SINCE 1839
Schaeffer's
SPECIALIZED LUBRICANTS

TECHNICAL DATA

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ISO 9001 CERTIFIED

269 HYDRAULIC OIL H1

Hydraulic Oil H1 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.

Hydraulic Oil 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 and is registered with and meets NSF International's guidelines for use as a lubricant with incidental contact (H1) in and around food processing areas.

Hydraulic Oil H1 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
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 Manufacturers
Drinking and Potable Water Treatment Plants

Hydraulic Oil H1 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 H1 with the following advantages:

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

Blended into the technical white PAO synthetic base fluids is a highly specialized non-toxic food grade approved additive package and a food grade anti-microbicide which provides the Hydraulic Oil H1 with the following outstanding performance features.

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- Exceptional anti-wear and load carrying capabilities
- Excellent rust and corrosion inhibition
- Enhanced oxidation stability
- Excellent anti-foam and air release properties
- Enhanced oxidation stability
- Protection against rancidity and build up due to bacterial and fungal growth.

This product is acceptable as a lubricant with the incidental food contact (H1) for use in and around food processing areas. Such compounds may be used on food processing equipment as a protective anti-rust film, as a release agent on gaskets or seals of tank closures, and as a lubricant for machine parts and equipment in locations in with there is a potential exposure of the lubricated part to food. The amount used should be the minimum required to accomplish the desired technical effect on the equipment. If used as an anti-rust film, the compound must be removed from the equipment surface by washing or wiping, as required to leave the surface effectively free of any substance which could be transferred to food being processed.

TYPICAL PROPERTIES (see next page)

ISO Grade	**22**	**32**	**46**	**68**	**100**	**150**	**220**
AGMA Grade	----	----	1	2	3	4	5
Specific Gravity @15.5°C (60°F)	0.86	0.8625	0.86	0.87	0.86	0.835	0.86
Viscosity @ 40°C cSt (ASTM D-445)	19.8-24.2	29.3-33.5	42.0-50.0	61.3-71.5	93-104	136-160	198-230
Viscosity @ 100°C cSt (ASTM D-445)	3.8-5.0	5.3-6.5	7.5-9.5	9.5-11.5	13.5-15.60	19.2-20.35	24.00-28.50
Viscosity Index (ASTM D-2270)	138	137	151	152	156	158	160
Flash Point °F/°C (ASTM D-92)	435°/235°	435°/235°	460°/238°	495°/257°	505°/262°	530°/277°	505°/262°
Fire Point °F/°C (ASTM D-92)	529°/276°	529°/276°	535°/279°	530°/257°	540°/282°	560°/293°	540°/282°
Pour Point °F/°C (ASTM D-92)	-65°/-54°	-65°/-54°	-65°/-54°	-65°/-54°	-30°/-34°	-35°/-37°	-30°/-34°
Copper Strip Corrosion Test (ASTM D-130)	1a	1a	1a	1a	1a	1a	1a
Rust Test (ASTM D-665)							
Procedure A (Distilled Water)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Procedure B (Salt Water)	Pass	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	40-40-0
Minutes	15	15	15	15	15	15	15
Oxidation Stability Test (ASTM D-943)							
Hours to TAN of 2	+10,000	+10,000	+10,000	+10,000	+10,000	+10,000	+10,000
Sludge Tendencies (ASTM D-4310),Total Sludge, mg	20	20	20	20	20	20	20
Four Ball Wear Test (ASTM D-4172)(1 hour/40kg/54°C (130°F)							
Wear Scar Diameter, mm	0.4	0.38	0.4	0.4	0.4	0.4	0.35
Conradson Carbon Residue (ASTM D-189	0.02	0.02	0.02	`0.02	0.02	0.02	0.02
Total Acid Number (ASTM D-664)	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Vickers Pump Wear Test (ASTM D-2882) 100 hours @ 1000psi @66°C (150°F) Weight Loss mg							
Ring	10	10	10	10	10	10	10
Vane	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total Weight Loss	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Vickers Pump Wear Test (ASTM D-2882) 100 hours @ 2000psi @66°C (150°F), Weight Loss, mg							
Ring	15	15	15	15	15	15	15
Vane	5	5	5	5	5	5	5
Total Weight Loss	20	20	20	20	20	20	20
% Evaporation Loss @ 372°C (700°F) (ASTM D-2887)	2.6	2.6	2.6	2.6	3	3	3
Foam Test (ASTM D-892)							
Sequence I	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
Sequence III	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	11th	11th	11th	12th	12th	12th	12th