elemental nitrogen by passing them over copper at an elevated temperature;
- c) determining the nitrogen by one of three detection schemes.

3.3 In the **thermal conductivity detection** configuration, the combustion gases are conducted through a series of thermal conductivity detectors and gas absorbers aligned so that the gases pass first through the sample side of a water vapour detector, through a water vapour absorber and through the reference side of the detector. The gases are then conducted through the sample side of a carbon dioxide detector, through a carbon dioxide absorber and