DATA SHEET

SG Series Synthetic Extreme-Pressure Gear Oil

Industrial-Grade Performance & Protection

Industrial maintenance teams need a high-quality gear oil to maximize efficiency. We formulated SG Series Oil to do just that. It is a PAO-based synthetic gear oil that meets or exceeds the latest and most demanding industrial gear box specifications. SG Series passes the stringent FAG FE-8 Bearing Test and, while not all extreme-pressure (EP) oils protect against micropitting, SG Series passed industry-standard micropitting testing, earning a "high" classification for strong protection. In fact, SG Series delivers superior physical properties compared to many competitive synthetic gear oils. It provides complete gear-box protection.

Extreme-Pressure Protection

SG Series Gear Oil is engineered to prevent metal-to-metal contact and inhibit corrosion. Its shear-stable, high-viscosity-index formulation features excellent anti-foam and air-release properties. SG Series Gear Oil maintains a thick lubricating film and is fortified with a heavy treatment of specialized sulfur/phosphorus EP and anti-corrosion additives. Under extreme pressures that may breach the lubricant film, an iron-sulfide barrier protects gear surfaces and inhibits wear, pitting and scuffing. SG Series Gear Oil demonstrates exceptional extreme-pressure performance in the industry-standard Timken OK Load, FZG Scuffing Load and micropitting tests.

High-Temperature Durability

AMSOIL SG Series Gear Oil is formulated with durable base oils that are naturally resistant to oxidation. It also contains oxidation inhibitors and thermally stable additives for increased resistance to sludge formation, deposits, acid buildup and thermal degradation. All viscosities of SG Series passed the ISO 12925-1 (CKD) test, demonstrating its high-temperature performance. To achieve the CKD level of oxidation resistance, the oil must pass the ASTM D2893 oxidation test at a temperature of 121°C (250°F) for 312 hours (13 days), after which viscosity increase and precipitants ("fall out") are measured. SG Series helps deliver clean gears and housings throughout a long service life.

Excellent Cold-Temperature Fluidity

SG Series Gear Oil's wax-free, high-viscosity-index base oils demonstrate excellent cold-flow properties and extremely low pour points. It helps improve cold-temperature efficiency, reducing the need for sump heaters and seasonal oil changes, while providing easier start-up for equipment.

- **Excellent** micropitting protection
- **Promotes** long fluid and component life
- **Increases** cold-temperature efficiency and protection
- **Excellent** film strength and foam suppression inhibit wear

TYPICAL TECHNICAL PROPERTIES
AMSOIL SG Series Extreme-Pressure Gear Oil

	ISO 150 (SGL)	**ISO 220** (SGM)	**ISO 320** (SGN)	**ISO 460** (SGO)
ISO Viscosity Grade (ASTM D2422)	150	220	320	460
AGMA EP Gear	4 EP	5 EP	6 EP	7 EP
Kinematic Viscosity @ 100°C, cSt (ASTM D445)	21.7	29.2	39.9	54.2
Kinematic Viscosity @ 40°C, cSt (ASTM D445)	154.2	225.3	324.6	473.1
Viscosity Index (ASTM D2270)	167	169	175	181
Specific Gravity (ASTM D1298)	0.8529	0.8504	0.8534	0.8597
Density (ASTM D1298)	7.102	7.081	7.106	7.158
Flash Point °C (°F) (ASTM D92)	238 (460)	242 (468)	242 (468)	244 (471)
Pour Point °C (°F) (ASTM D97)	-45 (-49)	-42 (-44)	-37 (-35)	-36 (-33)
Acid Number (ASTM D664)	0.66	0.66	0.66	0.66
Brookfield Viscosity @ -30°C, cP (ASTM D2983)	28,115	54,990	98,741	–
Air Release @ 50°C, min. (ASTM D3427)	25.4	–	–	–
Air Release @ 90°C, min. (ASTM D3427)	–	8.98	9.75	–
Foam, ml (ASTM D892, Seq. I, II & III)	0/0/0	0/0/0	0/0/0	0/0/0
Demulsibility (ASTM D1401)	40-40-0 (25)	40-40-0 (25)	40-40-0 (25)	40-40-0 (25)
Copper Strip Corrosion Test, 121°C, 3 hrs. (ASTM D130)	1B	1B	1B	1B
Four-Ball Wear, Scar, mm				
54°C, 1800 rpm, 20 kg, 1 hr.	0.34	0.34	0.34	0.34
Four-Ball Weld Point, kgf (ASTM D2783)	250	250	250	250
Four-Ball Load Wear Index, kgf (ASTM D2783)	55	56	59	59
Falex Procedure B (ASTM D3233) (failure load, lbf)	3250	3250	3250	3750
Timken OK Load, lbf (ASTM D2782)	>90	>90	>90	>90
FAG FE-8 Bearing Test [DIN 51819-3]	Pass	Pass	Pass	Pass
FZG Failure Stage (A/8.3/90)	>12	>12	>12	>12
FZG Failure Stage (A/16.6/90)	>12	>12	>12	>12
Micropitting @ 90°C Load Stage,	>10	>10	>10	>10
GFT Classification (FVA54)	GFT = High	GFT = High	GFT = High	GFT = High

APPLICATIONS & SPECIFICATIONS

Use AMSOIL SG Series Synthetic EP Gear Oil in industrial applications operating under heavy loads and shock-loading conditions and specifying an extreme-pressure lubricant or a lubricant that meets a listed specification. Applications include (not limited to) enclosed industrial spur, bevel, herringbone and helical gears, chain drives and sprockets requiring extreme-pressure additives. It is excellent for use in severe operating conditions and its synthetic properties make it a good all-season lubricant.

Always review the original equipment manufacturer (OEM) requirements and the operating conditions and temperatures to confirm this product's suitability for your equipment or application. Use the appropriate viscosity grade of AMSOIL SG Series Synthetic EP Gear Oil in applications requiring any of the listed specifications:

- AGMA 9005-E02 • US Steel* 224 • Cincinnati Machine*
- ISO 12925-1 (CKD) • David Brown* S1.53.101 (Type E)
- DIN 51517 Part 3

AMSOIL SG Series Synthetic EP Gear Oil is **not suitable** for the following:

- Automotive hypoid gears
- Yellow metals (copper, brass or bronze) above 100°C (212°F)

COMPATIBILITY

AMSOIL SG Series Synthetic EP Gear Oil is **not compatible** with polyglycol (PAG)-type gear oils. Thoroughly flush prior to changeover.

Disclaimer: AMSOIL accepts no liability for any property loss or damage suffered as a result of using this product inconsistent with the applications or specifications stated on this data sheet. *All trademarked names and images are the property of their respective owners and may be registered marks in some countries.

The First in Synthetics®

AMSOIL products and Dealership information are available from your local AMSOIL Dealer.

Main Street Oil
20177 Main Street
Lannon, Wisconsin 53046
Phone: 262-853-7900
info@MainStreetOil.com
www.MainStreetOil.com

Referral # 517071

AMSOIL INC., 925 Tower Ave., Superior, WI 54880 • 715-392-7101 • Printed in the USA.
© 2021, AMSOIL INC. All rights reserved. The AMSOIL logo is a registered trademark of AMSOIL INC.