



Exxon HyJet IV-A plus

ExxonMobil Aviation, United States

Fire-Resistant Phosphate Ester Aviation Hydraulic Fluid

Product Description

Exxon HyJet IV-A plus is a fire-resistant phosphate ester hydraulic fluid designed for use in commercial aircraft. It is the best-performing Type IV fluid and approaches to a great extent many of the performance capabilities of Type V fluids, including high temperature stability, long fluid life, low density, and rust protection. It is superior to all other Type IV fluids in these respects. Exxon HyJet IV-A plus meets the specifications of all major aircraft manufacturers and SAE AS1241.

Features and Benefits

Exxon HyJet IV-A plus offers the following key features and benefits:

Features	Advantages and Potential Benefits
Best in high temperature stability among Type IV fluids	Longer fluid life. Lesser need to replace fluid due to degradation. Reduced hydraulic system maintenance costs
Lowest density Type IV fluid	Reduced weight of the hydraulic fluid carried by aircraft. Reduced aircraft fuel consumption, lower operating costs
Effective rust protection	Reduced the risk of equipment damage in the event of major water contamination
Excellent low temperature flow (viscosity) properties	Precise hydraulic system control and response even during extended range/polar flights. Longer equipment life
Excellent deposit control	Longer equipment life. Reduced maintenance costs
Excellent protection against electro-chemical corrosion (erosion)	Protection against servo valve and pump damage
Approved by all major aircraft manufacturers	Use as fleet lubricant by airline operators
Fully compatible with all approved phosphate ester hydraulic fluids	Flexibility in use by airline operators

Applications

Exxon HyJet IV-A plus fire-resistant aviation hydraulic fluid is used in commercial aircraft hydraulic systems where phosphate hydraulic fluids are recommended. It is compatible in all proportions with commercial Type IV and Type V phosphate ester aviation hydraulic fluids.

Exxon HyJet IV-A plus meets or exceeds the following industry and aircraft builder specifications. It is approved against all commercial aircraft manufacturer requirements and is included in their Qualified Products Lists.

Specifications and Approvals

HyJet IV-A plus	Meets Type IV, Low density	Is in Qualified Products List
SAE Aerospace Standard AS1241C	X	Not Applicable
Airbus NSA307110N	X	X
ATR NSA307110N	X	X
Boeing BMS 3-11P, Type IV, Grade B and Grade C	X	X
Boeing (Douglas Division) DMS 2014H, Type 4	X	X
British Aerospace (Avro) BAC.M.333C	X	X
Bombardier/Canadair BAMS 564-003A	X	X
Bombardier/DeHavilland	X	X
Cessna	X	X
Embraer	X	X
Fokker	X	X
Gulfstream Aerospace 1159SCH302J	X	X
Lockheed C-34-1224C	X	X

Typical Properties

	Test Method	HyJet IV-A plus (1)	Limits
Kinematic Viscosity, cSt	ASTM D 445		
at -53.9°C (-65°F)		1320	2000 max
at -26.1°C (-15°F)		130	135 max
at 37.8°C (100°F)		10.6	10.0 - 11.0
at 98.9°C (210°F)		3.6	3.35 - 3.75

	Test Method	HyJet IV-A plus (1)	Limits
at 127.6°C (260°F)		2.6	1.5 min
Viscosity Index	ASTM D 2270	280	
Shear Stability, % Viscosity Drop at 40°C	ASTM D 5621	22	
Pour Point, °C (°F)	ASTM D 97	<-62 (-80)	-62 (-80) max
Specific gravity at 25°C/25°C (77°F/77°F)	ASTM D 4052	0.996	0.990 -1.002
Density at 15.6°C (60°F), g/mL (lb/gal)	ASTM D 4052	0.999 (8.35)	
Acid Number, mg KOH/g	ASTM D 974	0.04	0.1 max
Water, Karl Fischer, mass %	ASTM D 6304	0.1	0.2 max
Flammability			
Flash Point, °C (°F)	ASTM D 92	176 (349)	160 (320) min
Fire Point, °C (°F)	ASTM D 92	188 (370)	177 (350) min
Autoignition Point, °C (°F)	ASTM D 2155	>427 (800)	400 (752) min
Foaming Tendency/Stability, mL foam/sec to collapse	ASTM D 892		
Sequence I		27/15	250/100 max
Sequence II		23/13	150/50 max
Sequence III		28/16	450/250 max
Particle count, NAS 1638 Class	Auto Counter	4	7 max
Chemical Elements, ppm			
Calcium		103	120 max
Potassium		38	48 max
Chlorine		10	50 max
Sodium		1	15 max
Sulfur		224	350 max
Four-Ball Wear, Scar diameter at 75°C/600rpm/1hour, mm	Modified ASTM D 4172		
4 kg		0.22	0.45 max
10 kg		0.33	0.50 max
40 kg		0.73	0.55 – 0.85
Electrical Conductivity at 20°C, microSiemens/cm		1.4	0.5 min
Bulk Modulus, Isothermal secant at 100°F/3000 psi, psi		210,000	
Thermal Conductivity at 40°C, cal/sec/cm ² /°C (Btu/hr/ft ² /°F)		33x10 ⁻⁵ (0.0799)	
Coefficient of thermal expansion, 25 to 100°C, per °C (per °F)		0.00086 (0.00048)	

	Test Method	HyJet IV-A plus (1)	Limits
Specific heat capacity at 40 °C, cal/g°C (same as Btu/lb°F)		0.41	
(1) Values may vary within modest ranges			

Health and Safety

Based on available toxicological information, this product is not expected to produce adverse effects on health 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 (MSDS) which can be obtained from your local distributor or via the Internet on <http://www.exxonmobil.com/lubes>

For additional technical information or to identify the nearest U.S. ExxonMobil supply source, call 1800 443-9966

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