



## Product Data Sheet

# TRIBOL<sup>®</sup> 1510

Synthetic gear oils

### DESCRIPTION

TRIBOL<sup>®</sup> 1510 gear oils with TGOA<sup>®</sup> represent a significant advancement in gear oil technology. TGOA<sup>®</sup> is a new oil additive package designed to reduce friction while providing surface improvement and protection. The TGOA<sup>®</sup> additive package can outperform most other EP and anti-wear additives because of its unique action on friction surfaces.

- The synthetic base fluid in TRIBOL<sup>®</sup> 1510 gear oils is a polyalphaolefin which can be used in a temperature range from -30 °C to -120 °C. It is compatible with sealing mineral oils. Blended into this is the latest development in the field of surface improving additive technology designated TGOA<sup>®</sup>.
- The TGOA<sup>®</sup> additive package is activated by relatively high specific loads and corresponding temperatures, causing a chemical-physical reaction. This results in an equalization of surface roughness without creating abrasion. This process can be compared with a rolling process. The surface roughness is gradually leveled and smoothed. Through smoothing of the working surfaces the actual load carrying area is enlarged. During the running-in process, the TGOA<sup>®</sup> package creates an optimum of smooth contact surfaces. If, because of shock loads or stop-and-go operation, surface roughness peaks redevelop, the TGOA<sup>®</sup> additive package is automatically reactivated. Surface roughness is again smoothed and lubrication optimized.
- TRIBOL<sup>®</sup> 1510 gear oils are available in viscosity grades of ISO 100 to 680.

### APPLICATIONS

- TRIBOL<sup>®</sup> 1510 gear oils may be used in a temperature range from -30°C to +120°C. They are most valuable during the running-in process as well as in applications where the surfaces have already been damaged in the micro-range.
- Typical applications are spur, helical, herringbone, bevel and planetary gears. They are also used in geared couplings, rolling and sliding bearings as well as in gear drive circulating systems.

### ADVANTAGES

- considerable decrease in maintenance costs by prolonged service life of lubricant and machine parts
- the excellent friction reducing characteristics are demonstrated through the results of the FZG test (damage load stage > 14)
- micropitting load capability: high (stage 10)
- regenerating of damaged friction surfaces on a micro-scale range
- reduced friction and consequently reduced wear
- reduced operating temperature
- lower noise level
- longer life of gearings and bearings
- running-in oils or additives may no longer be required
- preventing and stopping of running-in pittings – if not caused by faulty design or heavy loading of gears
- due to synthetic base fluid excellent oxidation stability ensures the formation of a pressure-stable lube film over a wide temperature range thus providing excellent anti-wear protection

### NOTES FOR USE

- TRIBOL<sup>®</sup> 1510 synthetic gear oils are compatible with mineral oils and esters. Traces (up to 3%) of previous oil in the gear case after draining will not pose any problems. However, the beneficial effects of the TGOA<sup>®</sup> additives are reduced, when TRIBOL<sup>®</sup> 1510 oils are mixed with other gear oils.
- TRIBOL<sup>®</sup> 1510 oils are not compatible with polyglycols. After draining a polyglycol fill, the gear case must be flushed well with a mineral oil or flushing oil.
- Quality Standard:  
TRIBOL<sup>®</sup> 1510 are CLP-HC gear oils (DIN 51502) and exceed minimum requirements according to DIN 51517 T.3.

# TRIBOL<sup>®</sup> 1510

## Technical data

	Unit	Value						Test method
TRIBOL <sup>®</sup> 1510	-	1510/100	1510/150	1510/220	1510/320	1510/460	1510/680	-
Article no.	-	2566	2567	2568	2569	2570	2571	-
ISO viscosity grade	-	100	150	220	320	460	680	DIN 51519
Density at + 15°C	kg/m <sup>3</sup>	855	859	860	864	866	869	DIN 51757
Viscosity at + 40°C + 100°C	mm <sup>2</sup> /s	105 14.2	155 18.9	220 24.6	330 33.2	460 43.7	680 59.0	DIN 51550
Viscosity index	-	135	136	140	142	148	152	ISO 2909
Flash point	°C	256	258	262	264	265	265	DIN ISO 2592
Pour point	°C	-48	-45	-42	-39	-33	-30	DIN ISO 3016
SRV test (50°C, 300 N) Amplitude 1 mm, frequency 50 Hz Friction coefficient after 1 hr	μ	< 0.09						DIN 51834-02-S
FZG test (A/8.3/90) Damage load stage	-	> 14						DIN 51354
FZG micropitting test Load carrying capacity: high	-	> 10						FVA No. 54
Foaming properties at + 25°C at + 95°C at + 25°C after 95°C	ml	0 < 20/0 0						DIN 51566

1 mm<sup>2</sup>/s  $\hat{=}$  1cSt

These technical data are based on average test results. Minor deviations may occur from case to case.

For further product information please contact the Technical Service of Castrol Industrie GmbH.

Above data are based on extensive tests and practical experience. Considering the wide range of application requirements, they cannot, however, guarantee success in every single case. We therefore recommend practical trials. We reserve the right to change the product composition with a view to further improvement.

**State: 01/03**