



Designation: D6666 – 20

Standard Guide for Evaluation of Aqueous Polymer Quenchants¹

This standard is issued under the fixed designation D6666; 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.

1. Scope*

1.1 This guide provides information, without specific limits, for selecting standard test methods for testing aqueous polymer quenchants for initial qualification, determining quality, and the effect of aging.

1.2 *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 requirements prior to use.*

1.3 *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. Referenced Documents

2.1 ASTM Standards:²

- D95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation
- D445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)
- D892 Test Method for Foaming Characteristics of Lubricating Oils
- D1744 Test Method for Determination of Water in Liquid Petroleum Products by Karl Fischer Reagent (Withdrawn 2016)³
- D1747 Test Method for Refractive Index of Viscous Materials
- D1796 Test Method for Water and Sediment in Fuel Oils by

- the Centrifuge Method (Laboratory Procedure)
- D2624 Test Methods for Electrical Conductivity of Aviation and Distillate Fuels
- D3519 Test Method for Foam in Aqueous Media (Blender Test) (Withdrawn 2013)³
- D3601 Test Method for Foam In Aqueous Media (Bottle Test) (Withdrawn 2013)³
- D3867 Test Methods for Nitrite-Nitrate in Water
- D4327 Test Method for Anions in Water by Suppressed Ion Chromatography
- D5296 Test Method for Molecular Weight Averages and Molecular Weight Distribution of Polystyrene by High Performance Size-Exclusion Chromatography
- D6482 Test Method for Determination of Cooling Characteristics of Aqueous Polymer Quenchants by Cooling Curve Analysis with Agitation (Tensi Method)
- D6549 Test Method for Determination of Cooling Characteristics of Quenchants by Cooling Curve Analysis with Agitation (Drayton Unit)
- D7042 Test Method for Dynamic Viscosity and Density of Liquids by Stabinger Viscometer (and the Calculation of Kinematic Viscosity)
- E70 Test Method for pH of Aqueous Solutions With the Glass Electrode
- E979 Practice for Evaluation of Antimicrobial Agents as Preservatives for Invert Emulsion and Other Water Containing Hydraulic Fluids
- E2275 Practice for Evaluating Water-Miscible Metalworking Fluid Bioresistance and Antimicrobial Pesticide Performance

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *austenite, n*—solid solution of one or more elements in face-centered cubic iron (gamma iron) and unless otherwise designated, the solute is generally assumed to be carbon (**1**).⁴

3.1.2 *austenitizing, n*—forming austenite by heating a ferrous alloy into the transformation range (partial austenitizing) or above the transformation range (complete austenitizing). When used without qualification, the term implies complete austenitizing (**1**).

¹ This guide is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.L0.06 on Non-Lubricating Process Fluids.

Current edition approved May 1, 2020. Published May 2020. Originally approved in 2001. Last previous edition approved in 2019 as D6666 – 04 (2019). DOI: 10.1520/D6666-20.

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 The last approved version of this historical standard is referenced on www.astm.org.

⁴ The boldface numbers in parentheses refer to the list of references at the end of this standard.

*A Summary of Changes section appears at the end of this standard