

Product	Sinopec TO-4 Heavy Duty Transmission Fluid
Summary	Product description Sinopec TO-4 Heavy Duty Transmission Fluid is a range of products formulated with high-quality mineral oils and an advanced additive system. Improvements in the performance of heavy-duty equipment have been made possible by advances in technology and improved power-train designs, which in turn require higher performing fluids. Sinopec TO-4 Heavy Duty Transmission Fluid grades are specially designed to meet the demanding Caterpillar TO-4 specification.

Applications

Sinopec TO-4 Heavy Duty Transmission Fluid is suitable for use in:

- Heavy-duty transmissions, gearboxes, final drives and hydraulic systems used in off-highway applications, where a Caterpillar TO-4 product is recommended.
- Other heavy-duty applications in the mining, construction, quarrying and agricultural industries.
- Manual, power-shift and automatic transmissions where Allison C-4 fluids (SAE 10 W and 30 grades) are recommended.
- Mobile hydraulic equipment applications.
- Applications where paper and elastomer disc materials are used, and advanced frictional properties are required to extend clutch life and provide slippage control under severe high-load conditions.

Features and benefits

- Excellent antiwear properties and load carrying ability reduce gear wear and extend the life of heavy-duty transmission systems, gearboxes and final drives, leading to increased productivity and reduced equipment downtime.
- Outstanding oxidation stability, thermal stability and detergency prevent the build up of deposits and ensure long fluid life.
- Advanced frictional properties provide the clutch-friction retention and slippage control required in equipment that uses modern paper or elastomer disc materials.
- Compatible with modern clutch materials and elastomers, to extend component life and prevent oil leakage.
- Effective control of foaming together with good air-release properties ensure smooth transfer of power and shifting performance, and reduce fluid loss in severe service conditions.
- Very good low-temperature properties protect against wear under cold start up and running conditions.

Product Data Sheet

Typical data

Sinopec TO-4 Heavy Duty Transmission Fluid				
SAE viscosity grade	10W	30	50	60
Kinematic viscosity, ASTM D 445				
cSt @ 40°C	41.5	98.0	196.5	294.1
cSt @ 100°C	6.7	11.2	18.4	25.5
Viscosity, Brookfield, ASTM D 2983				
cP @ -15°C	–	–	46,000	–
cP @ -25°C	–	38,000	–	–
cP @ -35°C	20,000	–	–	–
Viscosity index, ASTM D 2270	116	100	96	96
FZG gear scuffing, load stage, ASTM D 5182	12	12	12	12
Pour point, °C, ASTM D 97	-36	-30	-18	-9
Flash point (COC), °C, ASTM D 92	230	240	250	260

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

Industry and OEM specifications

Sinopec TO-4 Heavy Duty Transmission Fluid meets the performance requirements of the following industry specifications:	
Sinopec	Q/SH303 533-2009

Sinopec TO-4 Heavy Duty Transmission Fluid meets the performance requirements of the following OEM specifications:	
Allison	C-4 (SAE 10W and 30)
Caterpillar	TO-4
Komatsu	KES 07.868.1 (SAE 30)
ZF	TE-ML 03C (SAE 30) TE-ML 07F (SAE 30)
Sinopec TO-4 Heavy Duty Transmission Fluid holds the following OEM approvals:	
ZF	TE-ML 03C (SAE 30) TE-ML 07F (SAE 30)

Product Data Sheet

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.

The SINOPEC trademark is registered and protected in Australia.

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