



FUTERRA™ HF 46 RED

High Performance, Ecolabel Certified Hydraulic Fluid

FUTERRA™ HF 46 Red is a renewable hydrocarbon based environmentally acceptable lubricant (EAL), ISO 46 hydraulic fluid formulated with red colored dye to visually alert ROV operators of leaks and offers increased compressibility. FUTERRA™ HF 46 Red is made to withstand extreme conditions and corrosion while operating in underwater environments. It is intended for severe service, extreme high temperature (250°F/121°C), low temperature (-40°F/- 40°C) and high pressure (5000+psi/34,470 kPa) applications. Its excellent oxidative and hydrolytic stability and near zero foaming tendency ensure that the fluids will last much longer than other EALs and conventional oils. RSC FUTERRA™ HF 46 Red offers greater flexibility and the ultimate system compatibility – offering drop-in replacement and broad seal compatibility. It is formulated for marine applications where incidental environmental exposure of the lubricant is a cause for concern for ROVs.

- 2013 EPA VGP Compliant
- Ecolabel Certified
- Non-sheening¹
- Drop-in replacement for mineral oil based lubricants

Typical Properties		FUTERRA™ HF 46 RED
ISO Viscosity Grade		46
Kinematic Viscosity, ASTM D445, cSt	@ 40°C	46
	@ 100°C	7.98
Viscosity Index, ASTM D2270		140
Specific Gravity 15.6°C (60°F), ASTM D1298		0.84
Density 15.6°C (60°F), lbs/gal		7.0
Pour Point, ASTM D97, °C		-39
Flash Point (COC), ASTM D92, °C		226
Acid Number, mg KOH/g, ASTM D664		0.89

Performance Properties		FUTERRA™ HF 46 RED
Steel Pin Corrosion (3 hours, 100°C), ASTM D665	Distilled Water	Pass
	Synthetic Sea Water	Pass
Foam Properties (after 10 minutes), ASTM D892	Sequence I, Tendency/Stability	0/0
	Sequence II, Tendency/Stability	10/0
	Sequence III, Tendency/Stability	0/0

¹CFR40 Part 435B

Performance Properties (cont.)		FUTERRA™ HF 46 RED
Demulse Properties (54°C), ASTM D1401	Oil/Water/Emulsion	40/40/0
	Minutes	10
Copper Corrosion, ASTM D130, 3hrs @ 100 °C		1a
Oxidation, ASTM D2272, Minutes to 25 psi Loss		1,200
Oxidation, ASTM D943		> 1,000 hrs
Oxidation, ASTM D943M		> 9,000 hrs
FZG, 10 min.		12
Hydrolytic Stability, ASTM D2619	Copper Weight Loss, mg/cm3	0.00
	Acidity of Water Layer, mgKOH/g	< 4.0
	Appearance of Copper Panel	1b
Vickers 35VQ25 Vane Pump		Pass
Vickers V104C Vane Pump		Pass
Denison T6H20C Pump (HF-1, HF-2, HF-6)		Pass
Bosch Rexroth RFT-APU-CL		Pass
Biodegradability, % in 28 Days, OECD 301B		> 60
Not Bioaccumulative, OECD 107/117		Pass
Ecotoxicity	Algae, 72h EC50, ppm, OECD 201	> 10,000
	Daphnia magna, 48h EC50, ppm, OECD 202	> 10,000
	Fathead minnow, 96h LC50, ppm, OECD 203	> 1,000
Elastomer Compatibility	SRE-NBR-1 (80°C, 1000 hours)	Pass
	HNBR (100°C, 1000 hours)	Pass
	FKM (100°C, 1000 hours)	Pass

EWC / German waste code 13 01 12*

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

OEM Approvals

FUTERRA™ HF 46 Red meets the requirements for an extensive list of original equipment manufacturers. Please contact customer service for a full list of OEM approvals.

For more information about RSC Bio Solutions, visit us at rscbio.com or call +1 704.684.6100.

