



## Standard Guide for Sensory Evaluation of Beverages Containing Alcohol<sup>1</sup>

This standard is issued under the fixed designation E 1879; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This guide provides guidelines specific to the sensory evaluation of beverages containing alcohol, including beer, wine, coolers, cocktails, liqueurs, and distilled spirits.

1.2 This guide addresses safety, legal, panel selection, sample preparation, and test procedures specific to beverages containing alcohol.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.4 This guide does not recommend a specific test method.

### 2. Significance and Use

2.1 The procedures recommended in this guide can be used for the sensory evaluation of beverages containing alcohol.

2.2 This guide provides practical suggestions to maximize panelist safety and to minimize the risks and liabilities of the person or corporation responsible for administering the sensory evaluation of beverages containing alcohol.

2.3 This guide also provides practical suggestions when dealing with various government agencies that are involved in distributing beverage alcohol test products.

### 3. Safety

NOTE 1—See also Fig. 1 and STP 913 (1).<sup>2</sup>

3.1 *Medical Condition*—Potential panelists must be in good medical condition with no serious health problems. Inform them that they should not participate on panels if they are taking prescription or over-the-counter medications, which are contraindicated when combined with alcohol.

#### 3.2 *Home-Use Testing:*

3.2.1 Home use tests with beverages containing alcohol are often used to determine how products are consumed. Transportation and storage of high proof spirits are very important. In addition to an informed consent form (see 5.2.1), it is recommended that the following statements accompany products used in home-use testing:

3.2.1.1 The sponsor of this study is a well-known major manufacturer who considers the health and safety of research participants and the public to be of the utmost importance.

3.2.1.2 Specific guidelines that must be followed while participating in this product test are listed as follows. Compliance with these guidelines is necessary to ensure that the beverage alcohol product you are given is consumed in a responsible manner. Please read and follow these guidelines carefully.

(1) Do not open test product(s) until you arrive home.

(2) If you are driving, you must transport the test product to your home in the trunk of your car.

(3) Do not drive or operate heavy machinery after sampling test product(s).

(4) Do not leave the test product(s) in a place where it is accessible to individuals under the legal drinking age.

(5) If there is a need to return used beverage containers, you must empty the container completely because it is illegal to transport open containers of beverage alcohol.

#### 3.3 *Central Location or Intercept Testing:*

3.3.1 Safety is most critical in situations where consumers evaluate beverage alcohol products at a central location. There are several steps that can be taken to ensure respondent safety:

3.3.1.1 Provide transportation to and from the test location.

3.3.1.2 Have a certified bartender or highly trained professional provide each respondent with the test products. Instruct the bartender or professional not to serve respondents whom exhibit any signs of intoxication. The Hotel, Tavern, and Restaurant Association in each state offers techniques in alcohol management courses. It is recommended that all servers complete this course.

3.3.1.3 Limit the sample volume for evaluation to an amount which will ensure the respondent will not have a blood alcohol level greater than a legal limit (see Table 1).

#### 3.4 *Employee Panels:*

3.4.1 When employees evaluate product(s) at their workplace, the sensory professional has additional control. This control involves scheduling panels such that employees can remain at the workplace until their blood alcohol content is reduced below legal limits (see Table 1) to drive or operate machinery.

3.4.1.1 Special considerations need to be taken when panelist's work involves the operation of equipment or any work task that can jeopardize the safety of others:

3.4.2 Do not allow these employees to be panelists.

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<sup>2</sup> The boldface numbers in parentheses refer to the list of references at the end of this standard.

The Sponsor, (a well-known major manufacturer) of the research in which you will participate, engages in product testing and evaluation research to maintain and improve the quality of its products. As a participant in such research, you may be offered the opportunity to sample small quantities of alcoholic beverages. You are never required to sample such beverages, nor are you required to finish any beverage you elect to sample. Indeed, the decision as to whether to sample any product offered during the research is yours alone, and you alone should determine how much of the sample you wish to consume.

The Sponsor considers the health and safety of research participants and the public to be of utmost importance. Therefore, you should refrain from sampling any alcoholic beverage offered as part of this research if you have been advised by your doctor or if you have any medical reason to refrain from consuming alcoholic beverages (beer, coolers, wine or distilled spirits).

You should also refrain from sampling any alcoholic beverage on a given day if:

- you have consumed any beer, coolers, wine or distilled spirits on that day.
- you are taking any prescription or over-the-counter (non-prescription) medication and you have been advised by your doctor, or the label or instructions state, that you should refrain from consuming alcoholic beverages while taking the medication.

In addition, Federal Law requires that alcoholic beverage labels contain the following statement:

**GOVERNMENT WARNING:**

1. According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects.
2. Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery and may cause health problems.

Furthermore, you should follow your doctor's advice if you are pregnant, attempting to become pregnant, or nursing.

You may be asked by the person conducting the research in which you are participating or by other facility personnel to remain at this facility for a period of time after your last sampling of an alcoholic beverage. Moreover, if you appear to be impaired at the end of such time period, you will be provided with an alternative means of transportation to your home and arrangements will be made for you to return at a later date for your car, at the Sponsor's expense.

You acknowledge and agree that you have read this Statement of Policy and fully understand its contents. You further acknowledge that you are of legal drinking age. You further agree that you will release the Sponsor from claims of any nature relating to your participation in this research.

Name of Participant: \_\_\_\_\_ Age: \_\_\_\_\_  
 (Please Print)  
 Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_  
 Address: \_\_\_\_\_

**FIG. 1 Sample Sponsor's Statement of Policy**

**TABLE 1 Blood Alcohol Concentration (B.A.C.) Chart  
 (Percent of Alcohol in Bloodstream)**

| Your Weight (lb) | Number of Drinks <sup>4</sup> Consumed |       |       |       |       |       |       |       |       |
|------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|
|                  | 1                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
| 100              | 0.029                                  | 0.058 | 0.088 | 0.117 | 0.146 | 0.175 | 0.204 | 0.233 | 0.262 |
| 120              | 0.024                                  | 0.048 | 0.073 | 0.097 | 0.121 | 0.145 | 0.170 | 0.194 | 0.219 |
| 140              | 0.021                                  | 0.042 | 0.063 | 0.083 | 0.104 | 0.125 | 0.146 | 0.166 | 0.187 |
| 160              | 0.019                                  | 0.037 | 0.055 | 0.073 | 0.091 | 0.109 | 0.128 | 0.146 | 0.164 |
| 180              | 0.017                                  | 0.033 | 0.049 | 0.065 | 0.081 | 0.097 | 0.113 | 0.130 | 0.146 |
| 200              | 0.015                                  | 0.029 | 0.044 | 0.058 | 0.073 | 0.087 | 0.102 | 0.117 | 0.131 |
| 220              | 0.014                                  | 0.027 | 0.040 | 0.053 | 0.067 | 0.080 | 0.093 | 0.106 | 0.119 |
| 240              | 0.012                                  | 0.024 | 0.037 | 0.048 | 0.061 | 0.073 | 0.085 | 0.097 | 0.109 |

<sup>4</sup> One drink equals: 1 oz of 80 proof alcohol; 12-oz bottle of beer; 2 oz of 20 % wine; 3 oz of 12 % wine.

3.4.3 Arrange with employee management "waiting times" after product evaluation before these employees can resume work involving these safety related work activities. Require a

blood alcohol (breath analyzer) test prior to allowing the employee to resume safety-related work activities.

3.4.4 Limit the sample volume for evaluation to an amount

**TABLE 2 Time is the Only Way to Reduce Your B.A.C.<sup>A</sup>**

| If Your B.A.C. Is (%) | Hours to Reach B.A.C. % Below |       |       |
|-----------------------|-------------------------------|-------|-------|
|                       | 0.000                         | 0.050 | 0.100 |
| 0.025                 | 1.7                           |       |       |
| 0.050                 | 3.3                           |       |       |
| 0.075                 | 5.0                           | 1.7   |       |
| 0.100                 | 6.7                           | 3.3   |       |
| 0.125                 | 8.3                           | 5.0   | 1.7   |

<sup>A</sup> Alcohol is burned by our body at 0.015 %/h. This chart shows how many hours it takes to reduce your B.A.C. from various levels.

which will ensure the employee will not have a blood alcohol level greater than a legal limit (see Table 1).

#### 4. Regulatory

4.1 Investigate and meet federal, state, and local regulations whenever studies are to be conducted that include the storage, handling, shipping, serving, or consumption of beverages containing alcohol.

4.2 Some state or local communities do not allow testing of beverage alcohol. Those states that do allow testing of beverage alcohol each have different regulations and procedures. The following guidelines are recommended:

4.2.1 Determine if the facility is required to have a liquor license or be bonded to conduct the study. This information is available from local State agencies such as beverage control commissions and from federal agencies like the Bureau of Alcohol, Tobacco, and Firearms (BATF).

4.2.2 Research and meet State and Federal regulations for the shipping, handling, receiving, storing and disposing of alcoholic beverages. Some relevant agencies are: State liquor control boards, Bureau of Alcohol, Tobacco, and Firearms (BATF), Food and Drug Administration (FDA), and Occupational Safety and Health Administration (OSHA).

4.2.3 Research and meet regulations for the serving of beverage alcohol. For example, some states require the use of a certified bartender. See Appendix X2 for an example of legal consumption levels. Note that these levels may change from state to state.

4.2.4 Store material safety data sheets (MSDS) for ethanol on the study site premises, and make available upon request from participants. Also make available MSDS sheets for compounds used as reference standards or sensory training.

#### 5. Legal Liability

5.1 There is a risk of legal liability whenever beverages containing alcohol are tested. To minimize these risks, it is recommended that the guidelines in 5.2 and 5.3 be used.

##### 5.2 Consent Forms:

5.2.1 Prepare consent forms for each product evaluation session (see Fig. 1).

5.2.1.1 Describe the nature of the study. For example, the sentence, "You may or may not be served beverages that contain alcohol," can be used to obtain informed consent.

5.2.1.2 Outline the time period over which testing will be conducted.

5.2.1.3 Include all the federal alcohol warning information (see Fig. 1).

5.2.1.4 Indicate that in order for the candidate to participate in the study they must be in good health and are willing to

participate as evidenced by the signing of the informed consent form.

5.2.1.5 Indicate that participants can be excluded from the study for specific reasons including pregnancy, taking prescribed medications, current illnesses, and alcohol abuse. Furthermore, indicate that if any of the exclusion circumstances arises during the course of the study it is the participant's responsibility to bring it to the organizer's attention. This is particularly important for long-term studies, where periodic reviewing and signing of consent forms may be necessary.

5.2.1.6 Under certain circumstances, include a list of ingredients on the consent form mentioning all of the products to be tested. For example, ingredients not commonly associated with alcoholic beverages such as caffeine, Aspartame,<sup>®</sup> or capsaicin should be identified on the consent form.

5.2.1.7 Include statements indicating that participants can be removed from the study without consent at any time.

5.2.1.8 Each participant is required to provide appropriate validation of legal age to consume beverages containing alcohol. Record this validation on the consent form.

5.2.1.9 Upon completion of reading the consent form, ensure that the participant understands the form and has no questions. After being allowed ample time to review the contents of the consent form, the participant must sign and date the consent form in the presence of a witness.

##### 5.3 Other:

5.3.1 Review and follow the items described in Section 3 to further reduce the risk of liability.

5.3.2 Post government warnings for the consumption of alcoholic beverages on test premises and on test products.

5.3.3 In home-use studies, label each product as a test sample and not for sale.

#### 6. Panel Selection

6.1 Consider safety, regulatory, and liability issues as discussed in Sections 3-5 when selecting participants specifically for a beverage alcohol panel. For general information on panel selection criteria, consult MNL 26 and STP 758 (2 and 3).

##### 6.2 Special Considerations on Panel Selection Criteria:

6.2.1 Age—All panelists must be of legal drinking age. Confirm their age by using picture identification cards, such as a driver's license or other photo identification card (only if date of birth is listed on the card).

6.3 *Drinking Habits*—Product abuse is a criterion for exclusion for all beverage alcohol tests. Do not use individuals who indicate that they consume more than two 1-oz drinks of high-proof spirits daily or a six-pack of beer a day.

6.4 *Recruitment*—Contact the potential panelist directly to reduce the risk of including individuals with alcohol abuse problems. For example, it is not recommended that panelists be recruited through means such as media advertisements, flyers, word of mouth, etc. Also, the recruiter must be fully aware of the legal, safety, and specific panel considerations prior to running the test.

6.5 *Religious and Moral Considerations*—Do not use individuals if drinking beverage alcohol interferes with or contradicts their religious or moral beliefs.