# SAE 10w 30 50 TO4



### Description

Extra high performance, heavy duty transmission and drive-train lubricants engineered to meet or exceed the requirements of the rigorous Caterpillar TO-4 specification. This product line is uniquely designed to optimize the performance of powershift transmissions, gearboxes, and final drives. In hydraulic applications, they provide maximum protection even in high pressure systems

This technology combines selected base oils and an advanced additive system to deliver the precise performance parameters needed to maximize the productivity of construction, quarrying, and mining equipment operating in severe conditions. These products offer a clear performance advantage over the use of mixed fleet engine oils and previously used lubricants meeting Caterpillar TO-2.

#### Features and Benefits

- Balanced static and dynamic friction coefficients
- Optimised clutch-friction retention and slippage control
- Significantly improved clutch life compared to the best API CD/TO-2 engine oils
- Compatible with modern clutch materials and elastomers Longer clutch life and higher performance •
- . Increased levels of anti-wear and load carrying capability
- Reduced gear wear and extended life in transmissions, gearboxes, and final drives
- Greater productivity from reduced downtime
- Excellent foam control protection
- Top performance in wet brakes; excellent control of brake chatter
- Excellent thermal and oxidation stability Outstanding hydraulic oil stability and protection against high-pressure pump wear
- Lower viscosities offer very good low temperature pump ability that reduced time from start-up to production

## **Applications**

- Heavy duty transmissions, gear boxes, final drives, and hydraulic systems used in off-highway applications
- Off-highway industries including: mining, construction, quarrying, and agriculture
- Manual, powershift, and automatic transmissions where Allison C-4 fluids (SAE 10W and 30 grades) are called for including Twin Disc and transmissions calling for Type F fluids
- Most mobile equipment hydraulic applications



50.800 ZUERA - ZARAGOZA

34 976 681 309

+54 902 430 540









- Rockwell / Eaton / Fuller, Spicer, Fabco, Warner and other trucks.
- Engines of Caterpillar, Allison, Komatsu, Clark, Hürth, Borg-Warner, Twin Disc, Voith, ZF, Funk y rockhouse, CNH transmissions powershift type and Eaton / Rockwell / Fuller.

| Technical data          |             |              |              |              |
|-------------------------|-------------|--------------|--------------|--------------|
| Characteristics         | Standard    | 10w          | 30           | 50           |
| Appearance              | Visual      | Liq. Transp. | Liq. Transp. | Liq. Transp. |
| SAE Grade               |             | 10w          | 30           | 50           |
| Density 15° C, Kg/l     | ASTM D 4052 | 0,88         | 0,895        | 0,895        |
| Viscosity 100° C, Mm2/s | ISO 3104    | 6,3          | 11,5         | 20.5         |
| Viscosity 40° C, Mm2/s  | ISO 3104    | 40,3         | 110          | 245          |
| Viscosity ndex          | ISO 2909    | 104          | 98 mín       | 98 min       |
| Flash point, °C         | ISO 2592    | 208          | 225 mín      | 225 min      |
| Pour point, °C          | ASTM D 97   | -21          | -21          | -19          |
| T.B.N., mg. KOH/g       | ASTM D 2896 | 9.5          | 9,5          | 9,5          |

# Quality level

- API SF/CF
- CCMC D2
- ALLISON C-4
- CAT TO-4

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EXCELENCIA PARA SU MOTOR



POL IND. EL CAMPILLO, C/ ALEMANIA, 5/N 50.800 ZUERA - ZARAGOZA



+34 976 681 309 +34 902 430 540 WWW.MTLUBRICANTES.COM

INFO@MTLUBRICANTES.COM