



## HyJet™ IV-A Plus

ExxonMobil Aviation , Denmark

Fire-Resistant Phosphate Ester Aviation Hydraulic Fluid

### Product Description

Mobil 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, density, and rust protection. It is superior to all other Type IV fluids in these respects. Mobil HyJet IV-A plus meets the specifications of all major aircraft manufacturers and SAE AS1241.

### Features and Benefits

Mobil 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.<br>Lesser need to replace fluid due to degradation.<br>Reduced hydraulic system maintenance costs   |
| Lowest density Type IV fluid  | Reduced weight of the hydraulic fluid carried by aircraft.<br>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.<br>Longer equipment life       |
| Excellent deposit control   | Longer equipment life.<br>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

Mobil 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.

Mobil 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

**This product has the following approvals:**

AIRBUS NSA 307110N - Type IV, Low Density

Airbus Canada A2MS 564-003 Type IV, Class I, Grade A

CESSNA, Type IV

EMBRAER Type IV, Low Density

FOKKER Type IV, Low Density

GULFSTREAM 1159SCH302J - Type IV, Low Density

LOCKHEED C-34-1224C - Type IV, Low Density

ATR Type IV, Low Density

BOEING BMS 3-11P - Type V, Grade B and Grade C

BOEING BMS 3-11P - Type IV, Low Density

Boeing-Long Beach DMS2014H - Type 4

BAE/AVROBAC.M.333C - Type IV, Low Density

**This product meets or exceeds the requirements of:**

SAE AS1241D, Type IV, Class 1 (low density)

**Properties and Specifications**

| Property   |         |
|--|---------|
| Acid Number, mgKOH/g, ASTM D974  | 0.04    |
| Autoignition Temperature, F, ASTM D2155                                    | 800     |
| Bulk Modulus, Isothermal secant at 100 F/3000 psi, psi, ASTM D6793         | 210000  |
| Calcium, ppm, ICPEs  | 103     |
| Chlorine, ppm, XRF   | 10      |
| Coefficient of Thermal Expansion, 25 to 100 C, per degree C, API MPMS 11.1 | 0.00086 |
| Conductivity @ 20 C, MicS/cm, ASTM D2624                                   | 1.4     |
| Density @ 60 F, lb/USg, ASTM D4052   | 8.35    |
| Fire Point, Cleveland Open Cup, °F, ASTM D92                               | 370     |
| Flash Point, Cleveland Open Cup, °F, ASTM D92                              | 349     |
| Foam, Sequence I, Collapse Time, s, ASTM D892                              | 15      |

| Property  |         |
|---|---------|
| Foam, Sequence II, Collapse Time, s, ASTM D892                                      | 13      |
| Foam, Sequence III, Collapse Time, s, ASTM D892                                     | 16      |
| Four-Ball Wear Test, Scar Diameter, 10 kg, 600 rpm, 1 h, 75 C, mm, ASTM D4172 (mod) | 0.33    |
| Four-Ball Wear Test, Scar Diameter, 4 kg, 600 rpm, 1 h, 75 C, mm, ASTM D4172 (mod)  | 0.22    |
| Four-Ball Wear Test, Scar Diameter, 40 kg, 600 rpm, 1 h, 75 C, mm, ASTM D4172 (mod) | 0.73    |
| Kinematic Viscosity @ 100 F, mm <sup>2</sup> /s, ASTM D445                          | 10.6    |
| Kinematic Viscosity @ 127.6 C, mm <sup>2</sup> /s, ASTM D445                        | 2.6     |
| Kinematic Viscosity @ -15 F, mm <sup>2</sup> /s, ASTM D445                          | 130     |
| Kinematic Viscosity @ 210 F, mm <sup>2</sup> /s, ASTM D445                          | 3.6     |
| Kinematic Viscosity @ -65 F, mm <sup>2</sup> /s, ASTM D445                          | 1320    |
| Potassium, ppm, ICPE/AA   | 38      |
| Shear Stability, % Kinematic Viscosity Loss, 40 C, %, ASTM D5621                    | 22      |
| Sodium, ppm, ICPE/AA  | 1       |
| Specific Gravity, 25 C/25 C, ASTM D4052   | 0.996   |
| Specific Heat Capacity, cal/g-deg.C, Reference                                      | 0.41    |
| Sulfur, ppm, ICPE/XRF   | 224     |
| Viscosity Index, ASTM D2270   | 280     |
| Water Content, mass%, ASTM D6304  | 0.1     |
| Foam, Sequence I, Tendency, ml, ASTM D892   | 27      |
| Foam, Sequence II, Tendency, ml, ASTM D892  | 23      |
| Foam, Sequence III, Tendency, ml, ASTM D892   | 28      |
| Pour Point, °F, ASTM D97 / ASTM D5950   | -80     |
| NAS 1638 Class, HIAC, ISO 11500   | 7       |
| Thermal Conductivity at 40 C, Cal / (cm s oC), Reference                            | 0.00033 |

## Health and safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ <http://www.msds.exxonmobil.com/psims/psims.aspx>

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04-2022

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