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**Brown coals and lignites —  
Determination of humic acids**

*Charbons bruns et lignites — Dosage des acides humiques*

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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)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 27, *Coal and Coke*, Subcommittee SC 5, *Methods of analysis*.

This fourth edition cancels and replaces the third edition (ISO 5073:2013), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- referenced documents have been updated;
- terms and definitions have been added;
- sample has been added;
- determination of humic acids in extracts has been amended;
- calculation and expression of results have been amended;
- precision has been amended;
- test report has been amended;
- [Annex A](#) has been amended.

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](http://www.iso.org/members.html)

## Introduction

In this document, humic acids are determined by the volumetric method with titration of extracts.

The test is empirical and, in order to ensure reproducible results, it is essential that the composition of the extraction solution, the temperature and the time of extraction be carefully controlled. The value 0,59, which is the average ratio of carbon content of humic acids for many brown coals and lignites, has been proved to be applicable. Another value may also be used, predetermined as described in [Annex A](#), and applicable to different countries or locations.

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