



## Alphasyn™ EP Range

Synthetic heavy duty (PAO) EP gear oils

### Description

The Castrol Alphasyn™ EP gear oil range of high quality synthetic lubricants are based on poly-alphaolefin (PAO) fluids and sulphur/phosphorus Extreme Pressure (EP) additive technology, providing good thermal stability and high load carrying capacity.

### Application

The Alphasyn EP range have been formulated for use in all types of enclosed gears including heavy and shock-loaded gears and bearings where EP properties are required.

They are suitable for use in gear boxes where micro-pitting resistance is required and for a wide range of applications in extreme environments, for example mining and quarrying, marine applications and paper production.

The use of a PAO base stock provides an inherently high Viscosity Index (VI) and low Pour Points making these products suitable for use over a wide temperature range.

The Alphasyn EP range is fully compatible with nitrile, silicone and fluropolymer seal materials.

Alphasyn EP is classified as follows:  
DIN Classification is CLP.

The Alphasyn EP range meets the requirements of:

DIN 51517 Part 3  
Flender  
AGMA 9005 - E02  
AIST 224  
David Brown Type E  
GE D50E35 Approved

### Advantages

- Full EP performance\* gives maximum protection of gears against wear and shock loading, including protection against micro-pitting.
- Good thermal and oxidative stability provides reliable operation and extended operating life when compared to mineral oil based products.
- High corrosion protection for gears.
- Inherently high Viscosity Index (VI) makes the product suitable for operations over a wide temperature range.
- Rapid air release and good performance in the Flender Foam Test prevents foaming and bearing damage.
- Good water separation and demulsification characteristics means reduced down time through prolonged lubricant life and increased equipment reliability.
- PAO based lubricant provides good compatibility with seals, paints and mineral oil based lubricants.

## Typical Characteristics

Name	Method	Units	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn EP 460
Density @ 15°C	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	860	860	860	860
Kinematic Viscosity @ 40°C	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	151	223	326	455
Kinematic Viscosity @ 100°C	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	19.8	26.4	35.5	46.5
Viscosity Index	ISO 2909 / ASTM D2270	-	150	152	155	159
Pour Point	ISO 3016 / ASTM D97	°C	-54	-45	-42	-39
Flash point, open cup method	ISO 2592 / ASTM D92	°C	220	240	242	248
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml	0/0	20/0	20/0	20/0
Rust Test - synthetic seawater (24h)	ISO 7120 / ASTM D665B	Rating	Pass	Pass	Pass	Pass
FZG Gear Scuffing Test - A/8.3/90	ISO 14635-1	Failure Load Stage	>12	>14	>14*	>14*
FZG Gear Scuffing Test - A/16.6/90	ISO 14635-1 (modified)	Failure Load Stage	>12	>14	>14*	>14*
FZG Micropitting test @ 90°C/194°F	FVA 54-7	Failure Load Stage / Micropitting Rating	10 (High)	10 (High)	10 (High)*	10 (High)*
FE-8 Bearing Wear test (roller weight loss)	DIN 51819-3	mg	<5	<5	<5*	<5*

\*Read across from lower viscosity grade. Subject to usual manufacturing tolerances. It is not recommended filtering the finished fluid through a filter which is <5microns, as this has potential to filter out the antifoam.

Alphasyn™ EP Range

15 Oct 2019

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, to the extent that it is permissible by law to exclude warranties and representations, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. Refer to the MSDS, available from our website for further information. No responsibility is taken by either Castrol NZ, BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

Castrol NZ (a business division of BP Oil New Zealand Limited)

Technical Advice Line: 0800 10 40 60 / Customer Service: 0800 CASTROL (227 876)

<http://msdspd.castrol.com>