

Methods for

Chemical analysis of rubber —

Part 2: EDTA titrimetric method for
determination of zinc content of rubber
products

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Cooperating organizations

The Rubber Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- British Association of Synthetic Rubber Manufacturers*
- British Rubber Manufacturers' Association*
- Department of Industry (Chemicals and Textiles)
- Medical Sterile Products Association
- Ministry of Defence*
- Plastics and Rubber Institute
- Rubber and Plastics Research Association of Great Britain*
- Rubber Growers' Association
- Society of Motor Manufacturers and Traders Limited
- The Malaysian Rubber Producers' Research Association*

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Chemical Society, Analytical Division
- Electric Cable Makers' Confederation
- Institution of Water Engineers and Scientists
- National College of Rubber Technology
- Individual expert

This British Standard, having been prepared under the direction of the Rubber Standards Committee, was published under the authority of the Executive Board and comes into effect on 30 June 1980

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The following BSI references relate to the work on this standard:
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Contents

	Page
Cooperating organizations	Inside front cover
Foreword	ii
1 Scope and field of application	1
2 References	1
3 Principle	1
4 Reagents	1
5 Apparatus	2
6 Procedure	2
7 Expression of results	2
8 Test report	3
Publications referred to	Inside back cover

Foreword

This Part of BS 5923 has been prepared under the direction of the Rubber Standards Committee.

In the past, methods for the chemical analysis of different types of rubber were published, as appropriate, in the "B series" of BS 903 *"Methods of testing vulcanized rubber"* and in BS 1673 *"Methods for testing raw rubber and unvulcanized compounded rubber"*. However, in many cases the methods for the various types of material are very similar. In the work of Technical Committee 45, Rubber and rubber products, of the International Organization for Standardization (ISO), this has led to the preparation of International Standards for methods for the chemical analysis of rubber of general applicability; in order to facilitate the adoption of these as British Standards and to simplify the general presentation of methods for the chemical analysis of rubber, it has been decided to publish this new British Standard. As further Parts of BS 5923 are published, they will replace any corresponding methods in BS 903 and BS 1673, so that the BS 903 "B series" and the appropriate parts of BS 1673 will eventually be withdrawn completely. This Part supersedes section 4 of BS 903-B13 *"Determination of ash and zinc oxide"*; the remaining sections of BS 903-B13 are superseded by BS 5923-1.

This Part is based on ISO 2454:1976, with the inclusion of some technical and editorial changes in the text. The major changes are listed below and are indicated by a vertical line in the margin.

Clause reference Textual change

- | | |
|-------------|---|
| 6.1 | In this British Standard, a reference to BS 5923-1 has been substituted for the reference to ISO 247:1978. BS 5923-1 is identical with ISO 247:1978. |
| 4 | In ISO 2454:1976 some of the reagents are listed in a different order as follows:
4.11 EDTA (<i>disodium salt</i>)
4.12 Zinc chloride
4.13 Dithizone indicator |
| 4.13 | The note in this British Standard is not included in ISO 2454:1976. |
| 6.2 | The instructions in the first paragraph have been extended. In ISO 2454:1976, the end of the first paragraph reads: ". add 2 ml of the sulphuric acid (4.4) and ash in the muffle furnace (5.1), maintained at 550 ± 25 °C.
In the second sentence of the second paragraph, the words "in a fume cupboard" have been added after "Evaporate the hydrofluoric acid".
In the fourth sentence of the second paragraph, ISO 2454:1976 refers, incorrectly, to the evaporation of "hydrochloric" acid. |
| 6.3 | In ISO 2454:1976, the second sentence of the third paragraph begins, incorrectly, with the word "Acidity". |

The changes in clauses in **4**, **6.2** and **6.3** have been proposed by the United Kingdom as amendments to the ISO text.

The method described in BS 903-B13 involved titration with EDTA solution but the procedure described in this revision differs substantially.