

EcoPro HD Anti-Wear Hydraulic Oil

When the project calls for a **biodegradable** hydraulic fluid, SWEPCO 737 EcoPro Heavy Duty Anti-Wear Hydraulic Oil delivers reliable performance superior to conventional biodegradable **and** many petroleum-based fluids in areas such as service life, high temperature resistance, lubricity, low temperature fluidity and wear control.

SWEPCO's proprietary blend of high oleic ester base stocks and advanced eco-friendly chemistry provide optimum protection for hydraulic systems that must be operated in ecologically sensitive environments, including marine, agriculture, wildlife, forestry, landscaping, drilling, dredging and many other applications where biodegradability is desired or required.



KEY BENEFITS

- Rapidly biodegradability -- >70% in 7 days
- Does not produce rainbow sheen
- Excellent extreme pressure performance with 500 kg weld load
- Specifically formulated for improved high temperature resistance, long life service and superior wear control
- Anti-wear additive prevents scuffing & rubbing wear
- High VI natural esters with superior oxidative, thermal & hydrolytic stability
- Excellent low temperature flowability -- won't clog filters or inhibit lubrication -- good down to <-36°C
- Superior resistance to foam, rust & corrosion
- Exceeds performance requirements of major industry & OEM specifications, including the Caterpillar BF-2 biodegradable fluid specification

Superior performance & bio-degradability in one fluid ...



CONSTRUCTION



AGRICULTURE



DRILLING/DREDGING



MARINE

Enjoy superior performance in a biodegradable hydraulic fluid with SWEPCO 737.

Feature	Benefit
Biodegradability	• Readily biodegradable base stocks insure minimum impact on environment in the event of spill or leakage • Minimizes risk of environmental clean-up exposure and fines • Minimizes cost of clean-up in the event of a spill • Reduces cost of normal waste oil disposal
High VI High Oleic Natural Ester Base	• Insures uniform viscosity over a wide temperature range • Superior thermal stability prevents breakdown • Lubricity superior to many petroleum based lubricants
Extreme Pressure Additive	• Environmentally friendly extreme pressure additive provides heavy duty service • 4-Ball weld load tests demonstrate superior performance in extreme pressure
Anti-Wear Additive	• Ashless anti-wear chemistry & natural ester base lubricity provide excellent protection from rubbing and scuffing wear • 4-Ball weld load tests demonstrate superior performance in extreme pressure
Anti-Oxidant Additive	• Lengthens drain cycles and reduces disposal costs • Helps prevent sludge, varnish and carbon deposits that can impact performance • Retains excellent hydraulic qualities to insure proper response
Hydrolytic Stability	• Natural ester base resists breaking down in presence of heat and moisture better than synthetic esters • Won't raise acidity levels to attack components and initiate rust
Rust and Corrosion Performance	• Bonds to metal surfaces to keep moisture and acids from penetrating and attacking • Prevents formation of rust particles
Anti-Foam Performance	• Can lower operating temperatures by dispersing foam and releasing trapped heat • Helps eliminate power surges and blown hoses
Pour Point Performance	• Superior low temperature fluidity and reduced start-up wear
Seal & Finish Compatibility	• More friendly to seals than synthetic esters • Compatible with typical equipment paints, coatings and varnishes

Typical Physical Properties

Flash Point, °F, ASTM D-92, Min >450
 Specific Gravity, 60°F, ASTM D-1122 0.92
 Viscosity @ 40°C, cSt, ASTM D-445 48.2
 Viscosity @ 100°C, cSt, ASTM D-445 9.83
 Viscosity Index, ASTM D-2270 207
 Pour Point, °C, ASTM D-97 -36
 Dielectric Strength, volts, ASTM D-877 >34,000
 Color Light Blue

Biodegradability

CEC-L-33-T82, 7 days, % >70
 ASTM D5864, Modified Sturm OECD 301B
 (nearly identical to the circa 1982 EPA 560/6-82-003
 CO₂ Conversion Test), % >60

Meets or Exceeds the Performance Requirements of These Specifications:

- Caterpillar BF-2 Biodegradable Fluid
- Cincinnati Machine P-68, P-69, P-70
- U.S. Steel 127, 136
- GE Turbine Specification GEK 28143A
- DIN 51506, VDL Performance
- DIN 51524 Parts I & II

Typical Performance Properties

Foam, ASTM D-892, Sequence I, II, III 0/0/0
 Copper Corrosion, ASTM D-130, 3 hours @ 100°C 1b
 Hydrolytic stability, ASTM D-2619, Copper loss /
 appearance/ NNA 0/1b/0
 Rust, ASTM D-665 A (Distilled Water) Pass
 Rust, ASTM D-665 B (Synthetic Sea Water) Pass
 Demulsibility, ASTM D-1401, oil / water / emulsion
 (minutes) 40-40-0 (15)
 Four Ball Wear, ASTM D-4172, 1 hr., 167°F, 1800 rpm,
 40 kg, scar mm. 0.40
 Four Ball Weld Load, kg 500
 Hydraulic Pump Test, ASTM D-2282, mg. wt. loss, ring
 and vanes 3.4
 FZG Wear Test, Fail Stage DIN 51354 13
 Vickers Pump Test (35VQ25 & V-104C) Pass
 Dennison (T-5D) Pass
 Oxidative Stability, ASTM D-2272, RBOT, min. to 25 psi
 loss 180
 Static Oxidation Test, 168 hrs. @ 150°C, condition of
 beaker clean
 Maximum Recommended Operating Temperature
 Intermittent, °F (°C) 200 (93)
 Continuous, °F (°C) 180 (82)
 Maximum Recommended Oil Pressure
 Intermittent, psi 9,000
 Continuous, psi 8,000



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... the cutting edge performance SWEPCO
 Customers have come to expect.



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