



Designation: D1296 – 23

Standard Test Method for Odor of Volatile Solvents and Diluents¹

This standard is issued under the fixed designation D1296; 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 (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This test method covers a comparative procedure for observing the characteristic and residual odors of volatile organic solvents and diluents to determine their odor acceptability in a solvent system.

1.2 It is not intended that this test method be employed to determine subtle odor differences between materials or to determine odor intensity.

1.3 It is recommended that this test method not be employed to determine the residual odor of a liquid if its time for evaporation to dryness at room temperature exceeds 30 min or as agreed upon.

1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.* For specific hazard statements, see Section 4.

1.6 For specific hazard information, see the supplier's Material Safety Data Sheet (MSDS).

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Reference Standards

2.1 Samples of the particular products being tested, having odor characteristics satisfactory to purchaser and manufacturer, are required.

¹ This test method is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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3. Significance and Use

3.1 The comparative odor characteristics can be used, combined with other tests, for product identification and assessing compliance with a specification.

3.2 The residual odor characteristics can be used to judge the presence of relatively nonvolatile materials that may be associated with manufacture or contamination during distribution. Since volatile solvents and diluents are used in a wide variety of chemical processes and residual materials may affect the efficiency of such processes, this test method provides a comparative test for manufacturing control and assessing compliance with a specification.

4. Hazards

4.1 Many solvents and diluents are hazardous or toxic. Take special precautions while determining the odor of all products. Make the tests only as frequently as is necessary for control and base the evaluations on short sniffs, inhaling as little vapor as possible.

4.2 Provide adequate ventilation to maintain solvent or diluent concentration below the personnel exposure limit value established for the general work area as given in the MSDS.

4.3 Other hazards may also be present. These may be, but are not limited to, flammable, combustible, corrosive, or explosive hazards.

5. Procedures

5.1 *Characteristic Odor*—Dip 25 mm by 75 mm strips of rapid qualitative paper, free of foreign odor, to a depth of 50 mm into the specimen and the reference standard, each contained in a beaker or other suitable container. Make an immediate comparison between the odor of the two materials on the filter papers.

5.2 *Residual Odor*—Dip 25 mm by 75 mm strips of a rapid qualitative paper, free of foreign odor, to a depth of 50 mm into the specimen under test and the reference sample, each contained in a beaker or other suitable container. Permit the papers to dry in air at room temperature and examine them at suitable intervals for differences in odor (see 1.3). The evaporation step may be omitted if only the “characteristic” odor of the material is to be determined.