



Standard Test Method for Foaming Characteristics of Lubricating Oils¹

This standard is issued under the fixed designation D892; 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 the determination of the foaming characteristics of lubricating oils at 24 °C and 93.5 °C. Means of empirically rating the foaming tendency and the stability of the foam are described.

1.2 **WARNING**—Mercury has been designated by many regulatory agencies as a hazardous substance that can cause serious medical issues. Mercury, or its vapor, has been demonstrated to be hazardous to health and corrosive to materials. Use caution when handling mercury and mercury-containing products. See the applicable product Safety Data Sheet (SDS) for additional information. The potential exists that selling mercury or mercury-containing products, or both, is prohibited by local or national law. Users must determine legality of sales in their location.

1.3 The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.* For specific warning statements, see Sections 7, 8, and 9.1.1.

1.5 *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.*

¹ This test method is under the jurisdiction of Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.06 on Analysis of Liquid Fuels and Lubricants.

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2. Referenced Documents

2.1 ASTM Standards:²

- D445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)
- D4175 Terminology Relating to Petroleum Products, Liquid Fuels, and Lubricants
- D6082 Test Method for High Temperature Foaming Characteristics of Lubricating Oils
- E1 Specification for ASTM Liquid-in-Glass Thermometers
- E128 Test Method for Maximum Pore Diameter and Permeability of Rigid Porous Filters for Laboratory Use
- E1272 Specification for Laboratory Glass Graduated Cylinders

3. Terminology

3.1 Definitions:

3.1.1 For definitions of terms used in this test method, refer to Terminology D4175.

3.1.2 *diffuser, n—for gas*, a device for dispersing gas into a fluid.

3.1.2.1 *Discussion*—In this test method the diffuser may be made of either metallic or non-metallic materials.

3.1.3 *entrained air (or gas), n—in liquids*, a two-phase mixture of air (or gas) dispersed in a liquid in which the liquid is the major component on a volumetric basis.

3.1.3.1 *Discussion*—Entrained air (or gas) may form micro size bubbles in liquids that are not uniformly dispersed and that may coalesce to form larger bubbles below or at the surface which break or form foam.

3.1.4 *foam, n—in liquids*, a collection of bubbles formed in or on the surface of a liquid in which the air or gas is the major component on a volumetric basis.

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.