

ICS 83.060

CCS G 40



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41946-2022

**Rubber - Determination of total sulfur content - Ion
chromatography method**

Issued on: December 30, 2022

Implemented on: April 1, 2023

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

foreword

1 Scope

2 Normative references

3 Terms and Definitions

4 principles

4.1 Combustion

foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is equivalent to ISO 19242:2021 "Determination of Total Sulfur Content by Ion Chromatography in Rubber".

The following minimal editorial changes have been made to this document.

--- In order to coordinate with the national standard, change the name of the standard to "Ion Chromatography for Determination of Total Sulfur Content in Rubber".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document describes a method for the determination of the total sulfur content of raw and vulcanized rubber or rubber mixes by ion chromatography, in which the sample solution is passed through a tube furnace

Combustion method or oxygen bottle combustion method.

The tube furnace combustion method is suitable for rubber samples with a total sulfur content of less than 0.1%, because the determination results of the oxygen bottle combustion method may not be accurate enough.

The oxygen bottle combustion method is not suitable for rubber containing metal salts and forming insoluble metal sulfates [such as barium sulfate (CAS7727-43-7)].

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

Note. GB/T 15340-2008 Natural and synthetic raw rubber sampling and sample preparation method (ISO 1795.2000, IDT)

and test methods)

Note. GB/T 6682-2008 Analytical Laboratory Water Specifications and Test Methods (ISO 3696.1987, MOD)

ISO 4661-2 Preparation of samples and test pieces of vulcanized rubber or thermoplastic rubber - Part 2. Chemical tests (Rubber, vulcan-

Note. Preparation of GB/T 17783-2019 Vulcanized Rubber or Thermoplastic Rubber Chemical Test Samples and Test Specimens (ISO 4661-2.2018, MOD)

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4.1.1 Tube furnace combustion method

Put the sample into a tube furnace with electric heating and burn it in oxygen (CAS 7782-44-7). The sulfur in the sample is oxidized to sulfur dioxide