

Mobil® Aero HF Series

Aviation Hydraulic Fluids

Description

Mobil aviation hydraulic fluids Aero HFA, HF, and HFS are offered for aircraft systems where use of hydrocarbon hydraulic fluids is required. They are low viscosity, high VI (viscosity index) fluids with excellent low temperature properties, good anti-wear performance, and good chemical stability.

Application

Mobil Aero HFA is a premium quality fluid that meets the requirements of the U.S. Military specification MIL-H-5606A (obsolete). It has a very high VI and is suitable for use at temperatures down to -54 °C (-65 °F). While this quality fluid is no longer used by the US Military, it is still used in some older, small private, and small commercial aircraft. It is also used in industrial and commercial equipment requiring good fluidity at very low temperatures, where Mobil Aero HFA provides long, trouble-free service over a wide range of operating conditions.

Mobil Aero HF is a premium quality fluid that is approved against the most current version of U.S. Military specification MIL-PRF-5606. It has physical properties very similar to Mobil Aero HFA, and also meets "super-clean" requirements required by modern aircraft hydraulic systems. It is intended primarily for military aircraft. It is also used as a hydraulic fluid for small private and small commercial aircraft, and as a strut fluid in landing gear of large commercial aircraft. It is approved as a NATO Code Number H-515 fluid.

Mobil Aero HFA and HF are composed of mineral oil base stocks and contain shear-stable VI improvers.

Mobil Aero HFS is a synthetic polyalphaolefin lubricant that is approved against the most current version of U.S. Military specification MIL-PRF-83282. It does not contain a VI improver. It is designed for use at temperatures down to -40°C (-40°F). It provides better flammability and volatility, improved stability, but has a higher viscosity at low temperature than Mobil Aero HF. It meets the "super-clean" requirements. It is intended primarily for US Military aircraft. It is approved as a NATO Code Number H-537 fluid.

Typical Characteristics

Physical properties are listed in the table on back. Values not shown as minimum or maximum are typical and may vary within modest ranges.

Health and Safety

Based on available toxicological information, it has been determined that this product poses no significant health risk when used and handled properly. Information on use and handling, as well as health and safety information, can be found in the Material Safety Data Sheet which can be obtained from your local distributor; via the Internet on http://www.exxonmobil.com; or by calling 1-800-662-4525 and selecting prompt 2.

For additional technical information or to identify the nearest U.S. ExxonMobil supply source, call 1-800-662-4525.

Typical Characteristics HF Series	HFA	HF	HFS	
Color	Red	Red	Red	
Gravity, API	29	29	34.5	
Specific Gravity, 60 °F/60 °F	0.882	0.882	0.852	
Pour Point, °C	-60 max	-60 max	-55 max	
Flash Point, COC, °C	93 min	-	205 min	
Flash Point, PMCC, °C	-	82 min	-	
Acid Number, mg KOH/g	0.03 (0.2 max)	0.03 (0.2 max)	0.03 (0.1 max)	
Barium Content, ppm	-	10 max ⁽¹⁾	10 max	
Kinematic Viscosity, cSt At 205 °C At 100 °C At 40 °C At -40 °C At -54 °C At 130 °F	5.1 13.9 460 (500 max) 1950 10.7 (10.0 min)	5.1 (4.9 min) 13.9 (13.2 min) 460 (600 max) 1950 (2500 max)	1.1 (1.0 min) 3.5 (3.45 min) 14.1 (14.0 min) 2000 (2200 max)	
Viscosity Index	370	370	128	
Low Temperature Stability 72 hours at -54 °C 72 hours at -40 °C	Pass -	Pass -	- Pass	
Copper Corrosion 72 hours at 135 °C	2e max	2e max	-	
Oxidation Corrosion Stability 168 hours at 135 °C	Pass	Pass	Pass	
Water Content, ppm	50 (100 max)	50 (100 max)	50 (100 max)	
4-Ball Wear Scar, mm 1hour, 1200 rpm, 75 °C, 40 kg	0.8 (1.0 max)	0.8 (1.0 max)	0.56 (0.65 max)	
Evaporation Loss, wt% 6 hours at 71 °C 6.5 hours at 205 °C	15 (20 max) -	15 (20 max) -	- 13 (20 max)	
Particle Count 5-15 microns 15-25 micron 25-50 microns 50-100 microns 100+ microns		10000 max 1000 max 150 max 20 max 5 max	10000 max 1000 max 150 max 20 max 5 max	
Particulate Contamination, mg/100 mL	-	0.3 max	0.3 max	
Filtration Time, minutes/100 mL		6 (15 max)	6 (15 max)	
Foam, ASTM D892 Seq I, mL/mL	30/0 (65/0 max)	30/0 (65/0 max)	10/0 (65/0 max)	
litrile Rubber L Swell, % 168 hours at 70 °C	19.0 to 30.0	19.0 to 30.0	18.0 to 30.0	
Shear Stability, ASTM D 2603 Option B % Loss in KV at 40 °C	15 max	15 max	-	
Bulk Modulus, psi Isothermal Secant at 40 °C, 4000 psig	200,000 min	200,000 min	-	
Bulk Modulus, psi Isothermal Secant at 40 °C, 10,000 psig			200,000 min	