



PRODUCT INFORMATION & DATA SHEET

D1 SAE 15W-40 CI-4/SL

Our heavy-duty engine oil (HDEO) formulated with leading-edge synthetic technology meeting the API CI-4 standards, developed to provide exceptional protection for the latest high-output, emission-concerned diesel engines, both with and without common-rail injection systems, with and without EGR, as well as older models in severe operating conditions, including stop-start city driving, heavy towing and off-road services. Its cutting-edge synthetic formulation controls soot-related wear and viscosity changes, especially in heavy-duty conditions. The shear-stable viscosity index allows superior oil flow under a wide range of temperature and reduces oil consumption by maintaining optimal viscosity. The additive composition offers the highest oxidation stability and detergency properties for better camshaft wear protection, sludge and piston deposit control, and safeguards against bore polishing. This synthetic oil improves fuel efficiency, supports extended drain interval, prolongs engine, DPF and SCR Nox Reduction system life, and reduces maintenance costs, making it the perfect choice for truck operators seeking optimum durability and longevity.

Industry & Performance Levels

API CI-4/SL, ACEA A3/B4, ACEA E4/E7, Caterpillar ECF-2, Cummins CES 20077, Cummins CES 20078, Cummins CES 20081, Detroit Diesel DFS 93K218, Deutz DQC III-18 LA, JASO DH-1, Global DHD-1, Mack EO-N, Mack EO-O Premium Plus, MAN M3275-1, MB 228.31, MB 229.1, MTU Type 3, Renault RLD-2, Scania LDF-2, Volvo VDS-3

Key Benefits

- An advanced synthetic technology enhances and extends lubrication performance.
- Cutting-edge additives protect against wear, scuffing, bore polishing and ring sticking.
- Enhanced solvency, more effective at cleaning and preventing sludge and deposits buildup.
- Excellent viscosity index (VI) ideal for a wide range of temperature applications.
- Exceptional shear-stability maintains stay-in-grade of viscosity under complex conditions.
- Extended TBN reserves supported extended oil drain performance and protection.
- Improves fuel saving potential by minimizing energy losses during combustion.
- Low volatility (burn-off) rate minimizes evaporation loss and helps reduce oil consumption.
- Low ash formation keeps the exhaust after-treatment system safe and protects the environment.
- Outstanding low-temperature properties, allowing improved pumpability and circulation.
- Optimized protection against corrosion, foam, sludge, oil degradation and thickening.
- Universally applicable, ideal for mixed fleet across variety of diesel and gasoline engines.

Areas of Application

Developed for naturally aspirated and turbocharged, high-load, light- to heavy-duty diesel engines in trucks, buses, vans, and off-highway working machines up to EURO V emission standards, with and without diesel particulate filters (DPF), where the manufacturer called for the use of an API CI-4 or ACEA E4/E7 oil.

Service Recommendation

Follow the oil drain interval required by the respective manufacturers. Observe the owner's manual booklet. Recommend to flush before add in new oil. Change oil filter at time of oil change.

Commercially Available Product Compatibility

Our diesel engine oil is compatible with any synthetic and conventional engine oil. Maximum performance is assured only when used on its own, without being mixed with other oils.

Typical properties

| <u>SAE Viscosity</u> | | <u>15W-40</u> |
|---|------------|----------------------|
| Viscosity Index (VI) | ASTM D2270 | 152 |
| Viscosity at 100 °C; mm ² /s | ASTM D445 | 14.6 |
| Viscosity at 40 °C; mm ² /s | ASTM D445 | 108.3 |
| Density at 15 °C; kg/m ³ | ASTM D4052 | 872.0 |
| HTHS Viscosity at 150 °C; mPa.s | ASTM D4683 | > 3.5 |
| CCS Viscosity at -20 °C; cP | ASTM D5293 | < 7000 |
| Flash Point; °C | ASTM D92 | 232 |
| Pour Point; °C | ASTM D97 | -34 |
| Sulfated Ash; mass% | ASTM D874 | 1.4 |
| Total Base Number; mgKOH/g | ASTM D2896 | 12.0 |

The information show herein is subject to change without noticed. The product indicated here have been developed by PRINCE LUBRICANTS for use in the areas of applications shown. We reserve all right to alter the characteristics and product properties to align with continually technical development.

PRINCE GLOBAL PTE LTD

9 Raffles Pl, #22-01 Republic Plaza, Singapore 048624.
Enquiry: info@princelubricants.com