



Designation: E 619 – 84 (Reapproved 1995)

Standard Practice for Evaluating Foreign Odors in Paper Packaging¹

This standard is issued under the fixed designation E 619; 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 Department of Defense.

1. Scope

1.1 This practice covers the evaluation of odors in paper packaging and establishes smelling and testing procedures for trained sensory panels.

1.2 This practice covers effective techniques for determining the type and source of the odor and establishing the severity of contamination.

1.3 The techniques used in this practice are applicable to all paper packaging products and to auxiliary components, such as coatings, inks, and adhesives, as well as plastic materials used in conjunction with paper.

1.4 *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. Summary of Practice

2.1 Under the leadership of the test supervisor, qualified and trained subjects individually examine sample specimens by one or more of the test procedures described in this practice. Subjects judge the intensity of a perceived off-odor in terms of a numerical rating scale and also attempt to give a qualitative description of the taint. The assembled observations are then interpreted by the supervisor.

3. Significance and Use

3.1 *Use*—This practice should be used by panelists, trained as described in ASTM STP 758², under the direction of a knowledgeable supervisor.

3.2 *Significance*—This practice can be used to evaluate indigenous and foreign odors in paper packaging materials as to type and intensity. A knowledgeable supervisor may be able to determine the source of a foreign odor from the information obtained from this procedure.

4. Sensory Test Panel Selection and Training

4.1 *General*—Sensory panel selection and training are described in STP 758 and in references therein.

4.2 *Size*—The test panel on a specific odor problem should consist of at least five members and should render a minimum total of ten judgments per sample. A maximum of twelve subjects may be used, if available. When possible, the subjects should be drawn from a larger pool of qualified panelists.

4.3 *Selection*—The important criteria in panel selection are: (a) normal ability to detect and identify odors and flavors; (b) ability to discriminate differences, and reproduce results; and (c) interest in the testing work for which the panelists are to be trained. Usually a suitable panel can be recruited from available employees unless their number is limited. It is helpful if panel members have a scientific background, with some knowledge of chemistry or food technology; however, this should not be a criterion for selection. Nontechnical personnel have often proved to be excellent panel members after appropriate training. No willing and available person should be excluded from consideration. Panel members should be requalified periodically.

5. Testing Facilities and Apparatus

5.1 *General*—Appropriate physical conditions for sensory panel operations are described in STP 434.³

5.2 *Testing Room*—Detection of low levels of odor requires a working space in which individual members of the panel can concentrate on the task. The room should be comfortable as to temperature, humidity, and noise, and relatively free of laboratory industrial odors. If ambient odor levels are too high, testing of the samples must be transferred to another location. Interruptions and other distracting influences should be avoided.

5.3 *Sample Containers*—Clean, dry, closed, odor-free containers of appropriate sizes are needed for storing samples and for confining specimens to develop maximum odor intensity or to test for taste transfer. Laboratory glassware, capped glass jars, and glass battery jars with plate glass lids are suitable for this purpose. Rubber gaskets or stoppers should not be used.

¹ This practice is under the jurisdiction of ASTM Committee E-18 on Sensory Evaluation Materials and Products and is the direct responsibility of Subcommittee E18.05 on Sensory Applications—General.

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² *Guidelines for the Selection and Training of Sensory Evaluation Panels*, ASTM STP 758, ASTM, 1981.

³ *Manual on Sensory Testing Methods*, ASTM STP 434, ASTM, 1968.