



35585 Curtis Boulevard • Eastlake, Ohio 44095 • (440) 951-8633 • (440) 951-4341 FAX

EnviroLogic[®] 168

Biodegradable Hydraulic Fluid

Description

EnviroLogic[®] 168 Hydraulic Fluid is a readily biodegradable, non-hazardous ISO 68/SAE 5W40 multiviscosity grade hydraulic oil for use in general purpose hydraulic systems. EnviroLogic[®] 168 is based on natural ester technology and is a direct replacement for petroleum oil based hydraulic fluids. EnviroLogic[®] 168 is approved against Jacobsen requirements and meets or exceeds the requirements of Toro, Ransome-Cushman, Deere and others. The product demonstrates excellent low and high temperature viscosity performance and has superior antiwear characteristics.

Typical Properties

Flash Point, °F	ASTM D-92	>400
Specific Gravity, 60°F	ASTM D-1122	0.92
Viscosity @ 40°C, cSt	ASTM D-445	68.0
Viscosity @ 100°C, cSt.	ASTM D-445	14.5
Viscosity Index	ASTM D-2270	215
Pour Point, °C	ASTM D-97	-36
Brookfield viscosity @ -30°C, cPs	ASTM D-2983	6500

Performance Properties

Foam, Sequence I, II, III	ASTM D-892	Pass
Copper Corrosion, 3 hours @ 100°C	ASTM D-130	1a
Hydrolytic stability, Copper loss / appearance/ NNA	ASTM D-2619	0.09 / 1b / 4.0
Filterability, seconds A.) without water, 600 max.		127.6



"Solutions for a Greener World"



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Performance Properties

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 (20)

Wear Performance

Four Ball Wear, ASTM D-4172 1 hr., 167°F, 1800 rpm, 40 kg., scar mm.	0.42
Timken Wear, ASTM D-2782 OK Load, lbs.	55
Hydraulic Pump Test, ASTM D-2882 mg. wt. loss, ring and vanes	Pass 3.4
Four Ball Wear (modified ASTM D-2266) (2.0% water contamination in the test oil)	0.40

Oxidative Stability

Oxidative Stability , ASTM D-2272 RBOT , min. to 25 psi loss	80 – 100
Static Oxidation Test 168 hrs. @ 150°C condition of beaker	clean

Biodegradability

CEC L-33 T-82, %	94
Modified Sturm, OECD 301B, ASTM D5864, %	>60



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Performance Properties(cont.)

Ecotoxicity

Fathead minnow, 96h LC 50, ppm	>10,000
Daphnia magna, 48h, EC50, ppm	>10,000
Sludge respiration inhibition, EC50, ppm	>10,000

Pump Performance

Vickers 35VQ25 Pump	Pass
(3000 psi, 2400 rpm 93.3° C)	
Total Weight Loss, mg	27

Seal Compatibility

Buna	Pass
Nitrile	Pass
Viton	Pass
