



# Final Drive

## Heavy-Duty Off-Highway Final Drive and Axle Oil

Product Data Sheet

### Customer benefits

#### **Extends equipment life in severe service**

Advanced additive system minimizes wear in heavily loaded gears and bearings by forming a strong protective layer on metal surfaces under extreme service conditions.

#### **Prolongs oil life**

Extremely high thermal and oxidation stability protects against oil thickening and deposit formation and can extend oil drain interval as compared with conventional TO-4 type fluids.

#### **Minimizes unscheduled maintenance**

Effective rust and corrosion inhibitors protect final drive components. Good viscosity characteristics at low temperatures ensure rapid oil circulation on start-up, preventing damaging wear.

#### **Trouble-free operation**

Fully compatible with all seal materials and with TO-4 type oils, eliminating risk of operational problems when converting to new lubricant.

### Applications

- Final drives, axles, differentials and front wheels of Caterpillar equipment where FD-1 performance fluid is specified
- Caterpillar heavy-duty off-highway haul trucks
- Caterpillar wheeled and track-type tractors

*Not suitable for use in compartments containing oil-immersed brakes or clutches*

### Product features:

- **Final Drive SAE 60** is a premium heavy-duty gear lubricant specifically designed for use in final drives and axles of modern Caterpillar off-road equipment operating in severe service, where fluids meeting Cat FD-1 are recommended.



## Key properties

FINAL DRIVE	
SAE Grade	60
Product Code	510093
Pour Point, °C	-18
Viscosity, Brookfield, cP @ -10°C	44,500
Viscosity, Kinematic	
mm <sup>2</sup> /s @ 40°C	335
mm <sup>2</sup> /s @ 100°C	25.1
Viscosity Index	97
Phosphorus, m %	0.03

## ENVIRONMENT, HEALTH and SAFETY

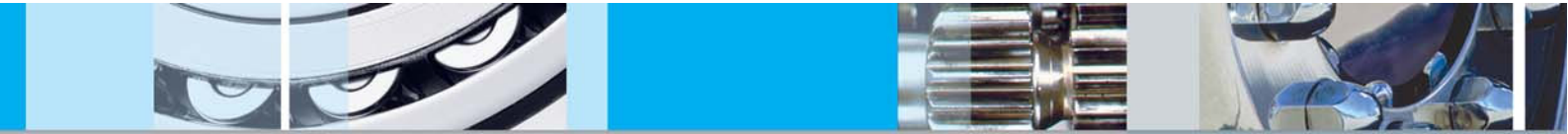
Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal.

To obtain a MSDS for this product, visit:  
[www.chevronlubricants.com](http://www.chevronlubricants.com).

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## Performance standards

- Caterpillar® FD-1



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### Service Considerations

In 2001 Caterpillar released a new lubricant performance specification, namely FD-1, for heavy duty final drives and axles in off-road service, and this superseded TO-4, SAE 60, which viscosity grade was then withdrawn from the TO-4 specification.

Fluids meeting FD-1 are now the primary recommendation for Caterpillar final drives in severe duty off-road applications. Fluids meeting Caterpillar FD-1 have been optimized for axle and final drive applications, and so unlike TO-4 fluids, are generally not suitable for use in powershift transmissions or compartments containing oil-immersed brakes or clutches, except where specifically recommended by Caterpillar.

For Caterpillar powershift transmissions, hydraulic systems and wet brake applications requiring TO-4 type fluids, appropriate viscosity grade selections from the Torque Fluid 4N4 series are recommended.

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:  
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- Asia Pacific