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Standard Terminology Relating to Flexible Barrier Packaging¹

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1. Scope

1.1 This terminology covers the principal terms relating to flexible barrier packaging and its materials. This terminology contains related definitions and descriptions of terms used or likely to be used in flexible barrier packaging standards. The purpose of terminology is to promote clear understanding and interpretation of the standards in which they are used.

2. Referenced Documents

2.1 ASTM Standards:²

D 883 Terminology Relating to Plastics

D 1129 Terminology Relating to Water

F 1349 Test Method for Nonvolatile Ultraviolet (UV) Absorbing Extractables from Microwave Susceptors

F 1980 Guide for Accelerated Aging of Sterile Barrier Systems for Medical Devices

3. Terminology

accelerated aging—a technique to simulate the effects of time on a package by subjecting the product/package system to elevated temperatures in a controlled environment representative of controlled environment storage conditions. The equivalent time is generally estimated by assuming the degradation of packaging materials follows the kinetics described by the Arrhenius reaction rate function, more discussion of which is available in Guide F 1980.

acid foods—foods that have a natural pH of 4.6 or below.

adhesive transfer—a condition occurring when an adhesive-coated material is peeled away from an opposing material to which it has been sealed and shows visible evidence of the adhesive being left on the opposing material. This evidence is in the form of an adhesive layer that remains with the opposing material, the adhesive having separated either

adhesively from the coated web or cohesively within the adhesive itself.

aseptic—as applied to aseptic packaging, synonymous with commercially sterile.

aseptic packaging—filling of a commercially sterilized product into presterilized containers, followed by hermetic sealing in a commercially sterile atmosphere.

aseptic presentation—introduction and transfer of a sterile product using conditions and procedures that exclude microbial contamination.

barrier—any material limiting passage through itself of solids, liquids, semisolids, gases, vapors, or forms of energy such as ultraviolet light.

barrier materials—specialized porous or nonporous packaging materials that provide environmental protection to the package contents as well as protection to the environment from the package contents: (1) gas, vapor, humidity, liquid, microbial, or light resistant materials that control or eliminate the amount of those environmental constituents that pass into or out of a package; (2) a porous material preventing the passage of microorganisms that might contaminate the contents of the package.

biological evaluation test (biotest)—a test which involves exposure of sealed packages to biological indicators and is designed to determine the microbiological integrity of a package under the specific conditions of the test.

burst strength—a measure of the internal pressure necessary to rupture a package or seal.

channel—any unimpaired pathway across the entire width of the intended seal.

coextrusion—*in flexible barrier materials*, (1) a process whereby two or more plastic streams are forced simultaneously through one or more shaping orifices to become one continuously-formed multilayered structure. (2) Also, the product resulting from such a process.

commercial sterility—*of thermally processed food*, the condition achieved by application of heat, alone or in combination with other appropriate treatments, to render the food free of microorganisms capable of growing in the food at normal nonrefrigerated conditions at which the food is likely to be held during distribution and storage.

delamination—the separation of layers in a multilayered structure.

¹ This terminology is under the jurisdiction of ASTM Committee F02 on Flexible Barrier Packaging and is the direct responsibility of F02.50 on Package Design and Development.

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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.