



Standard Test Methods for Odor of Methanol, Ethanol, *n*-Propanol, and Isopropanol¹

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1. Scope

1.1 These test methods cover procedures for observing characteristic and residual odors and estimating odor intensity of methanol, ethanol, *n*-propanol, and isopropanol for the purpose of determining their odor acceptability. Several test methods are included and any or all may be used. These test methods may be used for both denatured and undenatured alcohols.

1.2 These test methods are not intended to determine subtle end differences between alcohols, which do not affect their end use.

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.*

2. Referenced Documents

2.1 ASTM Standards:²

D 86 Test Method for Distillation of Petroleum Products at Atmospheric Pressure

E 133 Specification for Distillation Equipment

3. Significance and Use

3.1 These test methods are intended to provide procedures that may be used to evaluate denatured and undenatured alcohols with 1 to 3 carbon atoms for characteristic and residual odors that will affect their end use.

3.2 The products tested are compared to reference standards using one or all of the test methods described. Interpretation of results and acceptability of the product for a specific end use are the responsibility of the panel supervisor and are based on the results obtained in testing.

3.3 These tests may be used to qualify the suitability of these products for use in a customer-producer relationship.

4. Reference Standards

4.1 Reference standards of the products to be tested, having odor characteristics satisfactory to the consumer and producer, are required.

4.2 Periodically examine reference standards to assure their continued acceptability, and replace when necessary.

5. Selection of Panel

5.1 A panel of at least five trained judges is recommended for these evaluations.

5.2 The panel may be selected and trained in accordance with the methods outlined in ASTM STP 758.³ Since discrimination tests are involved, panel members must have a complete understanding of the nature of the judgements required, the test procedures, and test controls required. During the training period, panelists should examine both acceptable and unacceptable products to become familiar with the range of acceptability.

6. Procedure A—Characteristic and Residual Odors by Evaporation

6.1 Apparatus:

6.1.1 *Rapid Qualitative Filter Paper*, 2.5 by 7.5-cm strips, odor-free.

6.1.2 *Glass Containers*, odor-free, with fitted closures.

6.2 *Sample Preparation*—Each panelist dips separate strips of the filter paper to a depth of 5.0 cm into the sample and standard, which are provided in suitable, clean, odor-free glass containers with fitted closures.

6.3 Sample Evaluation:

6.3.1 For characterization, after wetting the filter papers, make an immediate odor comparison between the standard and sample(s). Permit the papers to air dry at room temperature.

6.3.2 For residual odor, as soon as the papers appear dry and the characteristic odor has dissipated, evaluate them for possible differences.

6.3.3 Panel members should record individual results as outlined in 10.1 and 10.2.

7. Procedure B—Odor Character Intensity by Dilution

7.1 Methanol and Ethanol:

¹ These test methods are under the jurisdiction of ASTM Committee E18 on Sensory Evaluation of Materials and Products and are the direct responsibility of Subcommittee E18.06 on Food and Beverage Evaluation.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ *Selection and Training of Sensory Evaluation Panels*, ASTM STP 758, ASTM International, 1981.