ICS 67.240
CCS B 04

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 39558-2020

Replacing GB/T 12316-1990

Sensory analysis - Methodology - A-not A test

Issued on: December 14, 2020 **Implemented on: July 1, 2021**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Table of Contents

Foreword

This standard was drafted in accordance with the rules given in GB/T 1:1-2009:

This standard replaces GB/T 12316-1990 "Methods of Sensory Analysis "A"-"Non-A" Inspection": This standard and GB/T 12316-

Compared with:1990, the main technical changes are as follows:

---Clarified that this standard does not apply to similar inspections (see Chapter 1);

---Added normative references on personnel and environment (see Chapter 2);

--- Added "Terms and Definitions" (see Chapter 3);

--- Separate "apparatus", "sampling" and "evaluator" in the original standard "General Conditions of Inspection" into separate entries (see Chapter 5, Chapter 6

Chapters and Chapter 8, 4:2:2, 4:3:1 and 4:1 of the:1990 edition);

---It is clarified that there should be 10-50 evaluators familiar with the "A" product in the test,

and the total number of evaluations for each evaluator is proposed:

Between 20 and 100 times (see 8:2):

---Proposed two methods of result processing and interpretation, and explained the reasons for the use of the right one-sided test in the chi2 test (see section

Chapter 10):

The translation method used in this standard is equivalent to ISO 8588:2017 "Sensory Analysis Methodology "A"-"Non-A" Inspection":

The Chinese documents that have a consistent correspondence with the international documents cited in this standard are as follows:

---GB/T 3358:1-2009 Statistics vocabulary and symbols Part 1: General statistical terms and terms used in probability

(ISO 3534-1:2006, IDT)

---GB/T 10221-2012 Sensory Analysis Terms (ISO 5492:2008, MOD)

---GB/T 13868-2009 Sensory Analysis General Guidelines for the Establishment of Sensory Analysis Laboratory (ISO 8589:2007, IDT)

This standard has made the following editorial changes:

--- "Note" has been added to "Scope":

--- Delete the content of "2 codes, one for "A" samples and the other for "non-A" samples" in 7:5; because in "A"-"non-A"

It is not necessary to evaluate only 2 different samples in the test:

---The correct value of the critical value of chi2 when the significance level is 0:01 in Table B:1 of Appendix B should be "5:41":

--- In order to avoid the confusion between the value of alpha in this standard and the commonly used significant level value selection, the "Note:" is added under Table B:1

The significance level alpha corresponding to the critical value of chi2 in the table is essentially meaning of the true type I discrimination error probability in the two-step processing method:

The critical value is actually equivalent to the critical value under the 2alpha probability value in the chi2 test: "

This standard was proposed and managed by the National Standardization Technical Committee for Sensory Analysis (SAC/TC566):

Drafting organizations of this standard: China National Institute of Standardization, Zhejiang

Gongshang University, China Tobacco Company, Beijing Forestry University, Sichuan Dingdianshi

Product Development Co:, Ltd:, Southwest University:

1 Scope

This standard specifies a method for judging whether there are sensory differences between two types of products: This method is suitable for single or multiple sensory genera

Discrimination of sexual differences:

In sensory analysis, the "A"-"non-A" test can be used to:

a) Difference test: It is especially suitable for the appearance (the appearance of repeated samples is difficult to be prepared to be completely consistent) or the aftertaste (there is

The difference in aftertaste makes it difficult to directly compare samples with differences;

b) Recognition test: It is especially suitable for determining whether the evaluator or evaluation team can recognize new stimuli related to known stimuli (e:g:, recognition

Don't change the sweetness quality of sweeteners);

c) Sensory test: used to determine the assessor's ability to distinguish stimuli:

"A"-"non-A" test is not suitable for judging whether two types of products are similar enough to be used interchangeably (for example, for similarity test), because "A"-

The essence of "non-A" test is the repeated evaluation of the same product by all evaluators, and this repeated evaluation violates the similarity test in statistics:

The basic assumptions on the validity:

See Appendix A for application examples:

Note: Bi and Ennis pointed out that no matter how the repeated evaluation is implemented in the test, the difference d'between "A" and "non-A" samples is constant, but the variance of d'

It depends on the specific implementation form of the repeated evaluation: This standard does not discuss the Thurstonian analysis and test effectiveness of the "A"-"non-A" method:

Interested readers can refer to Reference [1] for a detailed discussion of this topic:

2 Normative references

The following documents are indispensable for the application of this document: For dated reference documents, only the dated version applies to this article

Pieces: For undated references, the latest version (including all amendments) applies to this document:

ISO 3534-1 Statistics vocabulary and symbols Part 1: General statistical terms and terms used for probability (Statistics-Vocab-

ularyandsymbols-Part 1:Generalstatisticaltermsandtermsusedinprobability)

ISO 5492 Sensory Analysis-Vocabulary (Sensoryanalysis-Vocabulary)

ISO 8586:2012 Sensory analysis selection, training and management: General guidelines for preferred evaluators and expert sensory evaluators (Sensory

analysis-Generalguidelinesfortheselection,trainingandmonitoringofselectedassessorsandexpert

sensoryassessors)

ISO 8589 Sensory analysis General guidelines for the establishment of sensory analysis laboratories (Sensoryanalysis-General guidance for

thedesignoftestrooms)

3 Terms and definitions

The terms and definitions defined in ISO 5492 and ISO 3534-1 apply to this document:

4 Principle

A series of samples were distributed to the evaluators, some were "A" products, and some were "non-A" products: Ask the evaluator to indicate that each sample is "A"