



Hydroclear® EP Gear Oil

Conoco® Hydroclear EP Gear Oil is a premium quality, heavy-duty, extreme pressure industrial gear oil developed for use in enclosed gearboxes operating under moderate to severe service conditions. It is specially formulated to minimize deposit formation and provide excellent gearbox cleanliness. It is recommended for use in all applications where the equipment manufacturer specifies an AGMA extreme-pressure gear oil.

Hydroclear EP Gear Oil is formulated to provide extreme-pressure and antiwear properties, excellent deposit control, protection against rust and corrosion, and resistance to foaming. It has high load-carrying capacity for protection against scuffing and wear. It has excellent oxidation resistance and thermal stability at high temperatures to minimize sludge and varnish formation, and provide long service life. It protects gears and bearings 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 interfere with proper lubrication.

Applications

- Enclosed industrial gear sets operating under heavy loads, high peak loads or intermittent shock loads
- Enclosed spur, bevel, helical, herringbone and planetary gear sets where the equipment manufacturer specifies an AGMA EP gear oil
- Heavily loaded plain and rolling-element bearings

Hydroclear EP Gear Oil meets the requirements of the following industry and OEM specifications:

- ANSI/AGMA Standard 9005-E02
- Cincinnati Machine P-63 (2 EP), P-76 (3 EP), P-77 (4 EP), P-74 (5 EP), P-59 (6 EP), P-35 (7 EP)
- DIN 51517 Part 3, Lubricating Oils, Type CLP
- German Steel Industry SEB 181226, Type CLP
- ISO 12925-1:1996, Type L-CKC
- U.S. Steel 224

**Premium
Extreme-Pressure
Industrial Gear Oil**

Contact Information

**U.S. Customer
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1-800-255-9556

**International
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Features/Benefits

- High load-carrying capacity for protection against scuffing and wear
- Excellent oxidation resistance and thermal stability
- Excellent deposit control for gearbox cleanliness
- Protects against rust and corrosion
- Fast water separation
- Quick foam release

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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Typical Properties						
ISO Grade	68	100	150	220	320	460
AGMA Grade	2 EP	3 EP	4 EP	5 EP	6 EP	7 EP
Specific Gravity @ 60°F	0.875	0.879	0.880	0.889	0.899	0.908
Density, lbs/gal @ 60°F	7.30	7.33	7.34	7.41	7.50	7.57
Color, ASTM D1500	3.0	3.5	4.0	5.0	5.0	6.0
Flash Point (COC), °C (°F)	235 (455)	235 (455)	243 (469)	249 (480)	254 (489)	254 (489)
Pour Point, °C (°F)	-30 (-22)	-21 (-6)	-21 (-6)	-15 (5)	-15 (5)	-9 (16)
Viscosity,						
cSt at 40°C	72.0	104	154	222	323	460
cSt at 100°C	8.7	11.1	14.4	18.4	23.7	30.5
SUS at 100°F	375	544	812	1,177	1,723	2,466
SUS at 210°F	55.6	64.3	77.3	94.2	118	150
Viscosity Index	99	98	97	98	96	96
Acid Number, ASTM D974, mg KOH/g	0.73	0.73	0.73	0.73	0.73	0.73
Copper Corrosion, ASTM D130	1a	1a	1a	1a	1a	1a
Four-Ball EP, ASTM D2596,						
Weld Load, kgf	200	250	250	250	250	250
Four-Ball Wear, ASTM D4172,						
Scar Diameter, mm	0.30	0.30	0.30	0.30	0.30	0.30
FZG Scuffing Test, ASTM D5182,						
Failure Load Stage	>12	>12	>12	>12	>12	>12
Oxidation Stability, ASTM D2893,						
Viscosity Increase @ 100°C, %	0.5	0.9	1.0	1.1	2.3	4.2
Precipitation Number, ASTM D91, ml	Trace	Trace	Trace	Trace	Trace	Trace
Timken OK Load, ASTM D2782, lb	70	70	70	70	70	70

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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