

## HIGH PERFORMANCE, READILY BIODEGRADABLE HYDRAULIC FLUID

### Description:

EnviroLogic® 3068 is a high performance, readily biodegradable, synthetic ISO 68 grade hydraulic fluid. It is intended for severe service, extreme high temperature (250°F / 121°C), low temperature (-40°F / -40°C) and high pressure (5000+ psi) applications. It exhibits enhanced wear protection, cleanliness and longer life than conventional petroleum hydraulic oils. EnviroLogic® 3068 can directly replace petroleum oil based hydraulic fluids of the same viscosity, yet has reduced environmental impact in the event of a leak or spill, as it is readily biodegradable and non-sheening.

EnviroLogic® 3068 is certified as an Environmentally Acceptable Lubricant (EAL) compliant with 2013 US EPA Vessel General Permit (VGP).

Meets the ISO classification Hydraulic Environmental Polyalphaolefin and related hydrocarbon products (HEPR) per ISO 6743-4.

It meets or exceeds the following performance levels:

- Hatlapa
- Rexroth
- Blohm + Voss
- NOV
- Sauer-Danfoss
- Cargotec/MacGregor
- IHC Merwede
- Komatsu
- Kemel
- Gates
- Parker Hannifin/Denison
- Linde
- Thrustmaster
- Eaton/Vickers
- Rolls Royce
- LinkBelt
- Wartsila
- Aegir

Property	Method	Requirements	Result
Kinematic Viscosity			
At 40°C, cSt	D445	61.2-74.8	68
At 100°C, cSt	D445	7.8 min	13.5
Viscosity Index	D2270	90 min	176
Density(60°F), kg/m <sup>3</sup>	D4052	report	856
Pour Point, °C	D97	-15 max	<-46
Flash Point (COC), °C	D92	185 min	215
Acid Number, mgKOH/g	D664	Report	0.30
Steel Pin Corrosion (3 hours, 100°C)	D665	Pass	

Property	Method	Requirements	Result
Deionized Water			Pass
Synthetic Salt Water			Pass
Foam Properties (after 10 minutes)	D892		
Sequence I, mL	Tendency/Stability	50-0 max	10-0
Sequence II, mL	Tendency/Stability	50-0 max	50-0
Sequence III, mL	Tendency/Stability	50-0 max	10-0
Demulse Properties (54°C)	D1401		
Oil / Water / Emulsion		40/37/3	40/40/0
Minutes		30	15
Copper Corrosion 3hrs @ 100 °C	D130	2 max	1a
Oxidation	D2272		
Mins to 25 psi loss			400-500
FZG		10 min.	12 Pass
Hydrolytic Stability	D2619		
Copper Weight Loss, mg/cm <sup>3</sup>			0.00
Change in Acid Number, mgKOH/g			0.00
Appearance of Copper Panel			1b
Vickers 35VQ25 Vane Pump*	35VQ25		Pass
Vickers V104C Vane Pump*			
Total loss of ring and vane, mg			Pass
Biodegradability, %	D7373		>60
Ecotoxicity			
Fathead minnow, 96h LC50, ppm	OECD 201	>100	>1,000
Daphnia magna, 48h EC50, ppm	OECD 202	>100	>120
Algae, 72h EC50, ppm	OECD 203	>100	>110
Elastomer Compatibility**			
SRE-NBR-1 (100°C 168 hours)	D471		Pass
HNBR (100°C 168 hours)	D471		Pass
PU (100°C 168 hours)	DIN 1817		Pass
FKM (100°C 168 hours)	DIN 1817		Pass
Compatibility with Select Hydraulic Fluids			
Biodegradable Competitor stored @ 100°F			Pass
Biodegradable Competitor stored @ -5°F			Pass
Petroleum Hydraulic Fluid stored @ 100°F			Pass
Petroleum Hydraulic Fluid stored @ -5°F			Pass

\*based on read across from EL 146 \*\* based on read across from EL 3046

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