SLOVENSKI STANDARD
SIST ISO 3972:1997

01-februar-1997

Senzoriļ na analiza - Metodologija - Metoda prouļ evanja obļ utljivosti okusa

Sensory analysis -- Methodology -- Method of investigating sensitivity of taste

Analyse sensorielle -- Méthodologie -- Méthode d'éveil à la sensibilité gustative

Ta slovenski standard je istoveten z: **ISO 3972:1991**

ICS:

67.240	Senzoriļ na analiza	Sensory analysis

SIST ISO 3972:1997 **en**

INTERNATIONAL STANDARD

ISO 3972

Second edition
1991-09-15

Sensory analysis — Methodology — Method of investigating sensitivity of taste

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

Reference number
ISO 3972:1991(E)

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.

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.

International Standard ISO 3972 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Sub-Committee SC 12, *Sensory analysis*.

This second edition cancels and replaces the first edition (ISO 3972:1979), of which it constitutes a technical revision.

Annexes A and B of this International Standard are for information only.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Introduction

Much has been learnt about sensory analysis since the publication of the first edition of this International Standard (in 1979) which dealt with the determination of sensitivity of taste. It is now recognized that there are no "primary tastes" for assessing the sensitivity of taste of assessors (although sucrose and aspartame are good indicators of sweetness and quinine hydrochloride and caffeine of bitterness). The analysis of sensitivity of taste is no more complete than would be a classification of a group of individuals solely on the basis of their height.

As a result, it has been considered useful to introduce the tastes umami (monosodium glutamate) and metallic into this International Standard.

This page intentionally left blank

Sensory analysis — Methodology — Method of investigating sensitivity of taste

1 Scope

This International Standard describes a set of objective tests for familiarizing assessors with sensory analysis.

The test methods described can be useful

a) to teach assessors to recognize tastes and to distinguish between them (see clause 8),

b) to teach assessors to know and to differentiate amongst different types of threshold (see clause 9),

c) to make assessors aware of their own sensitivity of taste, and

d) to 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 standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 385-1:1984, *Laboratory glassware — Burettes — Part 1: General requirements.*

ISO 385-2:1984, *Laboratory glassware — Burettes — Part 2: Burettes for which no waiting time is specified.*

ISO 385-3:1984, *Laboratory glassware — Burettes — Part 3: Burettes for which a waiting time of 30 s is specified.*

ISO 1042:1983, *Laboratory glassware — One-mark volumetric flasks.*

ISO 5492:—[1], *Sensory analysis — Vocabulary.*

ISO 6658:1985, *Sensory analysis — Methodology — General guidance.*

ISO 8589:1988, *Sensory analysis — General guidance for the design of test rooms.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 5492 apply. For the convenience of the users of this International Standard, the following definitions are repeated.

3.1 stimulus threshold; detection threshold: Minimum value of a sensory stimulus needed to give rise to a sensation. The sensation need not be identified.

3.2 recognition threshold: Minimum value of a sensory stimulus permitting identification of the sensation perceived.

3.3 difference threshold: Value of the smallest perceptible difference in the physical intensity of a stimulus.

1) To be published.

4 Principle

4.1 Identification of tastes

Presentation to each assessor of reference substances, in a known order, corresponding to certain tastes, in the form of aqueous solutions of given concentration. After each tasting, identification of the taste by the assessors and recording of their assessments.

4.2 Familiarization with the different types of threshold

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

5 Reagents

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

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 dilutions for each taste in accordance with table 2.

6 Apparatus

6.1 One-mark volumetric flasks, conforming to ISO 1042, clean, dry and of suitable capacity for preparing the stock solutions.

6.2 Burettes, conforming to ISO 385, preferably having automatic zeroing, for preparing the dilutions.

6.3 Vessels, (glasses, beakers), clean, dry and having a capacity of about 50 ml, for presentation of the test solutions.

Table 1 — Specification of stock solutions

Taste	Reference substance[1]	Concentration g/l
Acid	Crystallized citric acid (monohydrate) M_r = 210,14	1,20
Bitter	Crystallized caffeine (monohydrate) M_r = 212,12	0,54
Salty	Anhydrous sodium chloride M_r = 58,46	4,00
Sweet	Sucrose[2] M_r = 342,3	24,00
Umami	Monosodium glutamate, $C_5H_8NNaO_4.H_2O$ M_r = 187,13	2,00
Metallic[3]	Iron(II) sulfate heptahydrate, $FeSO_4.7H_2O$ M_r = 287,9	0,016

NOTE — A quantity of 2 l of stock solution is sufficient for about 20 assessors.

1) The products used shall be free from impurities which could give interfering tastes.

2) Sucrose solution is unstable and shall be used on the day it is prepared.

3) The perception "metallic" has been separated from the other tastes since it is an olfactory-gustatory sensation.

It is necessary to use a solution recently prepared with neutral or slightly acid water in order to avoid the appearance of a yellow coloration due to oxidation. Meanwhile, if a yellow coloration exists, it is necessary to present this solution in sealed opaque containers or under monochromatic light.

The perception " metallic" may be modified by the condition of the teeth since certain dental prostheses produce an electrolytic effect.