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Sensory analysis — Methodology — Texture profile

Analyse sensorielle — Méthodologie — Profil de la texture

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Foreword

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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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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 12, *Sensory analysis*.

This second edition cancels and replaces the first edition (ISO 11036:1994), which has been technically revised. The main changes compared with the previous edition are as follows:

— definitions have been added for consistency with ISO 5492;

— changes have been made to avoid repetition.

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.

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Introduction

Sensory profiling methods are formal procedures used for assessing in a reproducible manner the separate attributes of a sample and then rating their intensities on a suitable scale. The methods can be used for evaluating odour, flavour, appearance and texture, separately or in combination.

As a consequence of the unique nature of texture, methods have been developed specifically for texture profiling.

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Sensory analysis — Methodology — Texture profile

1 Scope

This document specifies a method for developing a texture profile of food products (solids, semi-solids, liquids) or non-food products (e.g. cosmetics).

This method is one approach to sensory texture profile analysis and other methods exist. This method describes various steps in the process of establishing a complete description of the textural attributes of a product.

This method is applicable to:

— screening and training assessors;

— orientating assessors through the development of definitions and evaluation techniques for textural characteristics;

— characterizing the textural attributes of a product in order to establish its standard profile and to discern any later changes;

— improving old products and developing new products;

— studying various factors that can affect the textural attributes of a product, e.g. changes in process, time, temperature, ingredients, packaging or shelf-life, and storage conditions;

— comparing a product with another similar product to determine the nature and intensity of textural differences;

— correlating sensory and instrumental and/or physical measurements.

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

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

3 Terms and definitions

For the purposes of this document, the definitions given in ISO 5492 and the following 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/

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3.1
texture, noun
all the mechanical, geometrical and surface attributes of a product perceptible by means of mechanical, tactile and, where appropriate, visual and auditory receptors

Note 1 to entry: The "mechanical attributes" are those related to the reaction of the product to stress. They are divided in five primary characteristics, i.e. hardness, cohesiveness, viscosity, springiness and adhesiveness. The "geometrical attributes" are those related to the size, shape and arrangement of particles within a product. The "surface attributes" are those related to the sensations produced by moisture and/or fat content. In the mouth, they are also related to lubrication and the way in which these constituents are released.

4 Principle

The development of a texture profile by means of a systematic classification that describes all of the textural attributes (mechanical, geometrical and surface).

5 General test requirements

5.1 General conditions of test

Evaluations shall be carried out in a test room that is in accordance with ISO 8589.

5.2 Equipment and premises

Utensils, containers and other needed materials shall be selected by the sensory analyst or panel leader, according to the nature of the product, the number of samples, etc. These shall in no way affect the test results.

If standardized apparatus corresponds to the needs of the test, it shall be used.

Sampling should be done following best practices. A standardized sample preparation that represents the texture of the whole batch should be selected.

6 Methodology

6.1 Components of a texture profile

The concept of texture profiling is based on the same elements as in flavour profiling. Therefore, a texture profile may include the following elements, depending on the type of product (food or non-food):

a) perceptible textural attributes, i.e. mechanical, geometrical and other;

b) intensity, i.e. the degree to which the attribute is perceptible;

c) the order of appearance of the attributes, which can be outlined as follows:

   1) prior to touch (visual);

   2) first touch (which may be with hands or another part of the body);

   3) first application (for food, this may be to the lips or tongue; for other products, it may be to skin surfaces on other parts of the body);

   4) manipulation (e.g. chewing for food, rubbing for creams/lotions/textiles);

   5) residual (changes occurring during mastication and/or absorption, such as the rate and type of breakdown);

   6) follow up, if any (e.g. swallowing, absorption, wipe off, rinsing).

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