



HyJet™ IV-A Plus

ExxonMobil Aviation , Eritrea

Fire-Resistant Phosphate Ester Aviation Hydraulic Fluid

Product Description

Mobil HyJet IV-Aplus is a fire-resistant phosphate ester hydraulic fluid designed for use in commercial aircraft. It is the best-performing Type IV fluid and approach 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 al 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 recommende 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 require 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 |

|                                                  |
|--------------------------------------------------|
| <b>This product has the following approvals:</b> |
| 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        |

|                                                           |
|-----------------------------------------------------------|
| <b>This product meets or exceeds the requirements of:</b> |
| 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      |
| 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    |

| Property                                                                            |         |
|-------------------------------------------------------------------------------------|---------|
| 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.as>

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Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly

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