



Super Hydraulic Oil

Conoco Super Hydraulic Oil is a high-quality antiwear hydraulic fluid developed for use in a wide variety of industrial, mobile and marine hydraulic system applications. It is recommended for use in all types of high-pressure, high-speed hydraulic pumps.

Super Hydraulic Oil is available in six single viscosity grades: ISO 22, 32, 46, 68, 100 and 150; and two multi-viscosity grades: MV22 and MV32. It is formulated with high-quality paraffinic base oils, a zinc dithiophosphate antiwear additive, rust and oxidation inhibitors, and an antifoam agent. It provides excellent wear protection for hydraulic pumps and motors, has excellent oxidation resistance and thermal stability at high temperatures to minimize deposit formation and provide long service life, and protects hydraulic system components against rust and corrosion. It has excellent water-separating properties to minimize the formation of emulsions and is resistant to excessive foam buildup that can cause poor or sluggish hydraulic system response.

Super Hydraulic Oil meets the performance requirements of leading hydraulic pump manufacturers, including Bosch Rexroth, Cincinnati Lamb, Oilgear, Parker Hannifin HPD (formerly Denison Hydraulics), Racine, Sundstrand, Vickers (Eaton) and Voith. The multi-viscosity (MV) grades are specially developed for use in mobile equipment such as cherry pickers, bucket trucks and tree-trimming units operating at very low or high temperatures. They have a high dielectric strength for use as insulating oils in electrical service repair trucks.

Applications

- Hydraulic systems on industrial, mobile and marine equipment
- Automated machine tools
- Hydraulic elevators, hoists, presses and floor jacks
- Hydraulic systems on mobile construction equipment
- Marine cargo winches and steering systems
- Plastic injection molding machines
- Service station lifts
- Air tools and other pneumatic equipment lubricated through air line lubricators
- Chain drives

**High-Quality
Antiwear
Hydraulic Oil**

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- Moderately loaded enclosed industrial gearboxes that do not require an extreme-pressure (EP) gear oil
- Plain and rolling-element bearings in electric motors
- Electrical service repair trucks (multi-viscosity grades only)

Super Hydraulic Oil meets the performance requirements of:

- Cincinnati Lamb Specifications P-68 (ISO VG 32), P-70 (ISO VG 46), P-69 (ISO VG 68)
- Denison Hydraulics HF-0, HF-1, HF-2
- DIN 51524 Part 2, Antiwear Hydraulic Oils, Type HLP (single grades)
- DIN 51524 Part 3, Antiwear Hydraulic Oils, Type HVLP (multi-viscosity grades)
- German Steel Industry Specification SEB 181222
- ISO 11158:1997 for Hydraulic Fluids, Family H
- U.S. Steel 126, 127, 136
- Vickers (Eaton) M-2950-S, I-286-S

Features/Benefits

- Excellent wear protection for hydraulic pumps and motors
- Excellent oxidation resistance and thermal stability
- Protects against rust and corrosion
- Excellent water-separating properties
- Excellent filterability in the presence of a small amount of water
- High dielectric strength⁽¹⁾
- Good foam resistance
- Excellent year-round performance (multi-viscosity grades)

⁽¹⁾ **Note:** In order to maintain its high dielectric strength, the oil must be kept clean and dry. Contamination with even a small amount of water will decrease the dielectric strength.

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Typical Properties

ISO Grade	22	32	46	68	100	150	MV22	MV32
Density, g/cm ³ @ 15.6°C (60°F)	0.857	0.862	0.868	0.871	0.873	0.883	0.856	0.864
Density, lbs/gal @ 15.6°C (60°F)	7.14	7.18	7.23	7.25	7.27	7.35	7.13	7.19
Color, ASTM D1500	0.5	0.5	0.5	0.5	0.5	3.0	0.5	0.5
Flash Point (COC),								
°C	196	216	227	238	252	274	193	204
°F	385	421	441	460	486	525	379	399
Pour Point,								
°C	-40	-37	-37	-33	-32	-21	-50	-45
°F	-40	-35	-35	-27	-26	-6	-58	-49
Viscosity,								
cSt @ 40°C	22.0	31.0	46.0	68.0	100	149	20.8	31.2
cSt @ 100°C	4.3	5.4	6.8	8.7	11.0	14.7	4.6	6.0
SUS @ 100°F	115	160	237	353	523	782	109	160
SUS @ 210°F	40.7	44.4	49.0	55.5	63.9	78.5	41.7	46.3
Viscosity Index	104	104	100	99	98	98	144	142
Acid Number, ASTM D974, mg KOH/g	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Copper Corrosion, ASTM D130	1a	1a	1a	1a	1a	1a	1a	1a
Demulsibility, ASTM D1401, min. to pass	10	10	10	10	10	10	10	10
Dielectric Strength, ASTM D877, kv ⁽²⁾	35	35	35	35	35	35	35	35
Foam Test, ASTM D892	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
FZG Gear Test, ASTM D5182,								
Pass Load Stage	—	11	11	11	11	11	—	—
Oxidation Stability,								
TOST, ASTM D943, hours	—	>5,000	>5,000	>5,000	>5,000	>5,000	—	—
RPVOT, ASTM D2272, minutes	—	234	277	273	270	265	—	—
Rust Test, ASTM D665 A&B	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Zinc, wt %	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043

⁽²⁾ At the point of manufacture

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via <http://w3.conocophillips.com/NetMSDS>.

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