



AEROSPACE MATERIAL SPECIFICATION

AMS3023™

REV. C

Issued 1995-05
Reaffirmed 2003-11
Revised 2022-11

Superseding AMS3023B

Fluid, Reference for Testing Polyol Ester (and Diester) Resistant Material

RATIONALE

Five-Year Review. This revision updates resource and document references.

1. SCOPE

1.1 Form

This specification covers a trimethylol propane triheptanoate fluid (see 8.2) representative of standard type (SPC) gas turbine engine oils.

1.2 Application

This fluid has been used typically to evaluate the ability of elastomeric and other polymeric materials to conform to designated requirements after contact with, or immersion in, gas turbine lubricants such as those conforming to MIL-PRF-7808, MIL-PRF-23699 Grade Std, and AS5780 Grade SPC. This fluid is not representative of high thermal stability lubricants such as those conforming to MIL-PRF-23699 class HTS or AS5780 class HPC. AMS3085 (Reference Oil 300) should be used where elastomer compatibility with such gas turbine lubricants is required. This fluid is not intended for operational use in gas turbine engines (see 8.2).

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

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2. APPLICABLE DOCUMENTS

The issue of the following document in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

- AMS3085 Fluid, Reference for Testing AS5780 HPC Class (Polyol) Resistant Material (Also known as Eastman Reference Oil 300)
- AMS3217/4 Test Slabs, Fluoroelastomer (FKM), 65 - 75
- ARP5088 Test Method for the Determination of Total Acidity in Polyol Ester and Diester Gas Turbine Lubricants by Automatic Potentiometric Titration
- AS5780 Specification for Aero and Aero-Derived Gas Turbine Engine Lubricants

2.2 ANSI Accredited Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

- ANSI Z400.1 Material Safety Data Sheets

2.3 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

- ASTM D445 Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)
- ASTM D471 Rubber Property - Effect of Liquids
- ASTM D1298 Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method
- ASTM D4057 Manual Sampling of Petroleum and Petroleum Products
- ASTM D6304 Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration

2.4 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

- MIL-PRF-7808 Lubricating Oil, Aircraft Turbine Engine, Synthetic Base
- MIL-PRF-23699 Lubricating Oil, Aircraft Turbine Engine, Synthetic Base, NATO Code Numbers: O-152, O-154, O-156, and O-167
- MIL-STD-2073-1 Standard Practice for Military Packaging