



BSI Standards Publication

Rubber — Determination of total sulfur content by ion chromatography

National foreword

This British Standard is the UK implementation of [ISO 19242:2021](#). It supersedes [BS ISO 19242:2015](#), which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/22, Testing and analysis of rubber.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Second edition
2021-10-07

Rubber — Determination of total sulfur content by ion chromatography

*Caoutchouc — Détermination de la teneur en soufre total par
chromatographie ionique*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

This second edition cancels and replaces the first edition ([ISO 19242:2015](http://www.iso.org/iso/19242:2015)), of which it constitutes a minor revision. The main changes compared to the previous edition are as follows:

- the CAS numbers have been added for all chemicals listed in this document;
- [Clause 3](#) on “Terms and definitions” has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Titration methods using thiorin, a toxic arsenic compound as a reagent, have been used to determine the total sulfur content in raw rubber and rubber compounds. In this document, the sulfur in a test piece is burnt and oxidized to sulfur dioxide, which is then absorbed into a hydrogen peroxide solution and converted to sulfuric acid for determination by ion chromatography.

No hazardous reagents are required, thus improving the working environment as well as being eco-friendly. In addition, ion chromatography is used worldwide for its simplicity and high accuracy.

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