



U. S. Oil & Refining Co.

3001 Marshall Avenue, Tacoma, Washington, 98421 (253) 383-1651

Product Specification Aviation Turbine Fuel, Jet A-1(50)

| Properties | ASTM Method | Specifications | |
|--|-------------|-----------------|--------------------|
| | | Min. | Max |
| Total Acidity, mg KOH/g | D3242 | | 0.10 |
| Aromatic, volume % | D1319 | | 25 |
| Naphthalenes, volume % | D1840 | | 3.0 |
| Mercaptan sulfur, mass %, or Doctor Test | D3227 | | 0.003 ¹ |
| Sulfur, mass % | D4294 | | 0.30 |
| Distillation | D86 | | |
| 10% Recovered, °C | | | 205 |
| 50% Recovered, °C | | Report | |
| 90% Recovered, °C | | Report | |
| Final Boiling Point, °C | | | 300 |
| Residue, volume % | | | 1.5 |
| Loss, volume % | | | 1.5 |
| Flash Point, Tag Closed, °C | D56 | 38 | |
| Density @ 15°C, kg/m ³ | D4052 | 775 | 840 |
| API gravity @ 60°F, °API | D4052 | 36.8 | 51.0 |
| Freezing Point, °C | D7153 | | -45.6 ⁴ |
| Viscosity @ -20°C (-4°F), mm ² /s | D445 | | 8.0 |
| Net Heat of Combustion, MJ/kg | D3338 | 42.8 | |
| Smoke Point, mm | D1322 | 25 ² | |
| Corrosion, Copper Strip @ 100°C | D130 | | 1B |
| Thermal Stability @ 275°C ³ | | | |
| Change in pressure, mm of Hg | D3241 | | 25 |
| Preheater deposit, code | D3241 | | <3 |
| Existent Gum, mg/100ml | D381 | | 7 |
| Microseparometer, Rating | D3948 | 85 | |
| w/Antioxidant & w/o SDA | | | |
| Antioxidant, UOP 344 mg/L | | | 24.0 |

Product conforms to: ASTM D1655

- 1) The Mercaptan sulfur determination may be waived if the fuel is considered negative by the doctor test described in the ASTM specification D4952
- 2) Fuels having a smoke point less than 25 but not less than 18 and a maximum of 3 volume % of naphthalenes are permitted, provided the supplier (seller) notifies the purchaser of the volume, distribution and smoke point and naphthalene content within 90 days of date of shipment unless other reporting conditions are agreed to by both parties.
- 3) D-1655 specifies JFTOT temperature at 260°C. JFTOT is performed at 275°C to comply with other product requirements.
- 4) -45.6°C is equivalent to -50°F.