



Synterra® Hydraulic Fluid

Synterra Hydraulic Fluid is a premium quality, readily biodegradable, synthetic antiwear hydraulic oil developed for use in the hydraulic systems of industrial and mobile equipment operating in environmentally sensitive areas. It is particularly recommended for use in hydraulic equipment operating in national parks and wildlife refuges, around lakes and streams, and in other recreational areas.

Synterra Hydraulic Fluid is available in three viscosity grades: ISO 32, 46 and 68. It is formulated with synthetic polyol ester (POE) base oils and an ashless (zinc-free) antiwear additive package to provide excellent performance and wear protection over a wide temperature range.

Synterra Hydraulic Fluid is readily biodegradable and is nontoxic to the environment. It exceeds all requirements for biodegradability as defined by the EPA 40 CFR Part 792, OECD 301B and USTC PRO-BIO-BP 111-9 test methods. It 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.

Applications

- Mobile and stationary equipment operating in environmentally sensitive areas
- Hydraulic systems on mobile equipment such as dump trucks, motor graders, cranes, bulldozers and forklifts
- Boat lifts
- Chain drives operating in sensitive areas
- Construction equipment
- Electrical service repair trucks (cherry pickers)
- Farm implements
- Forestry and logging equipment
- Marine and offshore equipment
- Mining equipment
- Pivots in irrigation systems
- Ski lifts

Synterra Hydraulic Fluid meets the performance requirements of:

- Bosch Rexroth RE 90 220
- Cincinnati Lamb Specifications P-68 (ISO VG 32), P-70 (ISO VG 46) and P-69 (ISO VG 68)

**Readily
Biodegradable
Synthetic Antiwear
Hydraulic Fluid**

Contact Information

**U.S. Customer
Service:
1-800-822-6457**

**U.S. Technical
Services Hot Line:
1-800-766-0050**

**International:
+1-832-486-3363**

**E-mail address:
lubricants@
conocophillips.com**

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- Denison Hydraulics HF-0, HF-1, HF-2
- DIN 51524 Part 2, Antiwear Hydraulic Oils, Type HLP
- General Motors LS-2
- German Steel Industry 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

- Nontoxic
- Readily biodegradable
- Reduced environmental impact
- Excellent wear protection for hydraulic pumps and motors
- Protects against rust and corrosion
- Excellent storage stability
- Full-synthetic formulation

Note: For information on compatibility with seals, paints and plastics, please call our Technical Support Hot Line.

Due to continual product research and development, the information contained herein is subject to change without notification.

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Typical Properties

ISO Grade	32	46	68
Density, g/cm ³ @ 15.6°C (60°F)	0.872	0.887	0.901
Density, lbs/gal @ 15.6°C (60°F)	7.26	7.39	7.50
Color, ASTM D1500	2.0	2.0	2.0
Flash Point (COC), °C (°F)	191 (376)	199 (390)	207 (405)
Pour Point, °C (°F)	-37 (-35)	-37 (-35)	-37 (-35)
Viscosity,			
cSt @ 40°C	32.5	47.7	67.9
cSt @ 100°C	6.8	9.2	12.0
SUS @ 100°F	165	241	344
SUS @ 210°F	48.9	57.2	67.5
Viscosity Index	174	178	176
Acid Number, ASTM D974, mg KOH/g	0.30	0.40	0.50
Copper Corrosion, ASTM D130	1b	1b	1b
Four-Ball Wear, ASTM D4172, Scar Diameter, mm	0.52	0.50	0.50
FZG Gear Test, ASTM D5182, Pass Load Stage	12	12	12
Oxidation Stability, RPVOT, ASTM D2272, minutes	200	200	200
Rust Test, ASTM D665 A&B	Pass	Pass	Pass
Aerobic Aquatic Biodegradation, ASTM D5864-05, %	>60	>60	>60
Aquatic Toxicity, Fresh & Saltwater Fish,			
OECD 203 1-12, 5000 mg/l, 96 hours, LC ₅₀	Nontoxic	Nontoxic	Nontoxic

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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