



## Spartan™ EP Series

### Gear Oil

#### Product Description

Spartan™ EP lubricants are a family of industrial extreme pressure gear lubricants. They are formulated with high quality mineral oils, which help reduce sludge formation helping to increase oil service life. Spartan EP oils contain a sulphur / phosphorus extreme pressure additive system that gives high load carrying ability and protection against wear. In addition these oils provide strong protection against corrosion of steel and copper containing alloys and resist foaming. Spartan EP oils have good water handling properties so that water rapidly separates from the oil for easy water elimination.

Spartan EP oils can be used in either splash or circulating systems. Spartan EP gear oils are suitable for use wherever industrial gear oil is required. Spartan EP grades are suitable for the lubrication of heavily loaded enclosed gear sets including spur, helical and bevel designs and provide protection in applications where shock loading occurs. Spartan EP may also be used in worm gears where specified. They may also be used for lubrication of plain bearings, and in rolling contact (anti-friction) bearings.

#### Features and Benefits

Spartan EP oils enjoy a reputation for quality and consistency, as well as the ability to handle a variety of tough gear applications. They are manufactured with high quality mineral stocks and a specially chosen additive system. Spartan EP lubricants are manufactured under the highest level of quality assurance and control in our modern blending facilities.

Spartan EP gear oils offer the following benefits:

- EP wear protection of gears and bearings
- Resistance to sludge formation leads to outstanding system cleanliness
- Very good oxidation resistance for long oil change life
- Very good demulsibility to ease water removal

#### Applications

Spartan EP gear oils are used in a wide range of industrial spur, helical, bevel and steel-on-steel worm gearing.

Specific applications include:

- Drives for conveyers, agitators, dryers, fans, mixers, presses, pulpers, pumps, screens, extruders, oil well pumps
- Industrial bearings- journal and rolling contact, especially operating at low speeds and high loads

#### Specifications and Approvals

<b>Spartan EP Series meets or exceeds the following industry specifications:</b>	<b>Spartan EP 150</b>	<b>Spartan EP 220</b>	<b>Spartan EP 320</b>	<b>Spartan EP 460</b>
AGMA 9005-E02 EP	X	X	X	X
DIN 51517-3: 2009-06	X	X	X	X
ISO 12925-1 Type CKD	Y	Y	Y	

ISO 12925-1 Type CKC

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X

## Typical Properties

<b>Spartan EP</b>	<b>150</b>	<b>220</b>	<b>320</b>	<b>460</b>
ISO Viscosity Grade	150	220	320	460
Viscosity, ASTM D 445				
mm <sup>2</sup> /s @ 40°C	150	220	320	460
mm <sup>2</sup> /s @ 100°C	14.7	19.0	24.1	30.6
Viscosity Index, ASTM D 2270	97	97	97	96
Pour Point, °C, ASTM D 97	-24	-24	-24	-15
Flash Point, °C, ASTM D 92	230	240	240	240
Density @15.6 °C, ASTM D 4052, kg/l	0.89	0.89	0.90	0.90
Timken OK Load, ASTM D 2782, lb	65	65	65	65
4-Ball EP test, ASTM D 2783,				
Weld Load, kg	200	250	250	250
Load Wear Index, kgf	47	48	48	48
FZG Scuffing, DIN 51354, Fail Stage				
A/8.3/90	12+	12+	12+	12+
A/16.6/90	12+	12+	12+	12+
Rust protection, ASTM D 665, Sea Water	Pass	Pass	Pass	Pass
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	1B	1B	1B	1B
Demulsibility, ASTM D 1401, Time to 3ml emulsion, minutes @ 82°C	30	30	30	30

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application, following the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your sales contract office, or via the Internet on <http://www.exxonmobil.com>. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For

more information, contact your local ExxonMobil contact or visit [www.exxonmobil.com](http://www.exxonmobil.com)

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