
**Coffee extracts — Determination
of the dry matter content of coffee
extracts — Sea sand method of liquid
or pasty coffee extracts**

*Extraits de café — Détermination de la teneur en matière sèche des
extraits de café — Méthode à sable de Fontainebleau pour les extraits
de café liquides ou en pâte*

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

ISO 22994:2021

<https://standards.iteh.ai/catalog/standards/iso/2d95a204-3813-4594-b58f-e47749822775/iso-22994-2021>



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

ISO 22994:2021

<https://standards.iteh.ai/catalog/standards/iso/2d95a204-3813-4594-b58f-e47749822775/iso-22994-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

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
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagents	1
6 Apparatus	2
7 Sample preparation	2
8 Procedure	2
9 Calculation	2
10 Repeatability	3
11 Test report	3
Bibliography	4

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

ISO 22994:2021

<https://standards.iteh.ai/catalog/standards/iso/2d95a204-3813-4594-b58f-e47749822775/iso-22994-2021>

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 34, *Food products*, Subcommittee SC 15, *Coffee*.

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.

<https://standards.iteh.ai/catalog/standards/iso/2d95a204-3813-4594-b58f-e47749822775/iso-22994-2021>

Coffee extracts — Determination of the dry matter content of coffee extracts — Sea sand method of liquid or pasty coffee extracts

1 Scope

This document specifies requirements for the determination of the dry matter content of liquid or pasty coffee extracts by means of the sea sand method.

It is applicable to liquid or pasty coffee extracts. The method is intended as a routine method.

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 3696, *Water for analytical laboratory use — Specification and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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 <http://www.electropedia.org/>

3.1

liquid or pasty coffee extracts

liquid and pasty coffee extract forms only differ in the concentration of the soluble solids and the effect of this difference on the viscosity of the product.

3.2

dry matter content of liquid or pasty coffee extracts

dry residue remaining after vaporization of the volatile substances using the method described in this document

4 Principle

The sample is mixed with sea sand and dried in a vacuum oven at 70 °C for 16 h. The mass loss is determined by weighing.

5 Reagents

Use only reagents of recognised analytical grade, unless otherwise specified.

5.1 Water, grade 1 in accordance with ISO 3696.

5.2 Sea sand, analytical grade, acid cleaned and annealed.

6 Apparatus

Usual laboratory apparatus and, in particular, the following.

6.1 Analytical balance, capable of weighing to an accuracy of 0,1 mg.

6.2 Vacuum oven.

6.3 Weighing vessel, low type, with a lid, approximated 80 mm in diameter, or suitable metal trays.

NOTE While grinded lids are normally used for weighing vessels, a tightly attached watch glass or equivalent is sufficient for metal vessels.

6.4 Dessicator, capable of taking up an appropriate number of weighing vessels (6.3).

6.5 Stirring rod.

7 Sample preparation

A representative sample thoroughly homogenized, undamaged and unchanged by transport or storage shall be used.

Liquid or pasty coffee extract is usually distributed in a frozen state (below –18 °C).

After defrosting and heating to room temperature, suitable measures (shaking, stirring, etc.) are used to prepare a laboratory sample which also contains those dry matter components still insoluble at room temperature.

8 Procedure

Place 25 g to 30 g of sea sand (5.2) in the weighing vessel or metal tray (6.3), respectively, together with a stirring rod fits into the weighing vessel. After drying to constant weight in a vacuum oven (6.2), during which the lid also remains in the vacuum oven, place the lid on the weighing vessel and cool in a desiccator (6.4). Then weigh the weighing vessel including lid (6.3), stirring rod (6.5) and sea sand (5.2).

For analysis, weigh a sample of liquid or pasty coffee extract that corresponds to a dry matter content of 0,1 g to 1,0 g. Mix sea sand (5.2) and coffee extract thoroughly. If proper mixing is not possible, some water (5.1) may be added. Then heat the mixture over a bath of hot water or steam while stirring occasionally until a completely homogenous sandy powder is obtained. The formation of lumps or crusts shall be avoided by constant stirring or crushing. Then dry the mixture in the vacuum oven for (6.2) for 16 h at $(70 \pm 2) ^\circ\text{C}$. The pressure is approximately 131 mbar. The lid of the weighing vessel also remains in the vacuum oven - the lid of weighing vessel remains open in the vacuum oven during drying-. After completion of the drying process, close the weighing vessel, place it in a desiccator to cool and weigh it after cooling.

9 Calculation

The dry matter content of the sample (mass fraction) w_t , in g/100 g, is calculated by using [Formula \(1\)](#):

$$w_t = \frac{(m_A - m_L) \cdot 100}{m_E} \quad (1)$$