

BIOFLO HFDU



Overview: BioFlo Fire Resistant HFDU is made from premium quality natural ester. HFDU is an excellent anti-wear hydraulic fluid for use in all applications requiring a Factory Mutual approved fire resistant fluid. In addition to high performance, the product also provides excellent environmental performance due to its low toxicity additives and biobased base oil. HFDU is compatible with most mineral oils and polyolester type hydraulic fluids. For phosphate esters, please contact your BioBlend rep. HFDU is not compatible with water containing fluids. Available in ISO grades 40, 46, and 68.

Specifications, Approvals, Recommendations:

- FM Approval for Fire Resistant Hydraulic Fluids
- USDA BioPreferred Program
- Classified as Environmentally Acceptable Lubricants (EAL's) as per the EPA's 2013 U.S. Vessel General Permit (VGP)

Physical Properties	HFDU 40	HFDU 46	HFDU 68
ISO Grade	40	46	68
Color	Amber	Amber	Amber
Specific Gravity, ASTM D1298	.91	.91	.91
Kinematic Viscosity, ASTM D445 @40°C, cSt	42	46	68
Kinematic Viscosity, ASTM D445 @100°C, cSt	9	10	12
Viscosity Index (VI), ASTM D2270	>200	>200	>200
Pour Point, ASTM D97, °F (°C)	-8 (-22)	-13 (-25)	-13 (-25)
Flash Point, ASTM D92, °F (°C)	590 (310)	600 (315)	600 (315)
Fire Point, ASTM D92, °F (°C)	650 (343)	650 (343)	650 (343)
Foam Test, ASTM D892	41/39/1	41/39/1	41/39/1
Gear Lubrication, FZG Load Stage, DIN 51354-2	>12	>11	>11
Corrosion Protection, ASTM D665A	PASS	PASS	PASS

Environmental Stewardship: Meets EPA requirements to be classified as an EAL per the 2013 VGP

Readily Biodegradable (meaning>60%) OECD 301B, %	PASS >70	PASS >70	PASS >70
Minimally Toxic OECD 201 - Algae (EC 50), 72 hr, mg/L OECD 202 - Daphnia (EC 50), 48 hr, mg/L OECD 203 - Fish (LC 50), 96 hr, mg/L	PASS >40,000 mg/L >19,000 mg/L >43,000 mg/L	PASS >17,000 mg/L >6,400 mg/L >12,000 mg/L	PASS >17,000 mg/L >7,700 mg/L >27,000 mg/L
Not Bioaccumulative* [*Calculated value as per EPA standard]	PASS	PASS	PASS

Additional Environmental Features and Characteristics

Bio-based Content, ASTM D6866, %	>95	>95	>95
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Applications & Industries: Any industry (foundries, steel mills, construction, mining, marine, oil & gas, plant operations, etc.) utilizing mobile or stationary hydraulically powered equipment that requires an FM Approved hydraulic fluid. Also suitable for those hydraulic systems where a release into the environment is possible or where a leak or spill could reach a waste stream.

