

PRODURO™ FD-1 SYNTHETIC PREMIUM FINAL DRIVE AND AXLE LUBRICANT FOR CATERPILLAR EQUIPMENT



Introduction

PRODURO FD-1 Synthetic is a Caterpillar FD-1 type lubricant that provides improved gear and bearing life in final drives and axles. Oils meeting the FD-1 specification are preferred by Caterpillar in final drives and axles that do not contain friction material and that historically specified TO-4 oils. **PRODURO FD-1 Synthetic should not be used in compartments containing friction material unless an FD-1 type of product is specified.** For applications where friction material is present, Petro-Canada recommends PRODURO TO-4 Fluids.

Produro FD-1 Synthetic axle fluid starts with a blend of base oils which includes Petro-Canada's ultra pure severely hydrocracked base oils and specialty selected additives to give outstanding performance and extended oil drain intervals.

Features and Benefits

- **Extended component life**
 - Specially formulated to protect gears and bearings against wear in severe duty applications
 - Improved extreme-pressure (EP) performance when compared to TO-4 type fluids
- **Extended drain intervals**
 - Recommended drain interval of up to 6000 hours for off-highway trucks final drive and rear axles instead of the 2000 hour interval typically recommended for TO-4 fluids*
- **Better performance at both high and low temperatures**
 - Improved performance compared to conventional FD-1 SAE 60 products

- **Improved rust and corrosion protection**
 - Iron and other metal components protected against water damage
- **Excellent protection from foaming**
 - Eliminates or reduces foaming
- **Compatible with TO-4 type fluids and Caterpillar seals**
- **Superior low-temperature properties**

Applications

PRODURO FD-1 Synthetic Axle Oil is the preferred option for CAT final drive and axles, especially when extended oil drain life is desired.

PRODURO FD-1 Synthetic oil can be used in Caterpillar final drives and axles that previously specified TO-4 lubricants and do not contain friction material and/or wet brakes. **This product is not for use in engines, transmissions or hydraulic systems.** PRODURO FD-1 Synthetic is not formulated to develop a sufficient friction coefficient to satisfy the requirements of most clutches and brakes.

Specific applications include the differentials and final drives of off-highway tractors, off-highway trucks, front wheels of off-highway trucks and, the final drives of most large track-type tractors, most pipelayers and track skidders that have steel tracks and elevated final drives. Please refer to the most recent Caterpillar Machine Fluid Recommendations SEBU 6250 for detailed information and specific exceptions.

PRODURO FD-1 Synthetic meets the performance attributes of Caterpillar FDAO Synthetic oil.

What is the HT difference?

Petro-Canada starts with the HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



* Any drain interval extension beyond Caterpillar recommendations should be accompanied by an oil analysis program.

Typical Performance Data

PROPERTY	TEST METHOD	PRODURO FD-1 SYN
PRODURO FD-1 Viscosity Grade		Multigrade
Density, kg/L at 15°C	D4052	0.861
Pour Point, °C (°F)	D5950	-39 (-38)
Flash Point, COC, °C (°F)	D92	243 (469)
Kinematic Viscosity, cSt @ 40 °C	D445	287
cSt @ 100 °C		31.8
SUS @ 100 °F		1486
SUS @ 210 °F		154
Viscosity Index	D2270	152
Brookfield Viscosity, cP @ -30 °C (-22 °F)	D2983	126,000
Copper Corrosion, 3 hours, 150°C (302°F)	D130M	1B
Total Base Number	D2896	2.57
Sulfated Ash, mass %	D874	0.11
Foaming Characteristics, mL, Sequence 1	D892	0/0
Foaming Characteristics, mL, Sequence 2	D892	0/0
Foaming Characteristics, mL, Sequence 3	D892	0/0
Elemental Analysis by wt %, P	D4951	0.031

The values quoted above are typical of normal production. They do not constitute a specification.

Health and Safety

When used as directed, PRODURO™ FD-1 Synthetic lubricant has no adverse effects on health provided it is used as directed. To obtain Material Health and Safety Data Sheets, contact one of Petro-Canada's TechData Info Lines.



TechData Info Lines

To place an order, please call a Customer Order Management Representative at :

Canada (English) Phone 1-800-268-5850
(French) Phone 1-800-576-1686
United States Phone 1-877-730-2369
Latin America Phone +1-416-730-2369
Europe Phone +1-416-730-2389
Asia Phone +1-416-730-2372
China Phone +86 (21) 6362-0066

To learn more about how Petro-Canada lubricants, specialty fluids, oils and greases can help maximize your equipment performance, savings and productivity, please contact us at :

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Europe Phone +44 (0) 121-781-7264
Germany Phone +49 (0) 201-726-2913
Latin America Phone +1-416-730-2369
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Beyond today's standards.

