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Bio-SynXtra™ FG Compressor Fluids
(Food Grade H1) ISO-32, 46, 68, 100, 150, 220

STABILIZED™ by Renewable Lubricants

"Biobased Lubricants that Perform Like Synthetics"

Bio-SynXtra™ FG Compressor Fluids are bio-synthetic compressor lubricants that contain ingredients, which are "Generally Regarded as Safe" (GRAS) for food possessing equipment. These Food Grade[1] lubricants are formulated with biobased synthetic esters to improve lubricity and anti-wear performance for longer service life. They provide superior lubricating qualities for most compressors, especially portable and stationary rotary compressors (screw and sliding vane) as well as in single-stage, two-stage, and multistage reciprocating compressors (water-cooled and air-cooled), centrifugal compressors, vacuum pumps and heat pumps. Their multipurpose performance helps in reducing inventory and lowering cost. In addition, Bio-SynXtra FG Compressor Fluids provide excellent anti-rust, anti-foam, and demulsibility properties. They are highly inhibited against moisture and pass both A and B Sequences of the ASTM D-665 Turbine Oil Rust Test.

While specific manufacturer recommendations vary, the ISO 32, 46 and 68 grades are most commonly used for rotary compressors, while higher viscosity grades are preferred for reciprocating units (meets and exceeds DIN 51506 VDL requirements).
Maximum oil change intervals can be obtained through proper maintenance and RLI's oil analysis program. Under good operating conditions and oil analysis program, ISO Grades 32, 46, and 68 could extend service life up to 10,000 hours in rotary screw compressors.

Hydraulic & Gear: Bio-SynXtra™ FG Compressor Fluids are multi-application fluids and have a zinc-free additive system that meets Food Grade H1 requirements. They have shown exceptional anti-wear performance in ASTM D-4172 Four Ball Wear Test and they are recommended for use in vane, piston, and gear-type hydraulic pumps. The anti-wear performance meets and exceeds the requirements for Denison HF-O, Vickers M-2950-S (35VQ-25) and I-286-S (V-104C), Rexroth, US Steel 126, 136, and 127, and DIN 51524 Part 2&3. These products may be used in reduction units where original equipment manufacturers (OEM) require an R&O lubricant (i.e. AFNOR NFE 48-600 HL, DIN 51524 Part 1, and Denison HF-1 fluids). They also meet the requirements for ashless GL-1, GL-2, GL-3, DIN 51517 Part 3, and AGMA Non-EP gear oils for bearings, reduction units, and gear sets. *(Use a Viscosity Sufficient for OEM Application).*

Elastomer Compatibility: Bio-SynXtra™ FG Compressor Fluids are **recommended** for uses with fluorocarbon (Viton), fluorosilicone, polysulfide, Teflon, Hydrogenated NBR (HNBR), and high nitrile Buna-N (>30%) elastomers.
Bio-SynXtra FG Compressor Fluids are **not recommended** for use where neoprene, polyacrylate, polyethylene, natural rubber, styrene-butadiene rubber (SBR, Buna S) or low Buna-N seals are used.

Multi-Applications: Hydraulic systems, gear drives, gearhead motors, drip oilers, air-oilers, air-tools, water pumps, bearings, machine oil, roller chains, cables, light circulating oil, etc., and general lubrication.

[1] Base oils and additives in this product are listed in 21 CFR 178.3570, Lubricants for incidental food contact (USDA H1). Full compliance with other applicable restrictions of FDA, USDA, oil spill, and oil pollution prevention statutes is recommended.

Availability **F.O.B.: Hartville, Ohio, USA** **Quart** **1 Gallon** **5 Gallon Pail** **Drum** **Totes** **Bulk**

ISO Viscosity Grades 32, 46, 68, and 220 meet and exceeds "Military Specifications DOD-L-24651 Lubricating Oils, Food Grade, and Food Processing Equipment." This specification is approved for use by the Departments and Agencies of the U.S. Department of Defense. ISO Viscosity Grades 32, 46 and 68 meet DOD-L-24651 Type I and ISO Viscosity Grade 220 Meet DOD-L-24651 Type II for general purpose and gear oil lubricants. This specification also requires a rating of USDA H-1 for incidental food contact.

Benefits:

➢ Reduced danger of fire and explosions	➢ Lower maintenance costs
➢ Outstanding oxidation and thermal stability	➢ Extended service life
➢ Exceptionally low pour point	➢ Low varnish forming tendencies
➢ Excellent rust protection	➢ High viscosity index
➢ Excellent demulsibility	➢ Low toxicity
➢ Excellent antiwear properties	➢ More biodegradable

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Typical Data						
ISO Grade	**32**	**46**	**68**	**100**	**150**	**220**
VISCOSITIES:						
@100^{O}C., cSt. (D-445)	5.9	7.9	11	14.9	20.2	26.9
@40^{O}C., cSt. (D-445)	29.5	43.5	66	97	142	205
Viscosity Index (D-2270)	149	155	159	161	165	167
Flash Point, COC, ^{O}C (D-92)	232	240	245	255	258	264
Pour Point, ^{O}C (D-97)	-48	-44	-42	-40	-38	-36
Copper Corrosion 3hr @ 100^{O}C (D-130)	1A	1A	1A	1A	1A	1A
Acid Number (D-974)	1.2	1.2	1.2	1.2	1.2	1.2
4-Ball Wear, mm (D-4172)	.35	.33	.33	.33	.33	.33
4-Ball EP Weld Point (kg)	200	200	200	200	200	200
4-Ball EP Load Wear Index	47	50	50	50	50	50
FZG Test A/8.3/90 (DIN 51354 Part 2)	11	12	12	12	12	12
Demulsibility (D-2711)	40/40/0	40/40/0	40/40/0	40/40/0	40/40/0	40/40/0
Foam Sequence I, II, III (D-892)	0 Foam	0 Foam	0 Foam	0 Foam	0 Foam	0 Foam
Rust Prevention (D-665 A & B)	Pass	Pass	Pass	Pass	Pass	Pass
TOST (ASTM-943 Hrs. 2.0 NNA)	12,000+	12,000+	12,000+	12,000+	12,000+	12,000+
Dielectric Strength, kV (D-877)	>40	>40	>40	>40	>40	>40
RLI Product Item #	**87930**	**87940**	**87950**	**87960**	**87970**	**87980**