



TECHNICAL DATA

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#276 SYNTHETIC FOOD GRADE GEAR LUBE H-1

Synthetic Food Grade Gear Lube H-1 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 H-1 meets the requirements for a USDA H-1 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 H-1 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
Fish and Seafood Processing Plants
Soft Drink and Bottling Plants
Cheese and Cheese Product Producers
Snack Food Manufacturers
Pet Food and Animal Feed Producers
Pharmaceutical and Drug Manufacturers
Food and Beverage Container Manufacturers
Water Well Drillers

Egg Processing Plants
Breweries and Wineries
Vegetable and Fruit Processors
Bakeries
Pasta Manufacturers
Oil Mills and Seed Cake Processors
Cosmetic Manufacturers
Paper and Paperboard Manufactures
Drinking and Potable Water Treatment
Plants

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Synthetic Food Grade Gear Lube H-1 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 H-1 with the following advantages:

1. Excellent lubricity and film strength
2. Superior oxidative stability
3. Excellent resistance to thermal degradation
4. A high viscosity index
5. Excellent hydrolytic stability
6. Excellent resistance to acidic compounds
7. Very good low temperature properties
8. A reduction in operating temperatures
9. Compatibility with all types of seals and coatings
10. 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 and a food grade antimicrobicide which provides the Synthetic Food Grade Gear Lube H-1 with the following outstanding performance features:

1. Exceptional anti-wear and load carrying capabilities
2. Excellent rust and corrosion inhibiting properties
3. Enhanced oxidation stability
4. Excellent anti-foam and air release properties
5. Enhanced oxidation stability
6. Protection against rancidity and build up due to bacterial and fungal growth.

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| ISO Grade | 100 | 150 | | 220 | 320 | | 460 | 680 |
| SAE Grade | | | 90 | | | 140 | | |
| AGMA Grade | 3EP | 4EP | ---- | 5EP | 6Ep | ---- | 7EP | 8EP |
| Specific Gravity @ 60°F/15.5°C | 0.8719 | 0.8783 | 0.84 | 0.8443 | 0.8789 | 0.86 | 0.8583 | 0.8843 |
| Viscosity @ 40°C cSt (ASTM D-445) | 90.00-100 | 144-165 | 190-255 | 200-250 | 320-345 | 300-449 | 420-470 | 619-635 |
| Viscosity @ 100°C cSt (ASTM D-445) | 10.50-13.50 | 15.00-21.50 | 19.00-23.00 | 16.50-23.50 | 29.00-35.00 | 35.00-42.00 | 35.00-40.00 | 50.00-60.00 |
| Viscosity Index (ASTM D-2270) | 118 | 130 | 113 | 120 | 134 | 154 | 128 | 149 |
| Flash Point °F/°C (ASTM D-92) | 428°/220° | 442°/228° | 440°/227° | 440°/227° | 450°/232° | 455°/235° | 455°/235° | 460°/238° |
| Fire Point °F/°C (ASTM D-92) | 440°/227° | 470°/243° | 470°/243° | 470°/243° | 470°/243° | 480°/249° | 480°/249° | 485°/252° |
| Pour Point °F/°C (ASTM D-92) | -15°/-26° | -10°/-23° | -23°/-10° | -10°/-23° | 0°/-18° | 0°/-18° | 0°/-18° | 10°/-12° |
| Copper Strip Corrosion Test (ASTM D-130) | 1a | 1a | 1a | 1a | 1a | 1a | 1a | 1a |
| Rust Test (ASTM D-665) | | | | | | | | |
| Procedure A (Distilled Water) | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| Procedure B (Salt Water) | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| Demulsibility Test (ASTM D-1401) | | | | | | | | |
| Oil-Water-Emulsion @ 20 minutes | 40-40-0 | 40-40-0 | 40-40-0 | 40-40-0 | 40-40-0 | 40-40-0 | 40-40-0 | 40-40-0 |
| Oxidation Stability Test (ASTM D-943) | | | | | | | | |
| Hours to TAN of 2 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| Falex Continuous Load (ASTM D-3233) | | | | | | | | |
| Procedure A | | | | | | | | |
| Failure Load, lbs. | 1250 | 1250 | 1250 | 1360 | 1360 | 1500 | 1500 | 1500 |
| Four Ball Wear Test (ASTM D-4172) | | | | | | | | |
| (1hr/40kg/130°F(54°C)) | | | | | | | | |
| Wear Scar Diameter, mm | 0.45 | 0.45 | 0.45 | 0.45 | 0.4 | 0.35 | 0.35 | 0.3 |
| Timken EP Test (ASTM D-2782) | | | | | | | | |
| OK Load, lbs | 30 | 35 | 40 | 40 | 40 | 40 | 40 | 40 |
| Total Acid Number (ASTM D-664) | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| % Evaporation Loss (ASTM D-2887) | | | | | | | | |
| @ 700°F/372°C | 7.0 | 5.5 | 3.8 | 3.8 | 3.8 | 4 | 4.0 | 4.1 |
| % Evaporation Loss (ASTM D-972) | | | | | | | | |
| 22 hours @ 225°F/107°C | 2 | 1.5 | 1.5 | 1.5 | 1.5 | 1 | 1 | 1 |
| Foam Test (ASTM D-892) | | | | | | | | |
| Sequence I | 0/0 | 0/0 | 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 | 0/0 | 0/0 |
| Sequence III | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 |
| FZG A/8.3/90 (ASTM D-5182) | | | | | | | | |
| Load Failure Stage | 11 th | 11 th | 12 th | 12 th | 12 th | 12 th | 12 th | 12 th |

Packaging: #276 Synthetic Food Grade Gear Lube is available in 400 lb drums, 114 lb kegs and 38 lb. pails.