



**Food Grade
Ultra High-
Temperature
Chain
Lubricant
(NSF H1, H2)
ISO-46**

Applications

Highlights



Nonfood Compounds
Program Listed (H1, H2)
(Registration #140341)

WISE Food Grade (FG) Ultra High-Temperature Chain Lubricants are unique biobased, biodegradable, food grade¹ lubricants fortified with synthetic food grade white graphite. This synthetic white graphite will lubricate at **extreme high temperatures** up to and over 1000°C with intermittent lubrication up to 2000°C and will provide a light clean lubricating powder after the biobased oil cleanly dissipates. These products are free of Volatile Organic Compounds (VOCs) and provide an auto ignition temperature (ASTM D-659) of over 371°C. In addition, the products provide improved extreme pressure and lubricity after black graphite, Teflon, and molybdenum disulfide lose their lubrication between 400°C and 500°C.

WISE FG Ultra High Temperature Chain 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.

- 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^(note)
- Many others

Exceptional High Temperature Stability – made from biobased and biodegradable base oils that reduce tendency to form hard carbon deposits in high temperature applications.

Cleanliness – 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.

This product is based on a proprietary and patented anti-oxidant, anti-wear, and cold flow technology. Base stocks are non-GMO agricultural vegetable oils. This stabilized technology provides high performance in high and low temperature applications, reducing oil thickening and deposits.

¹ Base oils and additives in this product 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.

NOTE: Because of the High Concentration of White Graphite, agitation is required before use to ensure an even distribution of the solid lubricant particles. Drums are available with and without drum agitators.

To Order

Fax to 831-728-1753 or call 800-491-9473 for Customer Service
Visit www.wisesolutions.net or Email sales@wisesolutions.net

Available Size
Container

Quantity (min.)

5 gal. Pail	55 gal. Drum ^(note)	330 gal. Tote

WISE FG Ultra HT Chain Lubricant (cont'd)
**Typical
Specifications**

ISO Grade	68	100	150	220
Specific Gravity @ 60°F, (ASTM D-287)	.886	.90	.90	.915
Viscosity (ASTM D-445) @100°C cSt	12.5	16.7	24.9	36.0
@40°C cSt	67.5	96.0	147.1	219.0
Viscosity Index (ASTM D-2270)	187	190	203	214
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)	590°F (307°C)	590°F (307°C)	595°F (309°C)	588°F (306°C)
Fire Point, COC (ASTM D-92)	635°F (332°C)	645°F (337°C)	640°F (335°C)	645°F (337°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), Coefficient of Friction	0.40 0.10	0.40 0.10	0.40 0.10	0.40 0.10
4 Ball Weld (ASTM D-2783)	160kg	160kg	160kg	160kg

**Typical Lubricity
Performance
at High
Temperatures**

Coefficient of Friction (2200°C – 2760°C) 0.08 to 0.12

Pin-On-Disk @ 450°C in argon, nickel static substrate,
sliding velocity 0.5 m/sec, 2 N load

Wear Rate, mm³/N/m 0.023-0.044

Coefficient of Friction 0.62

**Energy Conserving
Formula**

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 WISE FG Ultra HT Chain Lubricant ISO 220 (VI of 214) compared to a conventional petroleum based lubricant ISO 220 (VI 95). WISE FG Ultra HT Chain Lubricants provide a lighter fluid at room temperature, but maintains double the fluid film (viscosity in cSt) over 100°C.

