



## Renewable Lubricants, Inc.

476 Griggy Rd., P.O. Box 474

Hartville, Ohio 44632-0474

Voice: 330.877.9982 Fax 330.877.2266

Web: www.renewablelube.com

### **Bio-SynXtra™ High Temperature Lubricants** **ISO 68, 100, 150, 220 (Food Grade H1)**

**STABILIZED™**  
by Renewable Lubricants

#### *"Biobased Lubricants that Perform Like Synthetics"*

Bio-SynXtra™ High Temperature Lubricants are unique biobased, synthetic-ester, food grade<sup>1</sup> lubricants designed to lubricate bearings, chains, slides, and gears in industrial applications where air temperatures often exceed 500°F (260°C). These biodegradable<sup>2</sup> products are free of Volatile Organic Compounds (VOCs), provide very high fire points (ASTM D-92), and contain **No Petroleum Carbon**.

#### **High Temperature Applications:**

- Roller chains on oven conveyors
- Lithographic chains, beverage can lines
- Tenter frames in textile plants
- Kiln car wheel bearing/refractory plants
- Paint lines, drying ovens
- Sealed for life units
- Kiln support rollers, cement plants
- Bakery oven chains
- Automatic lubrication systems
- Heat transfer fluid

**Multi-Applications:** Hydraulic systems, compressors, gear drives, gearhead motors, drip oilers, air-tools, water pumps, bearings, machine oils, chains, cables, turbines, circulating oils, etc., and general lubrication.

#### **Outstanding Advantages:**

**Exceptional High Temperature Stability-** made from bio-synthetic and biodegradable<sup>2</sup> base oils that reduce tendency to form hard carbon deposits in high temperature applications up to 270°C.

**Cleanliness (ashless) -** helps to eliminate accumulation of hard carbon solids that create maintenance clean-up problems and downtime, cleans chains already dirtied by inferior lubricants.

**Better Protection-** reduces wear, rust, oxidation, and corrosion; extends equipment life, reduces maintenance costs.

**Low Volatility-** maintains a liquid lubricating film at elevated temperatures, thus providing substantially longer lubrication intervals, reduced lubricant consumption, less smoke, and no bad odors.

**Energy Efficient-** clean, fluid-film lubricants, reduce energy consumption in equipment.

**Optimum Viscosity-** is provided by the High Viscosity Index that gives optimum lubrication at higher operating temperatures.

**Eco-Non Toxic-** complies with Environmental Management System ISO 14001 and Environmentally Friendly ISO15380

<sup>1</sup>Base oils and additives in these products are listed in 21 CFR 178.3570, NSF HX-1 food grade components, and 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.

<sup>2</sup>Ultimate Biodegradation (Pw1) within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricant

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

**Elastomer Compatibility:** Bio-SynXtra™ High Temperature Lubricants are recommended for uses with fluorocarbon (Viton), fluorosilicone, polysulfide and high nitrile Buna-N (>30%) elastomers.

Bio-SynXtra™ High Temperature Lubricants are **not recommended** for use where neoprene, natural rubber, styrene-butadiene rubber (SBR, Buna S) or low Buna-N seals are used.

**Typical Specifications for Bio-SynXtra™ High Temperature Lubricants (H-1)**

<b>ISO Grade</b>	<b>68</b>	<b>100</b>	<b>150</b>	<b>220</b>
Specific Gravity @ 60°F, (ASTM D-287)	.98	.98	.99	1.0
Viscosity (ASTM D-445) @100°C cSt @40°C cSt	10.0 64.0	13.9 99.0	17.8 137.0	24.0 205
Viscosity Index (ASTM D-2270)	141	142	144	145
NOACK Volatility %, 250°C (ASTM D-5800)	2.5	2.5	2.0	2.0
Evaporation Loss, Wt %, 6.5 hrs, 250°C (ASTM D-972)	3.0	3.0	2.9	2.9
Flash Point (ASTM D-92)	265°C	268°C	270°C	270°C
Fire Point, COC (ASTM D-92)	304°C	309°C	309°C	309°C
Pour Point (ASTM D-97)	-48°C	-45°C	-43°C	-40°C
Foam Sequence I, II, III (D-892)	0 Foam	0 Foam	0 Foam	0 Foam
Rust Prevention A,B (ASTM D-665)	Pass	Pass	Pass	Pass
Copper Corrosion Strip 3hr @ 100°C (ASTM D-130)	1A	1A	1A	1A
4 Ball Wear, 1h, 54°C ,1800 RPM, 20kg (U.S. Steel S-205)	0.35 mm	0.32 mm	0.32 mm	0.32 mm
4 Ball Weld (ASTM D-2783) Load Wear Index	200kg 46	200kg 47	200kg 47	200kg 47
FZG Test (DIN 51354)	12	12	12	12
<b>Product Item #</b>	<b>81810</b>	<b>81820</b>	<b>81830</b>	<b>81840</b>

Bio-SynXtra™ High Temperature Lubricants are ENVIRONMENTALLY RESPONSIBLE products that are formulated from renewable agricultural resources. We believe Earth's environmental future rests in the use of renewable materials.