



U. S. Oil & Refining Co.

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

Product Specification Aviation Turbine Fuel, JP-8 (NATO F-34)

| Properties | ASTM Method | Specifications | |
|--|-------------|-------------------|---------------------------|
| | | Min. | Max |
| Appearance, rating | D4176 | C&B | 1 |
| Color, Saybolt | D156 | Report | |
| Total Acidity, mg KOH/g | D3242 | | 0.015 |
| Aromatic, volume % | D1319 | | 25.0 |
| Naphthalenes, volume % | D1840 | | 3.0 |
| Mercaptan sulfur, mass % or Doctor Test | D3227 | | 0.002 ^a or NEG |
| Sulfur, mass % | D4294 | | 0.30 |
| Hydrogen Content, mass % | D3701 | 13.4 | |
| Distillation | D86 | | |
| IBP, °C | | Report | |
| 10% recovered, °C | | | 205 |
| 20% recovered, °C | | Report | |
| 50% recovered, °C | | Report | |
| 90% recovered, °C | | Report | |
| Final Boiling Point, °C | | | 300 |
| Residue, vol. % | | | 1.5 |
| Loss, vol. % | | | 1.5 |
| Flash Point, PMCC, °C | D93 | 38 | |
| Gravity, °API, reference only | D4052 | 36.8 | 51.0 |
| Density @ 15°C, kg/m ³ | D4052 | 775 | 840 |
| Freezing Point, °C | D7153 | | -47 |
| Viscosity @ -20°C, mm ² /s (cSt) | D7042 | | 8.0 |
| Net Heat of Combustion, MJ/Kg | D3338 | 42.8 | |
| Smoke Point, mm | D1322 | 19.0 ^a | |
| Corrosion, Copper Strip @ 100°C | D130 | | 1B |
| Thermal Stability @ 260°C | | | |
| Change in pressure, mm of Hg | D3241 | | 25 |
| Tube Rating, VTR | D3241A1 | | <3 |
| Existent Gum, mg/100 ml | D381 | | 7 |
| Particulate, mg/L | D5452 | | 1.0 |
| Filtration Time, minutes | | | 15 |
| Water Reaction, Interface Rating | D1094 | | 1b |
| Microseparometer, rating, with Anti-Oxidant | D3948 | 90 | |
| Microseparometer, rating, with all additives | D3948 | Report | |
| Antioxidant, UOP 344, mg/L | | | 24.0 |
| Fuel System Icing Inhibitor, volume % | D5006 | 0.07 | 0.10 |
| Corrosion Inhibitor, Unicor J, mg/L | | 9 | 22.5 |
| Fuel Electrical Conductivity, pS/m | D2624 | 150 | 600 |
| Cetane Index | D976 | Report | |

This product conforms to the requirements of MIL-DTL-83133J.

^a Certain supply contracts may include a waiver for maximum Mercaptan content of 0.003 mass % and minimum Smoke Point of 18 mm if Naphthalene content is less than or equal to 3.0 volume %. These revised limits are based upon ASTM D1655 Jet A-1 specifications.