

Workplace air — Determination of metals and metalloids in airborne particulate matter by inductively coupled plasma atomic emission spectrometry —

Part 1: Sampling

ICS 13.040.30

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

National foreword

This British Standard reproduces verbatim ISO 15202-1:2000 and implements it as the UK national standard.

The UK participation in its preparation was entrusted by Technical Committee EH/2, Air quality, to Subcommittee EH/2/2, Workplace atmospheres, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to v, a blank page, pages 1 to 17 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

This British Standard, having been prepared under the direction of the Health and Environment Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 April 2000

© BSI 04-2000

ISBN 0 580 34584 X

Amendments issued since publication

Amd. No.	Date	Comments

**Workplace air — Determination of metals
and metalloids in airborne particulate
matter by inductively coupled plasma
atomic emission spectrometry —**

**Part 1:
Sampling**

*Air des lieux de travail — Détermination des métaux et métalloïdes dans
les particules en suspension dans l'air par spectrométrie d'émission
atomique avec plasma à couplage inductif —*

Partie 1: Échantillonnage



Reference number
ISO 15202-1:2000(E)



Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Principle	5
5 Requirement	5
6 Sampling equipment	5
7 Occupational exposure assessment	7
8 Sampling method	9
9 Documentation	12
Annex A (informative) Guidance on filter selection	14
Annex B (informative) Temperature and pressure correction for the indicated volumetric flow rate	16
Bibliography	17

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 15202 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15202-1 was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 2, *Workplace atmospheres*.

ISO 15202 consists of the following parts, under the general title *Workplace air — Determination of metals and metalloids in airborne particulate matter by inductively coupled plasma atomic emission spectrometry*:

- *Part 1: Sampling*
- *Part 2: Sample preparation*
- *Part 3: Analysis*

Annexes A and B of this part of ISO 15202 are for information only.

Introduction

The health of workers in many industries is at risk through exposure by inhalation of toxic metals and metalloids. Industrial hygienists and other public health professionals need to determine the effectiveness of measures taken to control workers' exposure, and this is generally achieved by taking workplace air measurements. This part of ISO 15202 has been published in order to make available a method for making valid exposure measurements for a wide range of metals and metalloids in use in industry. It will be of benefit to: agencies concerned with health and safety at work; industrial hygienists and other public health professionals; analytical laboratories; industrial users of metals and metalloids and their workers, etc.

This part of ISO 15202 specifies a generic method for determination of the mass concentration of metals and metalloids in workplace air using inductively coupled plasma atomic emission spectrometry (ICP-AES).

This part of ISO 15202 gives details of relevant International, European and National Standards which specify characteristics, performance requirements and test methods relating to sampling equipment. It augments guidance provided elsewhere on assessment strategy and measurement strategy, and specifies a method for collecting samples of airborne particulate matter for subsequent chemical analysis.

Part 2 of ISO 15202 describes a number of procedures for preparing sample solutions for analysis by ICP-AES.

Part 3 of ISO 15202 gives requirements and test methods for analysis of sample solutions by ICP-AES.

It has been assumed in the drafting of this part of ISO 15202 that the execution of its provisions, and the interpretation of the results obtained, is entrusted to appropriately qualified and experienced people.

