



Standard Specification for Biodegradable Fire Resistant Hydraulic Fluids¹

This standard is issued under the fixed designation D7044; 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 specification covers performance classifications for biodegradable fire-resistant hydraulic fluids that are used in the industrial/mobile and mining industries.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *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 to determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- D95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation
- D664 Test Method for Acid Number of Petroleum Products by Potentiometric Titration
- D892 Test Method for Foaming Characteristics of Lubricating Oils
- D943 Test Method for Oxidation Characteristics of Inhibited Mineral Oils
- D974 Test Method for Acid and Base Number by Color-Indicator Titration
- D1298 Test Method for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method
- D1401 Test Method for Water Separability of Petroleum Oils and Synthetic Fluids
- D2422 Classification of Industrial Fluid Lubricants by Viscosity System
- D2532 Test Method for Viscosity and Viscosity Change

¹ This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.N0.06 on Fire Resistant Fluids.

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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.

After Standing at Low Temperature of Aircraft Turbine Lubricants

- D2783 Test Method for Measurement of Extreme-Pressure Properties of Lubricating Fluids (Four-Ball Method)
- D2882 Test Method for Indicating Wear Characteristics of Petroleum and Non-Petroleum Hydraulic Fluids in Constant Volume Vane Pump (Withdrawn 2003)³
- D3427 Test Method for Air Release Properties of Petroleum Oils
- D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter
- D5182 Test Method for Evaluating the Scuffing Load Capacity of Oils (FZG Visual Method)
- D6046 Classification of Hydraulic Fluids for Environmental Impact
- D6304 Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration
- D6546 Test Methods for and Suggested Limits for Determining Compatibility of Elastomer Seals for Industrial Hydraulic Fluid Applications
- E70 Test Method for pH of Aqueous Solutions With the Glass Electrode

2.2 DIN Standards:⁴

- DIN 51348 Testing of Fire Resistant Governor Fluids; Determination of Hydrolytic Stability
- DIN 51354-2 Testing of Lubricants; FZG Gear Test Rig – Part 1: Method A/8,3/90 for Lubricating Oils
- DIN 51373 Testing of Fire Resistant Heat Transfer Fluids; Determination of Resistance to Oxidation Including an Assessment of the Catalyst Plates
- DIN 51389-2 Determination of Lubricants; Mechanical Testing of Hydraulic Fluids in the Vane-cell-pump; Method A for Anhydrous Hydraulic Fluids
- DIN 51777-2 Testing of Mineral Oil Hydrocarbons and Solvents; Determination of Water Content according to Karl Fischer; Indirect Method

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from Deutsches Institut für Normung e.V.(DIN), Am DIN-Platz, Burggrafenstrasse 6, 10787 Berlin, Germany, <http://www.din.de>.

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