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## **Cork stoppers — Sensory analysis**

*Bouchons en liège — Analyse sensorielle*

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## Foreword

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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.

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ISO 22308 was prepared by Technical Committee ISO/TC 87, Cork.

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# Cork stoppers — Sensory analysis

## 1 Scope

This International Standard defines a test method for detecting, qualifying and eventually evaluating the exogenous odours/flavours of cork stoppers.

This International Standard is applicable to all kinds of cork stoppers, ready for use, designed to be in contact with alcoholic drinks.

## 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 633, *Cork — Vocabulary*

ISO 2569, *Cork stoppers — Vocabulary*

ISO 3591, *Sensory analysis — Apparatus — Wine-tasting glass*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 633 and ISO 2569 and the following apply.

### 3.1

#### **flavour**

complex combination of olfactory, gustative and trigeminal sensations perceived throughout the tasting

NOTE The flavour can be affected by tactile, thermal, pain and/or kinaesthetic sensations.

### 3.2

#### **odour**

organoleptic attribute perceptible by the olfactory organ on sniffing certain volatile substances

## 4 Principle

The method consists of detecting, qualifying and eventually evaluating the odours/flavours of the liquid where cork stoppers have been steeped. This detection/qualification is based on the organoleptic comparison between a control solution and the solution obtained after steeping (a) cork(s) in it.

## 5 Reagents and materials

- 5.1 Clean flasks**, of inert odourless material, able to be sealed, of capacity 100 ml for steeping one cork stopper, and capacity up to 250 ml for steeping 4 to 5 cork stoppers. Flasks are filled to the top.
- 5.2 Tasting glasses**, in accordance with ISO 3591.
- 5.3 Spring water**, commercially available, organoleptically neutral and with a low mineral content.

## 6 Test conditions

Carry out the test in a secluded, well-ventilated, odourless area, conforming to the following environmental characteristics:

- temperature:  $21\text{ °C} \pm 4\text{ °C}$ ;
- humidity:  $60\% \pm 20\%$ ;

and in the absence of any factor that could interfere with the test.

## 7 Panel

The panel shall be made up of at least 3 selected assessors.

## 8 Preparation of samples

- 8.1** The preparation of the sample varies according to the type of cork to be analysed.
- a) For “ras de bague” cork stoppers, intended to seal still wine, introduce the whole cork(s) into the appropriate flask. Fill the flask to the top with water and seal it.
  - b) For agglomerated cork stoppers with natural discs, for effervescent wine, use an appropriate device to force the cork stoppers to stand up, keeping their discs and 1 cm of the body immersed. Seal the flasks.
  - c) For added-top cork stoppers, keep the cork body only and immerse it in the water. Seal the flask.
  - d) If only the mould group is intended to be detected, up to 5 stoppers can be grouped in a convenient volume of water. If a flavour is detected, new individual tests shall be carried out on each of the previous stoppers used.
- 8.2** Prepare a control flask with water, but without a cork immersed in it. Seal the flask.
- 8.3** Having prepared the flasks, they shall be left to steep for  $(24 \pm 2)$  h, at a temperature of  $(21 \pm 4)$  °C.
- 8.4** Pour the content of the flasks into the tasting glasses. In the case of agglomerated cork stoppers with natural discs for effervescent wine, the analysis is carried out directly on the flask after removing the cork stoppers.
- 8.5** Wait for at least 5 min before starting the analysis.

## 9 Test method

Each steeping solution shall be analysed separately by the assessors taking part in the tests.

- a) 1st stage *Olfactory evaluation*.
- b) 2nd stage *Gustative evaluation* (optional, at the discretion of the assessor if necessary, in case of doubt).
- c) 3rd stage *Decision*. If the eventual difference is related to any of the groups of flavours described in Clause 10, record the intensity according to its level.

To avoid the sensory adaptation and/or sensory fatigue of the assessor, there shall be a pause between each sample. The control solution shall be re-examined from time to time.

## 10 Expression of results

The results should include the following.

**10.1 The number of the cork stoppers**, in which an odour/flavour from one of the following groups has been observed.

Chemical group	Hydrocarbon Medicine Pharmaceutical product Rancid oil Solvent Ink Phenol
Plant group	Fresh grass Cut hay Eucalyptus
Earth group	Damp earth Earth
Mould group	Dry mould Cellar mould
Decomposed group	Rotten egg Stagnant water

In the case of a discrepancy in the qualification of odours/flavours between the assessors, the decision will be one of the following.

- The odour/flavour will be declared *unqualified* if the results of the assessors belong to different groups. For example:

Assessor	Odour/flavour
1	Earth
2	Phenol
3	Cellar mould
Final decision	Unqualified

— The odour/flavour will be just given the general *group name* if the assessors coincide in classifying within the same group, even if the final description is different. For example:

Assessor	Odour/flavour
1	Fresh grass
2	Cut hay
3	Eucalyptus
Final decision	Plant group

**10.2 The intensity of each odour/flavour** is classified on a four-level scale: traces (level 1), light (level 2), mild (level 3) or strong (level 4).

In the case of a discrepancy about intensity between the assessors, the mathematical average will be used. For example:

Assessor	Intensity of the odour/flavour
1	2
2	1
3	3
Final decision	2

Whenever an odour/flavour is unqualified, the intensity average is not calculated.

## 11 Test report

The test report shall contain the following information:

- a) all the information necessary to identify the samples (type of cork stopper, origin, etc);
- b) the sampling method;
- c) the number of cork stoppers tested;
- d) the results obtained;
- e) a reference to this International Standard;
- f) all the operating circumstances not included in this International Standard;
- g) any incident likely to have affected the results.