

## 276 SYNTHETIC FOOD GRADE GEAR LUBE H1

Synthetic Food Grade Gear Lube H1 is a synthetic blend, anti-wear, extreme pressure food grade oil that is specially formulated for use in the lubrication of food, feed and pharmaceutical processing and packaging equipment, especially those pieces of equipment that are subjected to high loads and high moisture conditions.

Synthetic Food Grade Gear Lube H1 meets the requirements for a USDA H1 quality lubricant and the requirements of the United States Code of Federal Regulations 21CFR 178.3570, 178.3620(b), and 573.680 of the United States Food and Drug Administration's Regulations.

Synthetic Food Grade Gear Lube H1 can be used in the lubrication of all types of enclosed gear, chain guide, chain and conveyor applications where there is a chance of incidental contact with food, foodstuffs, drinking water, potable water or ground water may occur. Typically, these applications can be found in the following industries:

Meat and Poultry Processing Plants	Egg Processing Plants
Fish and Seafood Processing Plants	Breweries and Wineries
Soft Drink and Bottling Plants	Vegetable and Fruit Processors
Cheese and Cheese Product Producers	Bakeries
Snack Food Manufacturers	Pasta Manufacturers
Pet Food and Animal Feed Producers	Oil Mills and Seed Cake Processors
Pharmaceutical and Drug Manufacturers	Cosmetic Manufacturers
Food and Beverage Container Manufacturers	Paper and Paperboard Manufactures
Water Well Drillers	Drinking and Potable Water Treatment Plants

Synthetic Food Grade Gear Lube H1 is blended from a combination of highest quality, highly refined, severely hydro-finished and purified non-toxic technical white polyalphaolefin (PAO) synthetic base fluids and technical white and U.S.P. grade paraffinic white oils available. These technical white PAO synthetic base fluids and technical white and U.S.P. grade paraffinic white oils provide Synthetic Food Grade Gear Lube H1 with the following advantages:

- Excellent lubricity and film strength
- Superior oxidative stability
- Excellent resistance to thermal degradation
- A high viscosity index
- Excellent hydrolytic stability
- Excellent resistance to acidic compounds
- Very good low temperature properties
- A reduction in operating temperatures
- Compatibility with all types of seals and coatings
- Extended drain intervals

Blended into the technical white PAO synthetic base fluids and technical white and U.S.P. grade paraffinic white oils is a highly specialized non-toxic food grade approved additive package which provides the Synthetic Food Grade Gear Lube H1 with the following outstanding performance features:

- Exceptional anti-wear and load carrying capabilities
- Excellent rust and corrosion inhibiting properties
- Enhanced oxidation stability

- Excellent anti-foam and air release properties
- Enhanced oxidation stability.

Further blended into Synthetic Food Grade Gear Lube H1 is a unique blend of USDA and FDA acceptable preservatives. These food grade preservatives provide the product with an effective way to control, inhibit and retard the growth of bacteria, yeast and molds that may come into contact with Synthetic Food Grade Gear Lube H1 during use. These preservatives are not an antiseptic or sterilizing agent but Synthetic Food Grade Gear Lube H1 does effectively prevent bacterial growth and control microbiological proliferation if the lubricant becomes contaminated during use.

## TYPICAL PROPERTIES

ISO Grade	100	150	220	320	460	680
AGMA Grade	3EP	4EP	5EP	6Ep	7EP	8EP
Specific Gravity @ 60°F/15.5°C	0.8719	0.8708	0.8728	0.8678	0.8583	0.8748
Viscosity @ 40°C cSt (ASTM D445)	90.00-100	144-165	200-250	320-345	420-470	619-635
Viscosity @ 100°C cSt (ASTM D445)	10.50-13.50	15.00-21.50	16.50-23.50	29.00-35.00	35.00-40.00	50.00-60.00
Viscosity Index (ASTM D2270)	118	130	120	134	128	149
Flash Point °F/°C (ASTM D92)	428°/220°	442°/228°	440°/227°	450°/232°	455°/235°	460°/238°
Fire Point °F/°C (ASTM D92)	440°/227°	470°/243°	470°/243°	470°/243°	480°/249°	485°/252°
Pour Point °F/°C (ASTM D92)	-15°/-26°	-10°/-23°	-10°/-23°	0°/-18°	0°/-18°	10°/-12°
Copper Strip Corrosion Test (ASTM D130)	1a	1a	1a	1a	1a	1a
Rust Test (ASTM D665)						
Procedure A (Distilled Water)	Pass	Pass	Pass	Pass	Pass	Pass
Procedure B (Salt Water)	Pass	Pass	Pass	Pass	Pass	Pass
Demulsibility Test (ASTM D1401)						
Oil-Water-Emulsion @ 20 minutes	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0
Oxidation Stability Test (ASTM D943)						
Hours to TAN of 2	4000	4000	4000	4000	4000	4000
Falex Continuous Load (ASTM D3233)						
Procedure A						
Failure Load, lbs.	1250	1250	1360	1360	1500	1500
Four Ball Wear Test (ASTM D4172) (1hr/40kg/130°F(54°C))						
Wear Scar Diameter, mm	0.45	0.45	0.45	0.4	0.35	0.3
Timken EP Test (ASTM D2782)						
OK Load, lbs	30	35	40	40	40	40
Total Acid Number (ASTM D664)	0.03	0.03	0.03	0.03	0.03	0.03
% Evaporation Loss (ASTM D2887) @ 700°F/372°C	7.0	5.5	3.8	3.8	4.0	4.1
% Evaporation Loss (ASTM D972) 22 hours @ 225°F/107°C	2	1.5	1.5	1.5	1	1
Foam Test (ASTM D892)						
Sequence I	0/0	0/0	0/0	0/0	0/0	0/0
Sequence II	0/0	0/0	0/0	0/0	0/0	0/0
Sequence III	0/0	0/0	0/0	0/0	0/0	0/0
FZG A/8.3/90 (ASTM D5182)						
Load Failure Stage	11 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	12 <sup>th</sup>	12 <sup>th</sup>	12 <sup>th</sup>