**Renewable Lubricants, Inc.**
Distributed By: DM's Bio-Based Fluid Supply Inc.
10 McEwan Dr. W, Unit 4B
Bolton, ON, Canada L7E 1H1
Voice: 905.951.1100 Fax: 905.951.2100
www.dmsbiobased.ca

# Bio-High Temperature™ Oven Lubricants

**ISO 68, 100, 150, 220 (USDA H-1)**

STABILIZED™ by Renewable Lubricants

## *"Bio-based Lubricants that Perform Like Synthetics"*

Bio-High Temperature™ Oven Lubricants are unique bio-based biodegradable food grade[1] lubricants designed to lubricate bearings, chains, slides, and gears in industrial applications where air temperatures often exceed 500ºF. These products are free of Volatile Organic Compounds (VOCs) and provide an auto ignition temperature (ASTM D-659) of over 371°C.

**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
-Many others

## Outstanding Advantages:

**Exceptional High Temperature Stability-** made from bio-based and biodegradable base oils that reduce tendency to form hard carbon deposits in high temperature applications.

**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 Super High Viscosity Index that gives optimum lubrication at higher operating temperatures.

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

STABILIZED by Renewable Lubricants* is RLI's trademark on their proprietary and patented anti-oxidant, anti-wear, and cold flow technology. High Oleic Base Stock (HOBS) are agricultural vegetable oils. This Stabilized technology allows the HOBS to perform as a high performance formula in high and low temperature applications, reducing oil thickening and deposits.

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

Patented Product with Pending and Foreign Patents

* Trademark of Renewable Lubricants, Inc.



**Availability** **F.O.B. :Bolton, ON, Canada** **5 Gallon Pails** **Drums** **Bulk**

## Typical Specifications for Bio-High Temperature Oven Lubricants (H-1)

| ISO Grade | 68 | 100 | 150 | 220 |
|---|---|---|---|---|
| Specific Gravity @ 60°F, (ASTM D-287) | .89 | .89 | .90 | .90 |
| Viscosity (ASTM D-445)<br>@100°C cSt<br>@40°C cSt | <br>11.8<br>65.0 | <br>16.9<br>99.0 | <br>230<br>149.0 | <br>29.2<br>203 |
| Viscosity Index (ASTM D-2270) | 180 | 186 | 184 | 184 |
| NOACK Volatility %, 250°C (ASTM D-5800) | 2.5 | 2.0 | 2.0 | 2.5 |
| Evaporation Loss, Wt %, 6.5 hrs, 250°C (ASTM D-972) | 3.5 | 3.0 | 3.0 | 3.5 |
| Flash Point (ASTM D-92) | 527°F (275°C) | 554°F (290°C) | 550°F (288°C) | 554°F (290°C) |
| Fire Point, COC (ASTM D-92) | 563°F (295°C) | 576°F (302°C) | 600°F (316°C) | 600°F (316°C) |
| Pour Point (ASTM D-97) | -28 | -25 | -25 | -25 |
| Rust Prevention A,B (ASTM D-665) | Pass | Pass | Pass | Pass |
| 4 Ball Wear,1h, 167°F ,1200 RPM, 40kg (ASTM D-2266) | 0.40 | 0.40 | 0.40 | 0.40 |

**Optimum Viscosity-** is provided by the Super High Viscosity Index (VI) that gives energy efficiency and optimum lubrication at higher operating temperatures. The chart below shows the exceptional viscosity performance of the Bio-HT Oven Lubricant ISO 220 (VI of 184) compared to a conventional petroleum based lubricant ISO 220 (VI 95). Bio-HT Oven Lubricants provide a lighter fluid at room temperature, but maintains double the fluid film (viscosity in cSt) over $100^0$C.