Sensory analysis - Selection and training of sensory assessors (ISO 8586:2023)



### EESTI STANDARDI EESSÕNA

### NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 8586:2023 sisaldab Euroopa standardi EN ISO 8586:2023 ingliskeelset teksti.

This Estonian standard EVS-EN ISO 8586:2023 consists of the English text of the European standard EN ISO 8586:2023.

Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.

This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.

Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.04.2023.

Date of Availability of the European standard is 26.04.2023.

Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.

The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile <u>standardiosakond@evs.ee</u>.

ICS 03.100.30, 67.240

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis-ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht <a href="https://www.evs.ee">www.evs.ee</a>; telefon 605 5050; e-post <a href="mailto:info@evs.ee">info@evs.ee</a>

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

# EUROPEAN STANDARD

# **EN ISO 8586**

# NORME EUROPÉENNE EUROPÄISCHE NORM

April 2023

ICS 67.240; 03.100.30

Supersedes EN ISO 8586:2014

**English Version** 

# Sensory analysis - Selection and training of sensory assessors (ISO 8586:2023)

Analyse sensorielle - Sélection et entraînement des sujets sensoriels (ISO 8586:2023)

Sensorische Analyse - Auswahl und Schulung von Prüfpersonen (ISO 8586:2023)

This European Standard was approved by CEN on 24 March 2023.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## **European foreword**

This document (EN ISO 8586:2023) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with CCMC.

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 October 2023, and conflicting national standards shall be withdrawn at the latest by October 2023.

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.

This document supersedes EN ISO 8586:2014.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

### **Endorsement notice**

The text of ISO 8586:2023 has been approved by CEN as EN ISO 8586:2023 without any modification.

Co	ntent	SS .	Page
Fore	eword		<b>v</b>
Intr	oductio	011	vii
1	Scor	D <b>e</b>	1
2		native references	
3		ns and definitions	
4		ruitment and preselection of subjects	
	4.1 4.2	General Recruitment	
	4.2	4.2.1 General	
		4.2.2 Recruitment conditions	
		4.2.3 Types of recruitment	
		4.2.4 Advantages and disadvantages of internal and external recruitment	
		4.2.5 Number of persons to be selected	
	4.3	Background information and preselection	
	110	4.3.1 Initial aspects	
		4.3.2 Health and psychological criteria	
		4.3.3 Other factors	
5	Conc	sory screening	
5	5.1	General	
	5.2	Types of screening tests	
	5.3	Colour vision	
	5.4	Ageusia and anosmia	
	5.1	5.4.1 General	
		5.4.2 Ageusia	9
		5.4.3 Odour recognition test	
	5.5	Texture	
		5.5.1 General	
		5.5.2 Analysis and interpretation of results	12
	5.6	Hearing	12
	5.7	Descriptive ability	12
	5.8	Selection of trainees	13
6	Trai	ning of sensory assessors	13
	6.1	Principle	13
6	6.2	General	13
	6.3	Assessment procedure	14
	6.4	Training exercises	15
		6.4.1 Tests for detection of a stimulus	
		6.4.2 Tests for discrimination between levels of intensity of a stimulus	16
		6.4.3 Descriptive ability	
		6.4.4 Training in the use of scales	
	6.5	Specific product training	
		6.5.1 General	
		6.5.2 Discrimination assessment	
		6.5.3 Descriptive assessment	
	6.6	Particular methods training	
		6.6.1 Principle	
		6.6.2 Discrimination assessments	
		6.6.3 Ranking assessment 6.6.4 Rating and scoring	
		6.6.5 Descriptive sensory analysis	
	6.7	Practice	
_			
7	Vali	dation of sensory panel performance and training effectiveness	24

8.1 Motivation. 25 8.2 Maintaining of skills 25 8.3 Renewal. 25 8.4 Retraining. 26 8.5 Additional training. 26 Annex A (informative) Alternative colour screening procedure. 27 Annex B (informative) Examples of most common scales. 32 Annex E (informative) Example of a scaling exercise. 33 Annex E (informative) Example of a ranking and then rating using scales. 35 Annex G (informative) Example of a scaling test with two standards. 36 Bibliography. 37		nnagement and follow-up of the group	
8.3 Renewal 25 8.4 Retraining 26 8.5 Additional training 26 Annex A (informative) Alternative colour screening procedure 27 Annex B (informative) Recognition of difference in textures 29 Annex C (informative) Examples of most common scales 32 Annex E (informative) Example of a scaling exercise 33 Annex F (informative) Example of a ranking and then rating using scales 35 Annex G (informative) Example of a scaling test with two standards 36 Bibliography 37			
8.4 Retraining			
8.5 Additional training 26 Annex A (informative) Alternative colour screening procedure 27 Annex B (informative) Recognition of difference in textures 29 Annex C (informative) Examples of most common scales 32 Annex E (informative) Example of a scaling exercise 33 Annex F (informative) Example of a ranking and then rating using scales 35 Annex G (informative) Example of a scaling test with two standards 36 Bibliography 37			
Annex B (informative) Recognition of difference in textures			
Annex C (informative) Examples of most common scales	Annex A (	(informative) Alternative colour screening procedure	27
Annex D (informative) Examples of most common scales 32 Annex E (informative) Example of a scaling exercise 33 Annex F (informative) Example of a ranking and then rating using scales 35 Annex G (informative) Example of a scaling test with two standards 36 Bibliography 37	Annex B (	(informative) Recognition of difference in textures	29
Annex E (informative) Example of a ranking and then rating using scales 35 Annex G (informative) Example of a scaling test with two standards 36 Bibliography 37	Annex C (	informative) Cleansers and palate cleansers	30
Annex F (informative) Example of a ranking and then rating using scales 35  Annex G (informative) Example of a scaling test with two standards 36  Bibliography 37	Annex D (	(informative) Examples of most common scales	32
Annex G (informative) Example of a scaling test with two standards 36 Bibliography 37	Annex E (	informative) Example of a scaling exercise	33
Bibliography	Annex F (	informative) Example of a ranking and then rating using scales	35
This of Deckies of the October of th	Annex G (	(informative) Example of a scaling test with two standards	36
This of Deckies of the October of th	Bibliogra	phy	37
V © ISO 2022 - All rights recorved		SO OF CALIFORN SOR OF CALIFOR SOR OF CALIFORN SOR OF CALIFORN SOR OF CALIFORN SOR OF CALIFORN	5
	iv	@ ISO 2023 - All rights	reserved

### **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 <a href="www.iso.org/directives">www.iso.org/directives</a>).

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 <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

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 <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 12, *Sensory analysis*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS CO1, *Food Products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 8586:2012), which has been technically revised.

The main changes are as follows:

- the Title has been changed to "Sensory analysis Selection and training of sensory assessors" (the monitoring was removed as redundant with ISO 11132);
- some text from the Introduction has been moved into <u>Clause 4</u>;
- the Scope has been modified;
- a definition for the term "homogeneous" has been added in <u>Clause 3</u>;
- the process steps and roles of assessors have been clarified and the corresponding <u>Figure 1</u> revised;
- Table 4 has been added with references to other International Standards;
- the tables and exercises for screening and training have been revised and modified;
- in <u>Tables 3, 5, 9</u> and <u>11</u>, examples for home and personal care products have been added;
- new annexes have been added with examples of screening and training activities;
- the concept of expert sensory assessors has been included in <u>8.5</u>;
- <u>Clause 2</u> and the Bibliography have been updated.

r question ng of these b. 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 <a href="www.iso.org/members.html">www.iso.org/members.html</a>.

### Introduction

Sensory analysis is a science that is involved with the assessment of the organoleptic attributes of a product by the senses. As such, sensory analysis uses sensory assessors as evaluators of products. This document describes the recruitment, screening and training protocol for sensory assessors.

A sensory analysis sensory panel constitutes a true "measuring instrument", and consequently the results of the analysis depend on its members.

Pets. consid. The recruitment of persons willing to participate in a sensory panel therefore needs to be carried out with care and to be considered as a real investment, both in time and money.

# Sensory analysis — Selection and training of sensory assessors

WARNING — This document does not address any safety issues associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

## 1 Scope

This document specifies criteria for the selection of and procedures for the training of trained sensory assessors and expert sensory assessors for food and beverages, as well as home and personal care products.

It is applicable to all industries concerned with the evaluation of products by the sense organs.

This document supplements the information given in ISO 6658.

### 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 6658, Sensory analysis — Methodology — General guidance

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 terminology databases for use in standardization at the following addresses:

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

### 3.1

### sensory assessor

any person taking part in a sensory test

Note 1 to entry: A naive sensory assessor is a person who does not meet any particular criterion.

Note 2 to entry: An initiated sensory assessor has already participated in a sensory test.

#### 3.2

### screened sensory assessor

sensory assessors (3.1) who have been screened for their sensory abilities

#### 3.3

### trained sensory assessor

sensory assessors (3.1) who have been trained for a method or methods