



DPC: 25/30476628 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 11 August 2025

Origin: International

Latest date for receipt of comments: 04 October 2025

Project No. 2023/01508

Responsible committee: PTI/15 Natural Gas and Gas Analysis

Interested committees:

Title: Draft BS ISO 23219 Natural gas — Format for data from gas chromatograph analysers for natural gas — XML file format.

Please notify admin.start@bsigroup.com if you are aware of any keywords that might assist in clarifying or identifying the standard or of the content of this standard:

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND 04 October 2025

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <https://standardsdevelopment.bsigroup.com/>.

E-mail: admin.start@bsigroup.com

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 23219

Natural gas — Format for data from gas chromatograph analysers for natural gas — XML file format

*Gaz naturel — Format pour les données des analyseurs de
chromatographie en phase gazeuse pour le gaz naturel —
Format de fichier XML*

ICS: 75.060; 35.240.50

ISO/TC 193

Secretariat: **NEN**

Voting begins on:
2025-08-11

Voting terminates on:
2025-11-03

This document is circulated as received from the committee secretariat.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENTS AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

Reference number
ISO/DIS 23219:2025(en)

Full document details: 25/30476628 DC

© ISO 2025  **Documents**
Document Sharing Hub



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Basic instructions	1
4.1 Syntax	1
4.2 Element names	1
4.3 Attributes	1
4.4 Element data	2
4.5 Schema	2
4.6 Date and time	2
4.7 Numeric datatype	2
4.8 Units	3
4.9 Component data	3
4.10 Components names	3
4.11 Properties	3
4.12 Example keywords	3
4.13 Checksum	3
4.14 Software	3
5 General comments to keywords and units	3
Annex A (normative) XML tags	5
Annex B (informative) Software suitable for XML file processing	19
Annex C (informative) International Chemical Identifier (InChI)	23
Bibliography	25

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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.

This document was prepared by Technical Committee ISO /TC 193, Natural gas .

This second edition cancels and replaces the first edition(ISO 23219:2022), which has been technically revised.

The main changes are as follows:

- Added XML tags for the determination of sulfur compounds by gas chromatography to the text and [Annex A](#).
- Removed [Annex B, C, D](#) from first edition and converted into XML file in the ISO portal in electronic format.
- Added 2 parts 'Example of a gas certificate for sulfur compound analysis' and 'Example of sulfur compound analysis' into XML file in the ISO portal in electronic format.
- Updated [Annex B](#) of second edition, Software suitable for XML file processing, based on the addition of XML tags for sulfur compound analysis.
- Added InChI information for several sulfur compounds in [Annex C](#) of second edition.

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.

Introduction

There are multiple suppliers of analysers for measurement of natural gas composition and sulfur compounds. If correctly set up, there is no reason to prefer any one in particular, since they give comparable results. However, the situation gives rise to a variety of methods of reporting data, which can create confusion over the use of such data for off-line calculation of properties or evaluation of analyser performance.

Therefore, a uniform method of data presentation, independent of the source of the analyser, as presented in this document is considered valuable.

Natural gas — Format for data from gas chromatograph analysers for natural gas — XML file format

1 Scope

This document specifies a text file format - XML file format - for reporting natural gas analysis results and other data relevant to natural gas, natural gas substitutes and other combustible gaseous fuels. The file name is applicable when it includes the extension of .XML (case insensitive).

The XML file format is useful for output from, for example, ISO 6974-1^[1] for composition, ISO 19739^[2] for sulfur compounds, and ISO 6974-2^[3] for uncertainty, as input for ISO 6976^[4] for properties calculation or ISO 10723^[5] for performance evaluation. Typically, these would be the gas composition as provided on an analysis certificate. It can also be used for the results of properties calculation or a performance evaluation that would be read into an Excel spreadsheet for data processing.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8601, *Date and time — Representations for information interchange — Part 1: Basic rules*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org>

4 Basic instructions

4.1 Syntax

XML is composed of a hierarchical structure of elements which contain text data; elements are defined by an opening tag – the element name enclosed in angular bracket, e.g. <value> and a closing tag with / in front of the element name, e.g. </value>

4.2 Element names

Element names shall be lowercase (including inchi, which is usually written as InChI).

Any multiple word element names shall be concatenated with underscore, e.g. <retention_time>

In general element names should be complete words, rather short forms or acronyms.

4.3 Attributes

Tags shall not contain attributes, i.e. do not use:

```
<amount value="391.043">
<units>
<unit>mg/m3</unit>
<reference_conditions>....</reference_conditions>
</units>
</amount>
```

Use:

```
<amount>
<value>391.043</value>
<units>
<unit>mg/m3</unit>
<reference_conditions>....</reference_conditions>
</units>
</amount>
```

4.4 Element data

The text content of elements, e.g. keywords, are case insensitive, and leading and/or trailing spaces are ignored.

4.5 Schema

The format of the XML file is defined in the schema given in [Annex A](#).

The element names in the tags defined in the schema are case sensitive (they are all lowercase) and have no leading or trailing spaces. The tags have no attributes, i.e. no name="value" within the tag.

4.6 Date and time

Date and time are tagged <date_time> and shall use the convention specified in ISO 8601, e.g. <date_time>2018-07-10T13:59:00+01</date_time>

This data may be used for

- date & time of sample registration,
- date & time when the results were produced,
- date & time when the results were validated, or
- date & time when the report was issued.

4.7 Numeric datatype

The numeric datatype Decimal (type xs:decimal or xs:float/xs:double) shall be chosen. Numbers shall not contain spaces and shall use a period as the decimal separator; they shall not use grouping of digits, i.e. no thousands separator (e.g. comma). E-notation shall be used for powers of 10, e.g. 34, 12.3, -3.4567, 5.6E3 and 7.8E-2