



## Product Data

# Castrol Tribol 800 Series

Synthetic Gear Oils

## Description

Castrol Tribol™ 800 Series synthetic gear oils were developed for the lubrication of heavily loaded gears, bushings and bearings, which may operate over a broad range of ambient temperatures at elevated temperatures (>80°C). They are particularly intended to extend the service life of both lubricant and machine parts where unusually high operating and oil reservoir temperatures are encountered. The Tribol 800 oils include seven ISO Viscosity Grades including: 150 through 2200, which correspond to AGMA Gear Oil Numbers 4EP through 8A EP respectively.

Tribol 800 Series synthetic gear oils were developed to fulfil the following objectives:

- Sustained oil reservoir temperatures of 90°C with exposure to temperatures approaching 200°C.
- Very high viscosity index (VI) for viscosity-temperature stability without the use of VI improvers which can shear in service.
- Anti-wear and extreme pressure (EP) performance characteristics exceeding AGMA requirements for EP gear oils.

The high performance characteristics of Tribol 800 Series synthetic gear oils are achieved with select polyglycol based synthetic fluids. They feature chemical and thermal stability (high viscosity index), water solubility, and compatibility with metals and elastomers most commonly used in machine construction.

The naturally high resistance to oxidation of the synthetic base fluid is further enhanced by inhibitors. Corrosion protection is very effective even in the presence of water. A fully dissolved package of high performance additives act in combination for superior anti-wear and EP performance.

## Applications

Tribol 800 Series synthetic gear oils are especially suited to reservoirs and circulation systems operating at high temperatures because of heat generated in severe service or high temperatures in the application. Tribol 800 Series gear oils are intended for all types of heavily loaded gears including spur, bevel, and worm gears.

Although well suited for all types of gearing and bearings, Tribol 800 Series oils are particularly effective in controlling wear and reducing friction between sliding surfaces. In addition, they possess a high degree of affinity for cupric metal alloys.

## Advantages

- Shear stability – the synthetic base offers high viscosity index without the addition of VI improvers. In service, VI improvers can shear, lowering oil viscosity and reducing protection critical for gear sets and bearings. The naturally high VI of Tribol 800 Series assures full protection for components over a wide range of operating temperatures, speed, and load conditions.

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- Long life, extended drain intervals are possible because of the natural aging and oxidation resistance of the synthetic base fluid. Advanced Tribol lubrication technology forms friction-fighting, anti-wear films that can significantly reduce local operating temperatures as gear teeth or bearing surfaces come into contact.
- More protection for components in severe service. The extended EP performance of Tribol 800 gear oils offers protection beyond the capabilities of conventional petroleum oils.
- Wear protection under conditions of extreme temperature fluctuation and high loads.
- High efficiency and lower oil temperature, especially in worm gear units.
- High corrosion protection of cast and steel surfaces through special additive packages, even in the presence of water.
- Compatibility with non-ferrous metals through well-formulated synergistic additives.
- Potential energy savings as a result of a lower coefficient of friction.
- Reduction of maintenance costs as a result of significantly increased life of the lubricant.

## Notes

Tribol 800 Series synthetic gear oils are water-soluble and spills may be cleaned up with water. They are **NOT** compatible with mineral (petroleum) based lubricants. Cleaning lubrication systems with a flushing oil such as Metalube 1-040 or flushing with Tribol 800 synthetic gear oil prior to the first filling is recommended. To achieve long drain cycles and obtain the economic advantages, systems must be free of contaminants.

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## Typical Characteristics

	Tribol 800 Series Synthetic Gear Oils						
ISO Viscosity Grade, ASTM D 2422	150	220	320	460	680	1000	2200
AGMA Lubricant Number	4EP	5EP	6EP	7EP	8EP	8A EP	---
Viscosity, ASTM D 445, D 2161							
@ 0°C, mm <sup>2</sup> /s	1006	1530	1855	2959	3986	7532	14580
@ 40°C, mm <sup>2</sup> /s	157	222	317	467	655	935	2350
@ 1000°C, mm <sup>2</sup> /s	29	38	59	80	113	157	372
@ 150°C, mm <sup>2</sup> /s	12	15	24	31	43	58	130
Viscosity Index, ASTM D 2270	225	225	253	254	271	284	325
Flash Point, ASTM D 92, COC, °C	249	282	282	282	282	282	271
Fire Point, ASTM D 92, COC, °C	304	304	304	304	304	304	310
Pour Point, ASTM D 97, °C	-42	-32	-30	-30	-30	-28	-21
Rust Test, ASTM D 665							
Procedure A (Distilled Water)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Timken Extreme Pressure Test, ASTM D 2782							
OK Value, kg/lbs	23/50	23/50	23/50	23/50	23/50	23/50	36/80
Four Ball Wear Test							
(40kg, 75°C, 1800 rpm, 1 hr)							
Scar Diameter, mm	0.35	0.35	0.35	0.35	0.35	0.35	0.34
Four Ball Extreme Pressure Test, ASTM D 2783							
Load Wear Index, kg	35	35	35	35	35	35	97
Weld Load kg	200	200	200	200	200	200	315
Falex Wear Test, ASTM D 2670, wear teeth	+2	+2	+2	+2	+2	+2	+2
FZG Test, DIN 51534, Fail Stage	>12	>12	>12	>12	>12	>12	>12
FZG Micropitting Test, FVA-Nr.54, Load Stage	>10	>10	>10	>10	>10	>10	>10

## Additional Information

Tribol 800 Series is not classified as hazardous according to criteria of NOHSC. Consult the separate MSDS for further information.

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### Storage and Handling

Combustible C2 liquid for storage and handling purposes. Store in a cool, dry, well-ventilated area out of direct sunlight. Avoid sparks, flames and other ignition sources. Store away from incompatible materials such as oxidizing materials. Reference should be made to Australian Standard AS1940 – The storage and handling of flammable and combustible liquids. Airborne mists of this product may ignite in the presence of an ignition source.

**Spillage: SMALL - 20 LITRES OR LESS**

Soak up on Castrol Diatomaceous Earth or similar inert oil absorbent. Arrange for disposal through an approved facility.

**LARGE - GREATER THAN 20 LITRES**

Contain as soon as possible, remove by best means available and arrange recycling (preferred) or disposal through an approved facility.

**Disposal:** New or used material must not be allowed to enter the ground, ground water, water courses, sewers or drainage systems. Advice may be sought from the Environmental Protection Authority or from the local waste disposal authority.

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