
**Iron ores — Determination of total
iron content —**

**Part 2:
Titrimetric methods after
titanium(III) chloride reduction**

Minerais de fer — Dosage du fer total —

*Partie 2: Méthodes titrimétriques après réduction au chlorure de
titane(III)*

*iTeh Standards
(<https://standards.iteh.ai>)
Document Preview*

ISO 2597-2:2019

<https://standards.iteh.ai/catalog/standards/iso/636bf9bf-e18b-498f-8e36-338f613fe8ca/iso-2597-2-2019>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 2597-2:2019](https://standards.iteh.ai/catalog/standards/iso/636bf9bf-e18b-498f-8e36-338f613fe8ca/iso-2597-2-2019)

<https://standards.iteh.ai/catalog/standards/iso/636bf9bf-e18b-498f-8e36-338f613fe8ca/iso-2597-2-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

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
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
4.1 Decomposition of the test portion.....	2
4.1.1 Acid decomposition.....	2
4.1.2 Fusion-filtration.....	2
4.2 Titration of iron.....	2
5 Reagents	2
6 Apparatus	4
7 Sampling and samples	4
7.1 Laboratory sample.....	4
7.2 Preparation of test samples.....	5
7.2.1 General.....	5
7.2.2 Ores having significant contents of combined water or oxidizable compounds.....	5
7.2.3 Ores outside the scope of 7.2.2	5
8 Procedure	5
8.1 Number of determinations.....	5
8.2 Blank test and check test.....	5
8.3 Determination of hygroscopic moisture content.....	6
8.4 Test portion.....	6
8.5 Determination.....	6
8.5.1 Decomposition of the test portion.....	6
8.5.2 Reduction.....	7
9 Expression of results	8
9.1 Calculation of total iron content.....	8
9.2 General treatment of results.....	9
9.2.1 Repeatability and permissible tolerance.....	9
9.2.2 Determination of analytical result.....	10
9.2.3 Between-laboratories precision.....	10
9.2.4 Check for trueness.....	10
9.2.5 Calculation of final result.....	11
9.2.6 Oxide factors.....	12
10 Test report	12
Annex A (normative) Flowsheet of the procedure for the acceptance of analytical values for test samples	13
Annex B (normative) Procedure of Japanese weighing method	14
Bibliography	15

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).

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).

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 102, *Iron ore and direct reduced iron*, Subcommittee SC 2, *Chemical analysis*.

This third edition cancels and replaces the second edition (ISO 2597-2:2015), which has been technically revised with the following changes:

- the Scope has been reworded to describe the second method using perchloric acid;
- a terms and definitions clause has been added as [Clause 3](#) and the subsequent clauses have been renumbered accordingly;
- in [4.2](#) (previously 3.2) a description of the second method using perchloric acid has been added;
- in the second paragraph of [4.1.1](#) (previously 3.1.1), “water more hydrochloric acid” has been replaced with “water and hydrochloric acid”;
- in [5.19](#) (previously 4.19), “5,58” has been replaced with “7,978 1”;
- [Clause 5](#), potassium disulfate ($K_2S_2O_7$) has been added as a reagent ([5.23](#));
- in the sixth paragraph of [8.5.1.1](#) (previously 7.5.1.1), “4.20” has been replaced with “[5.23](#)”;
- in the description for V_1 in [9.1](#) (previously 8.1), “4.13” has been replaced with “[5.20](#)”;
- in [9.2.4](#) (previously 8.2.4), [Formula \(8\)](#) and the relevant descriptions have been modified to harmonize this subclause across all International Standards for which ISO/TC 102/SC 2 is responsible.

A list of all parts in the ISO 2597 series can be found on the ISO website.

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.