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# Solid mineral fuels — Determination of Chlorine content

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**National foreword**

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The UK participation in its preparation was entrusted to Technical Committee PTI/16, Solid mineral fuels.

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

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Published by BSI Standards Limited 2015

ISBN 978 0 580 83267 3  
ICS 75.160.10

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 1 January 2015.

**Amendments/corrigenda issued since publication**

Date	Text affected
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TECHNICAL  
SPECIFICATION

**ISO/TS**  
**18806**

First edition  
2014-12-15

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**Solid mineral fuels — Determination  
of Chlorine content**

*Combustibles minéraux solides — Dosage de la teneur en chlore*



Reference number  
ISO/TS 18806:2014(E)

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Published in Switzerland

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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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 27, *Solid mineral fuels*, Subcommittee SC 5, *Methods of Analysis*.

# Solid mineral fuels — Determination of Chlorine content

## 1 Scope

This Technical Specification specifies two methods (high temperature combustion and bomb combustion) for the determination of chlorine in solid mineral fuels. It is applicable to hard coals, brown coals, coke, and tailings.

The chlorine in the digestion solution can be determined using different methods, e.g. an ion selective electrode, coulometric or potentiometric titration, spectrophotometry, or ion chromatography. In this Technical Specification, the ion chromatographic separation with conductivity detection is described.

The method is applicable to determine the chlorine content higher than 0,005 per cent mass fraction.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 687, *Solid mineral fuels — Coke — Determination of moisture in the general analysis test sample*

ISO 1170, *Coal and coke — Calculation of analyses to different bases*

ISO 1213-2, *Solid mineral fuels — Vocabulary — Part 2: Terms relating to sampling, testing and analysis*

ISO 5068-2, *Brown coals and lignites — Determination of moisture content — Part 2: Indirect gravimetric method for moisture in the analysis sample*

ISO 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ISO 11722, *Solid mineral fuels — Hard coal — Determination of moisture in the general analysis test sample by drying in nitrogen*

EN ISO 10304-1, *Water analysis — Determination of dissolved anions by liquid chromatography of ions — Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1213-2 apply.

## 4 Principle

### 4.1 Method A — High temperature combustion in oxygen

The sample is combusted at high temperature in an oxygen atmosphere. The gaseous combustion products including the formed chloride are collected in a trap filled with water, in which they are dissolved.

### 4.2 Method B — Bomb combustion

The sample is combusted in a high pressure bomb in an oxygen atmosphere. The formed chloride is collected in an absorption solution inside the bomb.