SLOVENSKI STANDARD
SIST EN ISO 10399:2018

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Nadomešča:
SIST EN ISO 10399:2010

Senzorična analiza - Metodologija - Preskus "duo-trio" (ISO 10399:2017)

Sensory analysis - Methodology - Duo-trio test (ISO 10399:2017)

Analyse sensorielle - Méthodologie - Essai duo-trio (ISO 10399:2017)

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(ISO 10399:2017)

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European foreword

This document (EN ISO 10399:2018) has been prepared by Technical Committee ISO/TC 34 "Food products".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

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

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The text of ISO 10399:2017 has been approved by CEN as EN ISO 10399:2018 without any modification.

INTERNATIONAL STANDARD

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Analyse sensorielle — Méthodologie — Essai duo-trio

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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).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 12, *Sensory analysis*.

This third edition cancels and replaces the second edition (ISO 10399:2004), of which it constitutes a minor revision. The references have been updated, the definition for 3.6 has been replaced and an expression in A.3 has been corrected.

Sensory analysis — Methodology — Duo-trio test

1 Scope

This document specifies a procedure for determining whether a perceptible sensory difference or similarity exists between samples of two products. The method is a forced-choice procedure. The method is applicable whether a difference exists in a single sensory attribute or in several attributes.

The method is statistically less efficient than the triangle test (described in ISO 4120) but is easier to perform by the assessors.

The method is applicable even when the nature of the difference is unknown (i.e. it determines neither the size nor the direction of difference between samples, nor is there any indication of the attribute(s) responsible for the difference). The method is applicable only if the products are fairly homogeneous.

The method is effective for

a) determining that

   1) either a perceptible difference results (duo-trio testing for difference), or

   2) a perceptible difference does not result (duo-trio testing for similarity) when, for example, a change is made in ingredients, processing, packaging, handling or storage, and

b) for selecting, training and monitoring assessors.

Two forms of the method are described:

— the constant-reference technique, used when one product is familiar to the assessors (e.g. a sample from regular production);

— the balanced-reference technique, used when one product is not more familiar than the other.

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 5492, *Sensory analysis — Vocabulary*

ISO 8589, *Sensory analysis — General guidance for the design of test rooms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5492 and the following apply.

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
alpha-risk
***α*-risk**
probability of concluding that a perceptible *difference* (3.3) exists when one does not

Note 1 to entry: This is also known as Type I error, significance level or false positive rate.

3.2
beta-risk
***β*-risk**
probability of concluding that no perceptible *difference* (3.3) exists when one does

Note 1 to entry: This is also known as Type II error or false negative rate.

3.3
difference
situation in which *samples* (3.5) can be distinguished based on their sensory properties

Note 1 to entry: The proportion of assessments in which a perceptible difference is detected between the two products is given the symbol p_d.

3.4
product
material to be evaluated

3.5
sample
unit of *product* (3.4) prepared, presented and evaluated in the test

3.6
sensitivity
< statistic> statistical parameters that measure the performance characteristics of the test

Note 1 to entry: In statistical terms, the sensitivity of the test is defined by the values of α, β and p_d.

3.7
similarity
situation in which any perceptible *differences* (3.3) between the *samples* (3.5) are so small that the *products* (3.4) can be used interchangeably

3.8
triad
three *samples* (3.5) given to an assessor in the duo-trio test

Note 1 to entry: In the duo-trio test, one sample is labelled as the reference, the other two are marked with different codes. One of the coded samples is the same product as the reference; the other coded sample is the other product in the test.

4 Principle

The number of assessors is chosen based on the sensitivity desired for the test (see 6.2 and the discussion in A.3).

Assessors receive a set of three samples (i.e. a triad), one sample of which is labelled as a reference and the other two samples have different codes. The assessors are informed that one of the coded samples is the same as the reference and that one is different. Based on their training and the instructions given prior to the test, the assessors report either which of the coded samples they believe to be same as the reference, or which of the coded samples they believe to be different from the reference.

The number of correct responses is counted and the significance is determined by reference to a statistical table.

