MOLYGULF SPECIALIZED LUBRICANTS

Ultimate High Performance Specialty Lubricants

FG-190 USDA H1 FOOD GRADE SYNTHETIC HTC GEAR BOX OIL

FG-190 H-1 is a fully synthetic anti-wear, 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.

FG-190 H-1 meets the requirements for 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 and is registered with and meets NSF International's guidelines for use as lubricant with incidental contact (H1) in and around food processing areas.

FG-190 H-1 can be used in the lubrication of all types of compressor applications including some types of refrigeration compressors, hydraulic, vacuum pump, pump, air line, chain, bearing, general oiling and heat transfer 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 Manufacturers
Drinking and Potable Water Treatment Plants	Water Well Drillers

FG-190 H-1 is blended from the highest quality, highly refined, severely hydro-finished and purified non-toxic technical white polyalphaolefin (PAO) synthetic base fluids available. These technical white PAO synthetic base fluids provide Hydraulic Oil H-1 with the following advantages:

1. Excellent resistance to thermal degradation.
2. Superior oxidative stability.
3. Low Volatility–This results in less makeup requirements due to evaporation loss
4. A high viscosity index – This results in a minimum change in viscosity with temperature.
5. Excellent cold temperature starting and pumpability.
6. Greater hydrolytic stability and demulsibility characteristics
7. Excellent resistance to acidic compounds.
8. Non-toxic - meets the United States Food and Drug Administration's requirements for synthetic technical white mineral oils.
9. Excellent operating temperature reduction
10. Compatibility with all types of seals and coatings

Blended into the technical white PAO synthetic base fluids is a highly specialized non-toxic food grade approved additive package and a food grade antimicrobicide which provides the Hydraulic Oil H-1 with the following outstanding performance features.

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TYPICAL SPECIFICATIONS:

ISO Grade	32	46	68	100	150	320
SAE Grade	10	15	20	30	40	90
Specific Gravity @ 15.5°C (60°F)	0.8618	0.8662	0.8662	0.8719	0.8693	0.8769
Viscosity @ 40°C, cSt (ASTM D-445)	29.00-40.00	44.00-47.00	54.00-67.00	95.00-100	140-157	320-345
Viscosity @ 100°C, cSt (ASTM D-445)	5.2-6.5	6.5-7.5	7.5-9.1	10.00-12.00	14.00-16.00	29.00-35.00
Viscosity Index (ASTM D-2270)	130	135	138	153	160	134
Flash Point °F/°C (ASTM D-92)	435°/235°	460°/238°	495°/257°	505°/262°	530°/277°	450°/232°
Fire Point °F/°C (ASTM D-92)	529°/276°	535°/279°	540°/280°	545°/282°	560°/293°	470°/243°
Pour Point °F/°C (ASTM D-97)	-65°/-54°	-65°/-54°	-65°/-54°	–30°/-34°	-35°/-37°	0°/–18°
Copper Strip Corrosion Test (ASTM D-130)	1a	1a	1a	1a	1a	1a
Rust Test (ASTM D-665 Procedure A (Distilled Water)	Pass	Pass	Pass	Pass	Pass	Pass
Procedure B (Salt Water)	Pass	Pass	Pass	Pass	Pass	Pass
Demulsibility Test (ASTM D-1401) Oil – Water – Emulsion	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0

Minutes	20	20	20	20	20	20
Oxidation Stability Test (ASTM D-943) Hours to TAN of 2	3,500	3,500	3,500	3,500	3,500	3500
Sludge Tendencies (ASTM D-4310) Total Sludge, mg	36	36	36	36	36	36
Four Ball Wear Test (ASTM D-4172) (1 hour/40kg/130°F/54°C) Wear Scar Diameter, mm	0.45	0.45	0.45	0.45	0.45	0.45
Four Ball EP Test (ASTM D-2783) Weld Point, kgs.	250	250	250	250	315	325
Conradson Carbon Residue (ASTM D-189)	0.03	0.03	0.03	0.03	0.03	0.03
Total Acid Number (ASTM D-664)	0.5	0.5	0.5	0.5	0.5	0.5
Vickers Pump Wear Test (ASTM D-2882) 100 hours @ 1000psi @ 150°F/66°C) Weight Loss, mg Ring	10	10	10	10	-	
Vane	1.5	1.5	1.5	1.5	-	-
Total Weight Loss	11.5	11.5	11.5	11.5	-	11.5
% Evaporation Loss (ASTM D-972) 6.5 hours @ 400°F/204°C	10	10	10	10	10	10
% Evaporation Loss (ASTM D-972) 22 hours @ 225°F/107°C	2	2	2	2	3	3