



Standard Guide for Descriptive Analysis of Shampoo Performance¹

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1. Scope

1.1 The objective of this guide is to provide procedures which may be used in the design, execution, and analysis of studies to quantitatively assess the objective sensory attributes of shampoos. This is one of many appropriate techniques used in the hair-care industry. These attributes can then be used to define performance of shampoos and to provide direction in product formulation, research guidance testing, and claim substantiation. This guide includes the sensory properties involved in dispensing a product, as well as the attributes pertinent to shampooing swatches, half and whole heads. Although this guide is specific to shampoos, the procedures should be applicable to most hair-care products.

1.2 Guidelines are provided for the definition of terminology, procedures for manipulation of products, identification/selection of hair type, and assessor training. References for rating scales are not provided in this guide. The user should be aware that some sensory practices may require the use of attribute references (anchors) when training the assessors.

2. Referenced Documents

2.1 *ASTM Standards*:²

[E253 Terminology Relating to Sensory Evaluation of Materials and Products](#)

2.2 *ASTM Publications*:³

[ASTM Manual 13 Descriptive Analysis Testing for Sensory Evaluation](#)

[ASTM Manual 26 Sensory Testing Methods: Second Edition](#)

[ASTM Manual 30 Relating Consumer, Descriptive, and Laboratory Data to Better Understand Consumer Responses](#)

¹ This guide is under the jurisdiction of ASTM Committee E18 on Sensory Evaluation and is the direct responsibility of Subcommittee E18.07 on Personal Care and Household 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 Available from ASTM International Headquarters, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959

[ASTM STP 758 Guidelines for the Selection and Training of Sensory Panel Members](#)

[2.3 Code of Federal Regulations](#):⁴

[21 CFR 50.25 Protection of Human Subjects—Elements of Informed Consent](#)

3. Terminology

3.1 *Definitions*—Definitions of terms other than those given as follows appear in Terminology [E253](#).

3.2 *Definitions*:

3.2.1 *cosmetologist*—a licensed, trained professional who has been certified by state or government agencies to apply hair-care products to human heads. These individuals may be alternately described as beauticians, stylists, hairdressers, or cosmetologists.

3.2.2 *subjects*—those individuals recruited to participate in a study for the quality or condition of their hair, to serve as sample carriers.

3.2.3 *trained panel*—a group of assessors who have been formally trained to evaluate the visual and tactile properties of shampoo or hair, using a standard descriptive analysis method which quantifies attributes on a rating scale over a set time period. The number may vary depending on the complexity of the test and the skill of the assessor.

4. Equipment

4.1 The following equipment may be used during the evaluation process:

4.1.1 *General*:

4.1.1.1 *Light Source*—A consistent light source is recommended for use during evaluation of shine or luster. It is important to control the amount of light as well as the angle and distance from the hair.

4.1.1.2 *Water Source*—Temperature and hardness should be consistent. If controlled temperature sinks are used, they should all have the same, consistent flow rate.

4.1.1.3 *Blow Dryer*—Specifications should be documented (that is, wattage, voltage, power level, air velocity, and temperature).

4.1.1.4 *Syringes/Pipettes, Petri Dishes*.

⁴ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401.