**IS 11583 : 2024**

***भारतीय मानक***

***Indian Standard***

***भारतीय निर्मित विदेशी शराब (आईएमएफएल) की संवेदी मूल्यांकन ― परीक्षण की पद्धति***

*(* प्रथम पुनरीक्षण )

**SENSORY EVALUATION**

**OF INDIAN MADE FOREIGN LIQUORS (IMFL) ― METHOD OF TEST**

|  |
| --- |
|  ( *First Revision* ) |
|  |

ICS 65.060

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भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

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**October 2024 Price Group X**

Alcoholic Drinks Sectional Committee, FAD 29

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Alcoholics Drinks Sectional Committee had been approved by the Food and Agriculture Division Council.

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 revised to bring it in line with the latest practices being followed for sensory evaluation of IMFL. In this revision, the following major modifications have been made:

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

The composition of the Committee responsible for the formulation of this standard is given in Annex C.

In reporting the result of a test or analysis made in accordance with this standard, is to be rounded off, it shall be done in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (second revision)’.

*Indian Standard*

SENSORY EVALUATION OF INDIAN MADE

FOREIGN LIQUORS (IMFL)

– METHOD OF TEST

*(First Revision)*

**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.

|  |  |
| --- | --- |
| *IS No.* | *Title* |
| IS 3753 : 2024 | Alcoholic Drinks - Methods of Sampling (Second 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 °C ± 2 °C and with relative humidity of 55 percent.

**3.6 Time of Testing**

**3.6.1** The test should be carried out by the panellists between 10:30 h to 12:30 h or whenever the panellist senses are more active.

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

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

**3.7 Panellists**

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 percent alcohol by volume. The prepared sample quantity after dilution should not be more than 50 percent 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,

1. use two or three digit codes generated from a table of random numbers;
2. use multiple codes for a sample even in the course of a single session;
3. 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 min to 15 min should be given to samples after preparation before going for testing.

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

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

1. Colour and appearance
2. Odour
3. Intensity of odour
4. 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) | (2) | (3) | (4) |
| 1 | Demineralized water  | Should be clean & smell free. Should not have any undesirable character on palate. Also, should match organoleptically as per reference standard.  | 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, easter, 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 malt spirit, grape spirit, concentrated alcoholic beverages, high bouquet spirit, vatted spirit etc.  | Should match organoleptically with reference standard.  | Harsh , pungent , greasy, oily, synthetic, petroleum, plastic, metallic, rubbery , sulphury , 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.

* + - * 1. (b) After familiarization with the typical sensory notes, the sensory panellists should be trained on the identification
				2. & detection of atypical notes like papery, plastic, sulfury etc., as some of the atypical notes increase over
				3. 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 A**

*(Clause* 8.1*)*

**GENERAL TASTING WHEEL**

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**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 fromblackish shade, sediment andsuspended 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 | - |
| 2 | Odour | Very mellow gentle pleasant, woody rich matured grape note, absolutely natural, free from synthetic odour. The exquisite wine/sherry note persist  | 5 | 5 |
| 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 is extremely pleasing. It is absolutely smooth and not at all satiating  | 10 | 10 |
| 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. A very attractive smoky odour. The exquisite aroma persists and is well bound to the liquor | 5 | 5 |
| 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 syntheticroma 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 pleasantwoody 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, tasteof 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 persists and is well bound to the liquor | 10 | 10 |
| 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 fuse1 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)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. 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, freefrom blackish shade, sedimentand 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 ofcane spirit, free from syntheticodour, natural, the aroma doesnot 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 canespirit 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)** | **(2)** | **(3)** | **(4)** | **(5)** |
| 1 | Colour and appearance | Transparent without any color and sparkling crystal clear appearance, free from suspended matter and sedimentation  | 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 fuse1oil 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-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 pun gent, smell of fuse1 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)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. 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 | - |

**ANNEX C**

(*Foreword*)

**COMMITTEE COMPOSITION**

Alcoholic Drinks Sectional Committee, FAD 29

| *Organization* | *Representative(s)* |
| --- | --- |
| CSIR - Central Food Technological Research Institute, Mysuru | Dr Prakash M Halami **(*Chairperson*)** |
| All India Distillers Association, New Delhi | Shri V. N. RainaShri Sukhraj Soni (*Alternate* I)Shri K. P. Singh (*Alternate* II) |
| All India Wine Producrs Association, Nashik | Shri HOLKAR JAGDISH Shri DATAR DHANANJAY VIJAY (*Alternate* I) |
| CSIR - Central Food Technological Research Institute, Mysuru | Dr Prasanna Vasu |
| Central Revenue Control Laboratory, New Delhi | Shri V. SureshShri Shivraj Singh (*Alternate*) |
| Confederation of Indian Alcoholic Beverage Companies, New Delhi | Shri Vinod GiriShri Ramesh Koranga (*Alternate*) Shri Naresh Raghav (*Alternate* II) |
| Craft Brewers Association of India, Bengaluru | Shri Aditya Challa |
| Defence Food Research Laboratory, Mysuru | Dr R. KumarDr A. Jagannath (*Alternate* I) |
| Mohan Meakin Limited, Ghaziabad | Dr Chaudhary Shalu SinghShri Himanshu Gupta (*Alternate*) |
| National Research Centre for Grapes, Pune | Dr Kaushik BanerjeeDr Ajay Kumar Sharma (*Alternate* I) |
| National Sugar Institute, Kanpur | Dr. Ananthalakshmi Ranganathan |
| United Spirits Limited, Bengaluru | Shri Nagendra S. MS ASHA MISHRA (*Alternate* I) |
| Vasantdada Sugar Institute, Pune | Dr. Kakasaheb Konde Shri DINESH ABHIMAN PATIL  |
| BIS Directorate General | Ms Suneeti Toteja, Scientist ‘F’/Senior Director and Head (Food and Agriculture) [Representing Director General (*Ex-officio*)] |

*Member Secretary*

Ms DISHA ZANWAR

Scientist ‘C’/deputy Director

(Food and Agriculture), BIS