



Properties of Petro-Canada's VHVI 4 Base Fluid

| Property | ASTM Test Method | Specification | Typical Values |
|---|------------------|----------------|----------------|
| Density, kg/L @ 15°C | D4052 | Report | 0.84 |
| Density, lb/USG @ 60°F | | | 7.01 |
| Appearance | Visual | Clear & Bright | Clear & Bright |
| Colour | D1500 | 0.5 max. | < 0.5 |
| Viscosity @ 40°C, cSt | D0445 | Report | 20.8 |
| Viscosity @ 100°C, cSt | D0445 | 4.2 - 4.7 | 4.5 |
| Viscosity Index | D2270 | 125 min. | 130 |
| Cold Crank Simulator, cP @ -25°C | D5293 | | 940 |
| Flash Point, COC, °C (°F) | D0092 | 210 (410) min. | 215 (419) |
| Fire Point, COC, °C (°F) | D0092 | | 242 (468) |
| Pour Point, °C (°F) | D0097 | -21 (-6) max. | -24 (-11) |
| Emulsion Characteristics @ 54°C, mL of distilled water separated (minutes) | D1401 | | 40 (5) |
| Nitrogen, ppm | D4629 | | <1 |
| Sulfur, ppm | D5453 | | <1 |
| Total Acid Number | D0974 | | 0.02 |
| Evaporative loss, NOACK, % | D5800 | 13 max. | 12.2 |
| Saturates, wt.% | PCM 435 | | 99.75 |
| Aromatics, wt.% | PCM 435 | | 0.25 |
| Polynuclear Aromatics, % | IP346 | | n.d. |

n.d. = none detected