



## PowerDrive® Fluid 6000

Phillips 66® PowerDrive Fluid 6000 is a high-performance lubricant specially designed for use in the final drives and axles of Caterpillar off-highway equipment. It is formulated with advanced additive technology to provide improved gear and bearing life in final drives and axles. It meets the performance requirements of the Caterpillar FD-1 specification for Final Drive and Axle Oil (FDAO).

PowerDrive Fluid 6000 provides significantly improved wear protection and oxidation control compared with Caterpillar TO-4 fluids, allowing extension of drain intervals under normal operating conditions. It may be used as a direct replacement for the original Caterpillar FDAO fill fluid.

### Applications

PowerDrive Fluid 6000 is recommended for use in certain highly loaded Caterpillar final drives and axles that do not contain friction materials. It is not recommended for use in engines, transmissions or hydraulic systems, and should not be used in compartments with friction materials unless Caterpillar FDAO or FD-1 quality oil is specified.

PowerDrive Fluid 6000 meets or exceeds the requirements of:

- Caterpillar FD-1

**Note:** Follow Caterpillar recommendations for preferred viscosity grade and ambient temperature ranges. At very low ambient temperatures, warm-up is required prior to equipment operation.

### Features/Benefits

- Improved bearing life and gear life compared with TO-4 fluids
- Excellent oxidation resistance and thermal stability for long fluid life
- Protects against pitting, scuffing and wear
- Protects against rust and copper corrosion
- Compatible with a wide variety of seals
- Good foam resistance

**Final Drive &  
Axle Oil for  
Caterpillar  
Off-Highway  
Equipment**

KEEPING THE  
WORLD  
RUNNING  
SMOOTHLY. 



## PowerDrive® Fluid 6000

| Typical Properties                         |           |
|--|-----------|
| <b>SAE Grade</b>                           | <b>60</b> |
| Specific Gravity @ 60°F                    | 0.897     |
| Density, lbs/gal @ 60°F                    | 7.47      |
| Color, ASTM D1500                          | 5         |
| Flash Point (COC), °C (°F)                 | 190 (374) |
| Pour Point, °C (°F)                        | -18 (0)   |
| Viscosity, Kinematic                       |           |
| cSt @ 40°C                                 | 344       |
| cSt @ 100°C                                | 25.8      |
| Viscosity Index                            | 98        |
| High-Temp/High-Shear Viscosity, cP @ 150°C | 6.6       |
| Copper Corrosion, ASTM D130                | 1a        |
| Sulfated Ash, ASTM D874, wt %              | 0.126     |
| Total Base Number (TBN), ASTM D2896        | 3.2       |
| Zinc, wt %                                 | Nil       |

## Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/EN/products/Pages/MSDS.aspx>.

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Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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