

# INTERNATIONAL STANDARD

**ISO  
3972**

Third edition  
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## **Sensory analysis — Methodology — Method of investigating sensitivity of taste**

*Analyse sensorielle — Méthodologie — Méthode d'éveil à la sensibilité  
gustative*



Reference number  
ISO 3972:2011(E)

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## Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 3972 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 3972:1991), which has been technically revised.



# Sensory analysis — Methodology — Method of investigating sensitivity of taste

## 1 Scope

This International Standard specifies a set of objective tests for familiarizing assessors with sensory analysis. The test methods specified can be useful to:

- a) teach assessors to recognize tastes and to distinguish between them (see Clause 8);
- b) teach assessors to know and to familiarize themselves with different types of threshold tests (see Clause 9);
- c) make assessors aware of their own sensitivity of taste;
- d) enable test supervisors to carry out a preliminary categorization of assessors.

The methods can also be used as a periodic monitor of the sensitivity of taste of assessors who are already members of sensory analysis panels.

## 2 Normative references

The following referenced documents are indispensable for the application 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 5492:2008, *Sensory analysis — Vocabulary*

ISO 6658, *Sensory analysis — Methodology — General guidance*

ISO 8586, *Sensory analysis — General guidelines for the selection, training and monitoring of selected and expert assessors*

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 (in particular 3.1, 3.2, and 3.3) and the following apply.

### 3.1

#### **stimulus threshold**

minimum value of a sensory stimulus needed to give rise to a sensation

NOTE 1 The term “threshold” is always used with a qualifying term.

NOTE 2 The sensation need not be identified.

[ISO 5492:2008, 2.25]

### 3.2

#### **recognition threshold**

minimum physical intensity of a stimulus for which an assessor will assign the same descriptor each time it is presented

NOTE The term “threshold” is always used with a qualifying term.

[ISO 5492:2008, 2.26]

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### 3.3

#### **difference threshold**

value of the smallest perceptible difference in the physical intensity of a stimulus

NOTE The term “threshold” is always used with a qualifying term.

[ISO 5492:2008, 2.27]

### 3.4

#### **satiation threshold**

minimum concentration of a sensory stimulus without a perception of an increasing concentration

NOTE The term “threshold” is always used with a qualifying term.

## 4 Principle

### 4.1 Identification of tastes

Reference substances, in a known order, corresponding to certain tastes, in the form of aqueous solutions of given concentration are presented to each assessor. After each tasting, the taste is identified by the assessors and their assessments recorded.

### 4.2 Familiarization with the different types of threshold

For each taste, the appropriate reference substance is presented to each assessor, in the form of a series of dilutions of increasing concentration. After each tasting, the results are recorded by the assessors.

## 5 Reagents

**WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This International Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.**

### 5.1 Water, neutral, tasteless, still and odourless, preferably of known hardness.

For recognition of metallic sensation, demineralized water shall be used to avoid oxidation and to get a metallic sensation. In demineralized water and water with a low hardness (spring water), a bitter and sour taste shows lower recognition thresholds.

The water provided to the assessors for rinsing their mouths shall be identical with that used to prepare the dilutions (5.3).

### 5.2 Stock solutions.

Prepare, in volumetric flasks (6.1), the solutions listed in Table 1 from food-grade reference substances.

### 5.3 Dilutions.

From the stock solutions specified in Table 1, prepare a series of solutions for each taste in accordance with Table 2.

## 6 Apparatus

**6.1 One-mark volumetric flasks**, ISO 1042<sup>[3]</sup>, clean, dry and of suitable capacity for preparing the stock solutions.