

Product	Sinopec Final Drive & Axle Oil
Summary	Product description Sinopec Final Drive & Axle Oil grades are formulated using high-quality mineral base oils and the latest additive technology to meet the demanding Caterpillar FD-1 final drive axle oil (FDAO) specification. They provide excellent performance in heavy-duty commercial axles and final drives operating under extreme pressures and shock-loading conditions.

Applications

Sinopec Final Drive & Axle Oil is suitable for use in:

- Heavy duty axles, final drives, differentials and front wheels of Caterpillar equipment, such as haul trucks, bulldozers, and wheeled and track-type tractors, where FD-1 performance is required.
- Heavy-duty axles and final drives in off-highway applications in the construction, mining and quarrying industries.
- Not suitable for use in final drives and axles containing oil-immersed brakes or clutches, or for engines, transmissions or hydraulic systems.

Features and benefits

- Excellent extreme pressure performance protects bearings and gears working in shock loading conditions against wear, preventing premature equipment failure and avoiding equipment down time and maintenance costs.
- High thermal and oxidation stability protects against deposit formation and oil thickening, and therefore extends oil life and recommended drain intervals.
- Provides excellent protection against copper corrosion and rusting, extending component life and reducing maintenance costs.
- Good compatibility with seal materials provides protection against oil leakage and contamination.
- Good anti-foaming characteristics ensure oil film thickness is maintained and components are protected against wear.
- Good low-temperature fluidity enables rapid oil circulation at start up, providing excellent prevention against start-up wear.
- Wide temperature–viscosity characteristics reduce the need to change oil grade according to the season, and so reduce inventory costs.

Product Data Sheet

Typical data

Sinopec Final Drive & Axle Oil		
SAE grade	50	60
Kinematic viscosity, ASTM D 445		
cSt @ 40°C	215.5	327.1
cSt @ 100°C	18.52	25.19
Viscosity index, ASTM D 2270	95	99
Brookfield viscosity, ASTM D 2983		
cP @ -15°C	147,000	-
cP @ -10°C	-	47,800
FZG test (A/8.3/90), fail load stage, DIN 51345	12	12
Pour point, °C, ASTM D 97	-24	-15
Flash point (COC), °C, ASTM D 92	248	256
Density @ 15°C, kg/l, ASTM D 4052	0.885	0.893

These data are given as an indication of typical values, not exact specifications.

Industry and OEM specifications

Sinopec Final Drive & Axle Oil meets the performance requirements of the following OEM specifications:	
Caterpillar	FD-1
ZF	TE-ML 03G, 05G, 06K, 17G, 21G

Accuracy of information

Data provided in this PDS is typical and subject to change as a result of continuing product research and development. The information given was correct at the time of printing. The typical values given are subject to variations in the testing procedures and the manufacturing process may also result in slight variations. Sinopec guarantees that its lubricants meet any industry and OEM specifications referred to on this data sheet.

Sinopec cannot be held responsible for any deterioration in the product due to incorrect storage or handling. Information on best practice is available from your local distributor.

Product and environmental safety

This product should not cause any health problems when used in the applications suggested and when the guidance provided in the Material Safety Data Sheet (MSDS) is followed. Please consult the MSDS for more detailed advice on handling; MSDSs are available from your local distributor. Do not use the product in applications other than those suggested.

As with all products, please take care to avoid environmental contamination when disposing of this product. Used oil should be sent for reclamation/recycling or, if not possible, must be disposed of according to relevant government/authority regulations.

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