

READILY BIODEGRADABLE HYDRAULIC FLUID

Description:

EnviroLogic® 1100 hydraulic fluid is a readily biodegradable, biobased ISO 100 grade hydraulic oil for use in general purpose hydraulic systems. EnviroLogic® 1100 is based on natural ester technology and is a direct replacement for petroleum oil based hydraulic fluids of the same viscosity. The product demonstrates excellent low and high temperature viscosity performance and has superior anti-wear characteristics. EnviroLogic® 1100 has reduced environmental impact in the event of a leak or spill, as it is readily biodegradable and non-sheening.

EnviroLogic® 1100 is self certified as an Environmentally Acceptable Lubricant (EAL) compliant with 2013 US EPA Vessel General Permit (VGP).

EnviroLogic® 1100 meets or exceeds the following requirements:

- USDA BioPreferred*

Property	Method	Requirements	Result
Kinematic Viscosity	D445		
At 40°C, cSt		90.0 – 110.0	100
At 100°C, cSt			18.1
Viscosity Index	D2270	90 min	201
Density (60°F), kg/m ³	D4052	Report	920
Density (60°F), lbs/gal	D4052	Report	7.66
API Gravity (60°F)	D1298	Report	22.3
Pour Point, °C	D97	-15 max	-33
Flash Point (COC), °C	D92	185 min	205
Acid Number, mgKOH/g	D664	Report	0.30
Steel Pin Corrosion (4 hours, 100°C)	D665	Pass	
Deionized Water			Pass
Synthetic Salt Water			Pass
Copper Corrosion (3 hours, 100°C)	D130	2 max	1B
Foam Properties (after 10 minutes)	D892		
Sequence I, mL	Tendency-Stability	50-0 max	50-0
Sequence II, mL	Tendency-Stability	50-0 max	50-0
Sequence III, mL	Tendency-Stability	50-0 max	50-0

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Property	Method	Requirements	Result
Demulse Properties (54°C) Oil / Water / Emulsion Minutes	D1401	40 / 37 / 3 30 max	40 / 40 / 0 30
Hydrolytic Stability Copper Weight Loss, mg/cm ³ Change in Acid Number, mgKOH/g Appearance of Copper Panel	D2619		0.09 0.09 1B
Four Ball Wear 75°C, 1200 rpm/ 40 kg/ 1 Hr.	D4172		0.67
Vickers 35VQ25 Vane Pump*	35VQ25		Pass
Vickers V104C Vane Pump* Total loss of ring and vane, mg			3.9
FZG (A/8.3/90), fail load*	D5182	10	10
Biodegradability	D7373	> 60	> 60
Ecotoxicity Fathead minnow, 96h LC50, ppm Daphnia magna, 48h EC50, ppm Algae, 72h EC50, ppm	OECD 203 OECD 202 OECD 201	> 100 > 100 > 100	> 10,000 > 100 > 100
Elastomer SRE-NBR-1 (100°C 168 hours)	D471	Pass	Pass
Elastomer HNBR (100°C 168 hours)	D471	Pass	Pass
Elastomer FKM (100°C 168 hours)	DIN 1817	Pass	Pass
Compatibility with Select Hydraulic Fluids Biodegradable Competitor stored @ 100°F Biodegradable Competitor stored @ -5°F Petroleum Hydraulic Fluid stored @ 100°F Petroleum Hydraulic Fluid stored @ -5°F		Pass Pass Pass Pass	Pass Pass Pass Pass

*based on readacross from EnviroLogic® 146.

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9609 Jackson Street
Mentor, Ohio 44060
800-661-3558
rscbio.com

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