



PRODUCT DATA SHEET

ICHOR BIODEGRADABLE HYDRAULIC FLUID 46

Ichor Biodegradable Hydraulic Fluid 46 is a readily biodegradable and biobased ISO 46 grade hydraulic oil for use in general purpose hydraulic systems. It is based on natural ester technology and is a direct replacement for petroleum oil based hydraulic fluids of the same viscosity. Ichor Biodegradable Hydraulic Fluid 46 exceeds the requirements of petroleum oil based hydraulic fluids and has excellent anti-wear characteristics. It is intended for use in applications with temperature requirements ranging from -20°F to 200°F and pressure requirements up to 5000 psi. It demonstrates outstanding low temperature viscosity. It has reduced environmental impact in the event of a leak or spill, as it is readily biodegradable and non-sheening*.

It is as an Environmentally Acceptable Lubricant (EAL) compliant with 2013 US EPA Vessel General Permit (VGP).

Ichor Biodegradable Hydraulic Fluid 46 meets the requirements for various manufacturers.

PROPERTY	METHOD	REQUIREMENTS	RESULTS
Kinematic Viscosity At 40°C, cSt At 100°C, cSt	D445	41.4 – 50.6 6.1 min	46 10.4
Viscosity Index	D2270	90 min	200
Density (60°F), kg/m3	D4052	Report	920
Density (60°F), lbs/gal	D4052	Report	7.66
API Gravity (60°F)	D1298	Report	22.3
Pour Point, °C	D97	-12 max	-36
Flash Point (COC), °C	D92	185 min	270
Acid Number, mgKOH/g	D664	Report	0.30
Steel Pin Corrosion (24 hours, 100°C) Deionized Water Synthetic Salt Water	D665	Pass	Pass Pass
Copper Corrosion (3 hours, 100°C)	D130	2 max	1B
Foam Properties (after 10 minutes) Sequence I, mL Sequence II, mL Sequence III, mL	D892	50-0 max 50-0 max 50-0 max	50-0 50-0 50-0

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PROPERTY	METHOD	REQUIREMENTS	RESULTS
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., mm	D4172		0.61
Vickers 35VQ25 Vane Pump	35VQ25		Pass
Vickers V104C Vane Pump Loss of ring, mg Total loss of vanes, mg	ISO 20763	120 max 30 max	1.9 4.8
Denison HF-6 Hybrid Pump Total loss of pistons, mg Total loss of vanes and pins, mg	T6H20C	300 max 15 max	186.7 1.4
FZG (A/8.3/90), fail load	D5182	10 min	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

*CFR40 Part 435B

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