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भारतीय मानक मसौदा

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की संवेदी मूल्यांकन - परीक्षण की विधि

(आई एस 11583 का प्रथम पुनरीक्षण)

Draft Indian Standard

**SENSORY EVALUATION OF INDIAN MADE
FOREIGN LIQUORS (IMFL) - METHOD OF TEST**

(First Revision of IS 11583)

ICS No 67.160.10

Alcoholic Drinks Sectional Committee, FAD 29

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FOREWORD

(Formal Clauses will be added later)

To evaluate the flavour of Indian made foreign liquors (IMFL) by chemical and instrumental methods or routine quality control is not practicable. The other limitation of instrumental analysis is that it cannot integrate the flavour impression as is gathered by human senses. The analysis of quality of IMFL can, therefore, be done conveniently by sensory evaluation which gives the sum total of interaction of different flavor components. This standard, based on practices being followed by IMFL manufacturers, has been evolved to guide the evaluation on a more acceptable and uniform manner.

The standard was originally published in 1986. The standard has been taken up for revision to bring the standard in line with the latest practices being followed for sensory evaluation of IMFL. In this revision, the following major modifications have been made:

- The parameters of general test conditions have been updated;
- The requirements for the preparation of sample have been updated;
- The sensory evaluation characteristics have been modified by incorporating desirable or required notes and off or undesirable notes and tasting wheel.

For the purpose of deciding whether a particular requirement of the standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (second revision)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Draft Indian Standard

**SENSORY EVALUATION OF INDIAN MADE
FOREIGN LIQUORS (IMFL)
– METHOD OF TEST
(First Revision of IS 11583)**

1 SCOPE

This standard prescribes basic requirements and methods for sensory evaluation of Indian made foreign liquors (IMFL).

2 REFERENCES

The standards listed below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. In case the standards are to be referred in this clause they are to be listed as follows

<i>IS Number</i>	<i>Title</i>
IS 3753: 1984	Methods of sampling for alcoholic drinks (First Revision)
IS 6273 (Part 1): 2024	Guide for sensory evaluation of foods: Part 1 optimum requirements

3 GENERAL TEST CONDITIONS

3.1 Laboratory Set-Up

3.1.1 The laboratory set-up shall be as per 4 of IS 6273 (Part 1).

3.2 The testing room should be kept free from odours and sound as much as possible.

Note — This can be achieved by air conditioning with activated carbon filters installed in the system.

3.3 The lighting system should provide an adequate comfortable level of illumination. Special light effects, using coloured filters or bulbs may be used to hide irrelevant differences in colour and other aspects of appearance.

3.4 There should be individual panel booths to avoid mutual distraction among panel members and suitable seats should be provided to give a comfortable posture while carrying out the tests.

3.5 There should be an atmosphere of comfort and relaxation in the testing room. The temperature and humidity of the room should be controlled. Ideally, sensory room temperature should be maintained at $24 \pm 2^\circ\text{C}$ and with relative humidity of 55%.

3.6 Time of Testing

3.6.1 The test should be carried out by the panelists between 10:30 to 12:30 h or whenever the panelist's senses are more active.

3.6.2 The test should not be carried out when the panelists are really thirsty.

3.6.3 Samples should be evaluated within one hour of sample preparation.

3.7 Panelists

The panel members for sensory evaluation should be trained in basic sensory evaluation practices & attributes. The optimum requirements for panel selection and training are given in **3** of IS 6273 (Part 1).

4 CONTAINER FOR SAMPLE TASTING

Identical tulip-shaped glass containers should be used. The containers should have a capacity of 120 ml or more but not more than 250 ml.

5 PREPARATION OF SAMPLES

5.1 Sampling

5.1.1 Samples should be drawn at room temperature and the volume of the sample to be taken for testing should be considering the volume of the tasting container (*see 4*) being used. Samples should be drawn according to the provision given in IS 3753.

5.1.2 *Dilution of sample*

The sample should be diluted with fresh demineralized water to make a strength of 20% alcohol by volume. The prepared sample quantity after dilution should not be more than 50% of the total capacity of the tasting container.

5.2 Presentation of Samples

The following recommendations are made as general guides to be used for conducting the tests, to control some of the possible errors caused by psychological distractions.

5.2.1 The glassware used for the preparation and presentation of samples should be clean and odour-free.

5.2.2 The temperature of the prepared sample should be around 20°C.

5.2.3 The tasting glass should be covered with a watch glass.

5.2.4 While presenting the samples for testing, uniformity should be maintained in all factors such as the quantity of sample, the type of containers and the temperature of the sample.

5.2.5 When samples are designated by code, any of the following practices should be followed to avoid bias,

- (a) use two or three digit codes generated from a table of random numbers;
- (b) use multiple codes for a sample even in the course of a single session;
- (c) avoid the temptation to use a particular set of codes consistently to expedite the tabulation of

results.

5.2.6 Each member should be given separate set of sample for evaluation. When more than one sample is tested, balance the order of presentation among members so that over the entire test each sample is examined in each position or time sequence, an equal number of times.

5.2.7 Avoid giving any hint of the expected results of a test and the samples should not be discussed with members prior to testing.

5.2.8 Panel members should not reveal individual findings and results to other members before the completion of the test.

6 TASTER'S CONDITIONS

6.1 Physiological Conditions of Panel Members

6.1.1 *Smoking and chewing*

The panel members should not smoke or chew at least 45 minutes before testing.

6.1.2 *Eating*

The panel members should not test for 1 hour after meals. If the tests are done post meal, the panel members should avoid eating highly spiced foods.

6.1.3 *Talking*

During testing, talking should be avoided.

6.1.4 *Perfumes*

The members should not use cosmetics such as face lotions, perfumes or lipstick on the day of tasting.

6.1.5 *Hand wash*

The members should avoid washing their hands with perfumed soaps before the testing.

6.1.6 *Health*

The members who are ill, particularly when suffering from the common cold or flu-like symptoms should not perform sensory evaluation.

7 CONDITIONS FOR TESTING

7.1 Use plain demineralized water for rinsing the mouth before tasting each sample.

7.2 Odour-free fabric, back of hand or odour-free water should be used for neutralizing the nose after each sample. Palate evaluation shall be done post-nosing of each sample.

7.3 The sample should be evaluated by at least five panelists. However, a minimum of 3 panelists shall evaluate any sample.

7.4 A retention time of 10 minutes to 15 minutes should be given to samples after preparation before going for testing.

7.5 While checking consecutive samples a gap of 10 seconds to 20 seconds should be given between the two samples.

7.6 The order of testing the sample should be as given under

- a) *Colour and appearance*
- b) *Odour*
- c) *Intensity of odour*
- d) *Taste*

8 SENSORY EVALUATION CHARACTERISTICS

8.1 Desirable or Required Notes and Off or Undesirable Notes

Off notes or undesirable notes in alcoholic beverages are caused by the usage of sub-standard raw materials or auxiliary materials, inappropriate processing or storage, cross contamination and improper transportation. Some characteristics, aromas or flavour notes give pleasant or desirable character in one product whereas undesirable in another depending upon the circumstances and type of product. Few desirable and undesirable notes are listed in Table 1 along with its source.

Table 1 Desirable and Undesirable Notes in Alcoholic Beverages
(Clause 8.1)

Sl No.	Raw material/source	Desirable or required notes	Undesirable or off notes
(1) 1	(2) Demineralized water	(3) Should be clean & smell free. Should not have any undesirable character on palate. Also, should match organoleptically as per reference standard.	(4) Earthy, musty, muddy, papery, plastic, metallic, rubbery, chlorinated, sulphury, stagnant, greasy, oily, synthetic, petroleum, resinous etc.
2	Extra Neutral Alcohol	Should be clean and crispy. Free from any off note. Smooth on palate. Also, should match organoleptically as per reference standard.	Impure notes like aldehyde, ester, rectified spirit note, fusel oil, diacetyl, sulphury, grainy, husky, harsh, pungent. Contamination notes like - greasy, oily, synthetic, petroleum, plastic, metallic, rubbery etc.
3	Special sprits (may be domestic, imported, fresh, matured) such as	Should match organoleptically with reference standard.	Harsh , pungent , greasy, oily, synthetic, petroleum, plastic, metallic, rubbery , sulphury ,

	malt spirit, grape spirit, concentrated alcoholic beverages, high bouquet spirit, vatted spirit etc.		oxidized , decomposed wood etc.
4	White Spirits	Pleasant, smooth , palatable , rounded etc.	Harsh , pungent , greasy, oily, synthetic, petroleum, plastic, metallic, rubbery , sulphury ,
5	Brown Spirit	Should match organoleptically as per reference standard of type of product	Harsh, pungent , greasy, oily, synthetic, petroleum, plastic, metallic, rubbery , sulphury

Note:

- (a) The sensory panel shall prescribe off or undesired notes and desired or required notes based on the profile or characteristic of the product.*
- (b) After familiarization with the typical sensory notes, the sensory panelists should be trained on the identification & detection of atypical notes like papery, plastic, sulfury etc., as some of the atypical notes increase over time/storage. On the basis of atypical note detection, samples are also rejected.*
- (c) A general tasting wheel is placed at Annex A for reference.*

8.2 Total score for individual IMFLs are mentioned against each IMFL (Annex B) and may be divided accordingly.

8.2.1 Scale for Evaluation

Brandy, Whisky, Gin, Rum, Vodka

18 and above = very good

17 to 18 = good

16 to 17 = satisfactory

Below 16 = not satisfactory

ANNEX B
(Clause 8.2)

B-1 BRANDY (TOTAL SCORE 20)

Sl No.	Characteristic	Requirements	Score	Maximum Number of Points
(1)	(2)	(3)	(4)	(5)
1.	Colour and appearance	Very bright amber colour, very sparkling, absolutely free from blackish shade, suspended matter and sediment	5	5
		Amber colour, sparkling, clear from blackish shade, suspended matter and sediment	4	-
		Amber colour, clear, free from blackish shade, sediment and suspended matter	3	-
		Not clear, too light colour or too dark blackish shade, no sediment and cloudy	2	-
		Hazy/cloudy, very blackish, suspended matter and sediment	1 and below	-
		Very mellow gentle pleasant, woody rich matured grape note, absolutely natural, free from synthetic odour. The exquisite wine/sherry note persists and is well bound to the liquor	5	5
2.	Odour	A very mellow note of matured grape spirit, very natural, free from synthetic odour. The aroma does not disappear fast	4	-
		Pleasant typical note of brandy, attractive synthetic odour which is fruity. Aroma neither too strong nor too mild	3	-
		Unpleasant odour, very synthetic, aroma too much or too little	2	-
		Very unpleasant smell, very synthetic, smell of impurities like fuse1 oil persists.	1 and below	-
3.	Taste	Extremely mellow gentle pleasant, woody and rich, fully matured grape note, absolutely natural and free from synthetic flavour, very smooth and the exquisite bouquet brings on the tongue a feeling that	10	10

	is extremely pleasing. It is absolutely smooth and not at all satiating		
	Mellow, gentle pleasant woody and matured grape note, very natural, very smooth and no synthetic note	9-8	-
	Pleasant synthetic flavour, quite smooth	7-6	-
	Unpleasant flavour, too synthetic harsh	5-4	-
	Very unpleasant, extremely synthetic, too harsh, pungent taste of impurities like fusel oil persists	Below 3	-

B-2 WHISKY (TOTAL SCORE 20)

Sl No.	Characteristic	Requirements	Score	Maximum Number of Points
(1)	(2)	(3)	(4)	(5)
1.	Colour and appearance	Very bright amber colour, very sparkling, very clean absolutely free from blackish shade, suspended matter and sediment	5	5
		Amber colour, sparkling, clear, free from blackish shade, suspended matter and sediment	4	-
		Amber colour, clear, free from blackish shade, sediment and suspended particles	3	-
		Not clear, too light colour or too dark, blackish shade no sediment and not cloudy	2	-
		Hazy/cloudy, very blackish, suspended matter and sediment	1 and below	-
2.	Odour	Very mellow gentle pleasant woody rich malt note, absolutely natural, free from synthetic odour.	5	5
		A very attractive smoky odour. The exquisite aroma persists and is well bound to the liquor		
		A very mellow note of matured malt spirit, free from synthetic odour, natural. The aroma does not disappear fast	4	-
		Pleasant typical whisky note attractive synthetic odour. The aroma is neither too strong nor too mild	3	-
		Unpleasant odour, very synthetic	2	-

		aroma too much or too little		
		Very unpleasant smell, very synthetic, smell of impurities like fusel oil persists	1 and below	-
3.	Taste	Extremely mellow, gentle pleasant woody and rich, fully matured malt note. There is a very appealing smoky flavour, absolutely natural and free from synthetic flavour. It is very smooth and the exquisite bouquet brings on the tongue a feeling that is extremely pleasing and not at all satiating	10	10
		Mellow gentle pleasant, woody matured malt note, very natural, very smooth and no synthetic note	8-9	-
		Pleasant synthetic flavour, quite Smooth	6-7	-
		Unpleasant flavour, too synthetic, Harsh	4-5	-
		Very unpleasant, extremely synthetic, too harsh, pungent, taste of impurities like fusel oil persists	Below 3	-

B-3 GIN (TOTAL SCORE 20)

Sl No.	Characteristic	Requirements	Score	Maximum Number of Points
(1)	(2)	(3)	(4)	(5)
1.	Colour and appearance	Crystal clear, very sparkling absolutely free from haze, sprangles, suspended matter and sediments	5	5
		Clear, very sparkling, absolutely free from haze, sprangles and suspended particles	4	-
		Clear, sparkling, not hazy, free from sprangles, sediment and suspended matter	3	-
		Not clear and sparkling, not hazy, free from sprangles and suspended particles	2	-
		Hazy/cloudy, suspended matter, sprangles and sediment	1 and below	-
2.	Odour	Very pleasant gin note, typical of juniper berry, extremely delicate odour absolutely free from pungency. The exquisite aroma	10	10

		persists and is well bound to the liquor		
		A pleasant gin note typical of juniper berries, not pungent. The aroma does not disappear fast	8-9	-
		Typical gin note and not too pungent and no raw spirit smell	6-7	-
		Unpleasant pungent, aroma too much or too little	4-5	-
		Very unpleasant smell, very pungent, smell of fusel oil persists	Below 3	-
3.	Taste	A very pleasant typical gin taste, the bouquet is very delicate and not at all pungent. It is very smooth and the exquisite flavour brings on the tongue a feeling that is extremely pleasing	5	5
		Pleasant gin taste, aroma very delicate, free from raw spirit taste, smooth	4	-
		Typical gin taste, pleasant aroma, quite smooth	3	-
		Unpleasant flavour, flavour too much or too little, harsh	2	-
		Very unpleasant flavour, very pungent and harsh, taste of fusel oil	1 and below	-

B-4 RUM (TOTAL SCORE 20)

SI No.	Characteristic	Requirements	Score	Maximum Number of Points
(1)	(2)	(3)	(4)	(5)
1.	Colour and appearance	Very bright amber colour, sparkling, clear, absolutely free from blackish shade, suspended matter and sediment	5	5
		Deep amber colour, sparkling clear, free from blackish shade, suspended matter and sediments	4	-
		Deep amber colour, clear, free from blackish shade, sediment and big suspended matter	3	-
		Not clear, too light colour or too dark, blackish shade, no sediment, not cloudy	2	-
		Hazy/cloudy, very blackish, suspended matter and sediment	1 and below	-

2.	Odour	A very mellow, gentle pleasant, woody rich, matured note of cane juice spirit. Absolutely natural, free from synthetic odour. The exquisite aroma persists and is well bound to the liquor	5	5
		A very mellow nature note of cane spirit, free from synthetic odour, natural, the aroma does not disappear fast	4	-
		Pleasant typical rum note, attractive synthetic odour. The aroma is neither too strong nor too mild	3	-
		Unpleasant odour, very synthetic, aroma too much or too little	2	-
		Very unpleasant smell, too synthetic smell of impurities like fuse1 oil persists	1 and below	-
3.	Taste	very mellow gentle pleasant woody rich, fully matured cane spirit note. Absolutely natural and free from any synthetic flavour. It is very smooth and the exquisite bouquet brings on the tongue a feeling that is extremely pleasing and not at all satiating	10	10
		Pleasant matured cane spirit note, very natural, not synthetic, very smooth	8-9	-
		Pleasant synthetic flavour, quite smooth	6-7	-
		Unpleasant flavour, too synthetic, harsh	4-5	-
		Very unpleasant, extremely synthetic, too harsh and pungent, too much fuse1 oil taste	3 and below	-

B-5 WHITE RUM (TOTAL SCORE 20)

Sl No.	Characteristic	Requirements	Score	Maximum Number of Points
(1) 1.	(2) Colour and appearance	(3) Transparent without any color and sparkling crystal clear appearance, free from suspended matter and sedimentation	(4) 5	(5) 5

	Transparent with very slight yellow color and sparkling appearance, free from suspended matter and sedimentation	4	-
	Transparent with slight yellow color and free from suspended matter and sedimentation	3	-
	Transparent with slight haziness and suspended matter	2	-
	Hazy, cloudy, with suspended matters	1 and below	-
2.	Odour		
	A very mellow, gentle pleasant, woody rich, matured note of cane juice spirit. Absolutely natural, free from synthetic odour. The exquisite aroma persists and is well bound to the liquor	5	5
	A very mellow nature note of cane spirit, free from synthetic odour, natural, the aroma does not disappear fast	4	-
	Pleasant typical rum note, attractive synthetic odour. The aroma is neither too strong nor too mild	3	-
	Unpleasant odour, very synthetic, aroma too much or too little	2	-
	Very unpleasant smell, too synthetic smell of impurities like fusel oil persists	1 and below	-
3.	Taste		
	very mellow gentle pleasant woody rich, fully matured cane spirit note. Absolutely natural and free from any synthetic flavour. It is very smooth and the exquisite bouquet brings on the tongue a feeling that is extremely pleasing and not at all satiating	10	10
	Pleasant matured cane spirit note, very natural, not synthetic, very smooth	8-9	-
	Pleasant synthetic flavour, quite smooth	6-7	-
	Unpleasant flavour, too synthetic, harsh	4-5	-

	Very unpleasant, extremely synthetic, too harsh and pungent, too much fusel oil taste	3 and below	-
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B-6 VODKA (TOTAL SCORE 20)

Sl No.	Characteristic	Requirements	Score	Maximum Number of Points
(1)	(2)	(3)	(4)	(5)
1.	Colour and appearance	Clear characteristic colour, very sparkling, absolutely free from haze, sprangles, suspended matter and sediments	5	5
		Characteristic colour, very sparkling, absolutely free from haze, sprangles and suspended particles	4	-
		Characteristic colour, sparkling, not hazy, free from sprangles, sediments and big suspended matter	3	-
		Not sparkling, not hazy free from sprangles and suspended matter	2	-
		Hazy/cloudy, suspended matter, sprangles and sediments	1 and below	-
2.	Odour	Absolutely silent and perfectly neutral, does not give any faintest smell of even the most silent spirit	10	10
		Very silent and neutral, no strong smell or spirit	8-9	-
		Silent, neutral and not raw spirit Smell	6-7	-
		Unpleasant odour, not silent	4-5	-
		Very unpleasant smell, very pungent, smell of fusel oil persists	3 and below	-
3.	Taste	It is extremely neutral in taste, absolutely no off taste, very Smooth	5	5
		Neutral in taste, no off taste, smooth	4	-
		Neutral in taste, quite smooth	3	-
		Not neutral and silent, harsh	2	-
		Very harsh and pungent, taste of fusel oil and impurities	1 and below	-

B-8 FLAVORED VODKA (TOTAL SCORE 20)

SI No.	Characteristic	Requirements	Score	Maximum Number of Points
(1)	(2)	(3)	(4)	(5)
1.	Colour and appearance	Characteristic colour, very sparkling, absolutely free from haze, sprangles, suspended matter and sediments	5	5
		Characteristic colour, sparkling, absolutely free from haze, sprangles and suspended particles	4	-
		Characteristic colour, sparkling, not hazy, free from sprangles, sediments and suspended matter	3	-
		Characteristic Color, Not sparkling, not hazy free from sprangles and suspended matter	2	-
		Hazy/cloudy, suspended matter, sprangles and sediments	1 and below	-
2.	Odour	Absolutely fresh, distinct and appealing, does not give any synthetic character	5	5
		Fresh and appealing, does not give any synthetic character	4	-
		Fresh but not appealing, having slight synthetic character	3	-
		Unpleasant odour, not appealing and having synthetic character	2	-
		Very unpleasant smell, absolutely not appealing and very synthetic	1 and below	-
3.	Taste	Fresh, distinct, appealing and natural, no off taste, very Smooth	10	10
		Fresh, appealing and natural, no off taste, Smooth	8-9	-
		Fresh, appealing, quite smooth but with slight synthetic characters	6-7	-
		Unpleasant, harsh, taste with synthetic characters	4-5	-
		Very harsh and synthetic	3 and below	-