

# JAX BIO-GUARD™ GEAR OILS

E.P. HIGH PERFORMANCE GEAR OILS  
EAL LUBRICANT, VGP COMPLIANT



INDUSTRIAL

## PRODUCT DESCRIPTION

JAX Bio-Guard Gear Oils are EAL biodegradable lubricants made from high viscosity index, saturated, synthetic ester base oils fortified with additives that deliver high industrial gear oil performance. These oils are designed to reduce maintenance costs by extending drain intervals and protecting against wear, pitting and rust.

## PRODUCT BENEFITS

- **Conforms to Major Environmental Standards** — JAX Bio-Guard Gear Oils are formulated with high performance, naturally derived Group V ester base fluids. The result is a high-performance Extreme Pressure gear oil line meeting EAL standards such as European Eco-label and satisfying US EPA requirements for EAL lubricants which meet Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels (VGP). These standards ensure compliance in terms of biodegradability, toxicity and bioaccumulation potential.
- **Ideal for wide operating temperature ranges** — Their very high viscosity indices, low pour points, and wax-free synthetic formulations make these lubricants ideal for use in wide operating temperature ranges. At low operating temperatures, equipment starts easier, is not starved of lubrication from channeling and product solidification. At operating temperatures, JAX Bio-Guard Gear Oils' base oils resist the degradative effects of oxidation that cause poor lubricant performance, and maintain an optimal lubricating film.
- **Water Tolerant** — JAX Bio-Guard Gear Oils are hydrolytically stable and readily separate from water. This prevents unwanted oil/water emulsions that have poor lubricating properties and eases water removal from the sump.
- **Superior E.P. and Antiwear Additive Performance** — JAX Bio-Guard Gear Oils are fully formulated with proprietary, environmentally safe extreme-pressure additives, antioxidants, rust inhibitors, and antifoam agents. JAX Bio-Guard Gear Oils' thermally stable, extreme-pressure additive system forms a hard, iron-sulfide coating on metal components. This iron-sulfide coating prevents metal-to-metal contact under boundary lubrication conditions, reduces friction and protects components against shock loading and wear. The antioxidants increase the oxidation resistance of the base oils for long, clean gear performance. These oils protect against rust from water or process contaminants and prevent foaming, ensuring proper lubrication.

## APPLICATIONS

- Gear box applications on seaborne transit vessels and mobile dredging equipment where there is preferred or mandated use of EAL classified lubricants
- Recommended for marine applications operating under heavy loads and shock conditions and specifying an extreme-pressure lubricants
- Enclosed industrial spur, bevel, herringbone, helical and worm gears where ground or water contamination is a concern
- Chain drives Sprockets and most metal-on-metal systems where ground or water contamination is a concern

## COMPATIBILITY

JAX Bio-Guard Gear Oils exhibit excellent compatibility with most EAL and industrial gear oils. Some base oil chemistries can be incompatible at different levels. Please consult JAX for the compatibility rating with gear oils encountered during changeover. JAX Bio-Guard Gear Oils are compatible with mineral gear oils, most synthetic gear oils, and seals; making them easy to use. They preserve new seals, prevent leaks, and help rejuvenate old, brittle seals.

## MEETS AGMA REQUIREMENTS

- Meets AGMA ratings for EP gear oils and recommended for use in applications specifying these standards.



INDUSTRIAL

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TYPICAL PROPERTIES	ISO 100	ISO 150	ISO 220	ISO 320	ISO 460	METHOD
Viscosity @40C, cSt	94.06	161.42	235.46	341.82	472.22	ASTM D 445
Viscosity @100C, cSt	12.90	20.08	27.89	36.87	53.67	ASTM D 445
Viscosity Index	134	144	154	155	179	ASTM D 2270
ISO Viscosity Grade	100	150	220	320	460	ASM D 2422
SAE Viscosity Grade	85	90	90	140	140	SAE J300
Pounds per Gallon	7.651	7.701	7.783	7.856	7.903	ASTM D 1298
Specific Gravity	0.9988	0.9248	0.9346	0.9433	0.9490	ASTM D 1298
Pour Point °F (°C)	-36 (-38)	-35 (-37)	-29 (-34)	-29 (-34)	-24 (-31)	ASTM D 97
Flash Point °F (°C)	491 (255)	509 (265)	518 ( 270)	518 (270)	525 (274)	ASTM D 92
Fire Point °F (°C)	637 (336)	635 (335)	626 (330)	622 (328)	651 (344)	ASTM D 92
Color	straw	straw	straw	straw	straw	
Water Separability	41-39-0 (10)	42-38-0 (15)	43-37-0 (20)	43-37-0 (25)	43-37-0 (60)	ASTM D 1401
Rust Test						ASTM D 665
Method A: Distilled Water	Pass	Pass	Pass	Pass	Pass	
Method B: Synthetic Seawater	Pass	Pass	Pass	Pass	Pass	
FZG	12	>12	>12	>12	>12	ASTM D 5182
Copper Strip Corrosion	1b	1b	1b	1b	1b	ASTM D 130
Four-Ball Wear, mm	0.33	0.30	0.30	0.31	0.32	ASTM D 4172
Falex EP test, lbf	3000	2750	2000	2000	2750	ASTM D 3233
Four Ball Weld						ASTM D 2783
Weld Load, kgf	200	200	220	220	200	
Load Wear Index	43	41	45	47	37	
Falex Wear Test, # Teeth Used	0	0	0	0	0	ASTM D 2670
Falex Wear Test, % Journal Wear	0.095	0.068	0.094	0.027	0.095	ASTM D 2670
Falex Wear Test, %Vee-Block Wear	0	0	0	0	0	ASTM D 2670
Oxidation, Minutes to 25 psi loss	>750	>750	>750	>750	>750	ASTM D2272

JAX products undergo continual improvement in formulation and manufacture. The values indicated in this PDS are typical production values at the time of this writing. JAX reserves the right to alter and update product data and typical values at any time without notice. It is the responsibility of the installer and/or purchaser to determine if these specifications are adequate and proper for the intended application. SDS information may be found at [www.jax.com](http://www.jax.com) or by contacting JAX INC.

CONTAINER SIZE	ISO 100	ISO 150	ISO 220	ISO 320	ISO 460
2000 Pound Tote - 276	BGGOL-276	BGGOM-276	BGGON-276	BGGOP-276	BGGOQ-276
400 Pound Drum - 400	BGGOL-400	BGGOM-400	BGGON-400	BGGOP-400	BGGOQ-400
120 Pound Keg - 120	BGGOL-120	BGGOM-120	BGGON-120	BGGOP-120	BGGOQ-120
35 Pound Pail - 035	BGGOL-035	BGGOM-035	BGGON-035	BGGOP-035	BGGOQ-035
4/1 Gallon Case - 004	BGGOL-004	BGGOM-004	BGGON-004	BGGOP-004	BGGOQ-004



**JAX INC.**

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