

HonuBio HF-DU

(Biobased Fire Resistant Hydraulic Fluid)



Next Generation Sustainable Lubrication Technologies

PRODUCT NAME

HonuBio HF-DU
(Biobased Fire Resistant Hydraulic Fluid))

MANUFACTURER

Honu Eco Sustainable Solutions, Inc.
200 Mayfly Way
Simpsonville, South Carolina 29680

DESCRIPTION

HonuBio HF-DU (Fire Resistant Hydraulic fluid) is an hydraulic fluid made from premium quality, readily biodegradable natural esters. In addition to high performance, the product also provides excellent environmental performance due to its low toxicity additives and biobased base oil. HF-DU is compatible with most mineral oils and polyolester- type hydraulic fluids. For phosphate esters, please contact your Honu Eco rep. HonuBio HF-DU is not compatible with water containing fluids.

FEATURES AND BENEFITS

- High performing, anti-wear hydraulic fluid for use in all applications
- High flash point for combustion resistance and low degree of evaporation
- Formulated with premium quality renewable and sustainable natural ester base stocks
- Minimally toxic - safer to use and less harmful to skin
- Naturally high viscosity index for stability in a wide temperature range
- Formulated with Zinc free, ashless antiwear additive technologies
- Readily biodegradable ($\geq 60\%$ OECD 301A- F/ASTM D7373 testing) within 28 days, petroleum products biodegrade only 15-35%

PACKAGING

- 5 Gallon Pails
- 55 Gallon Drums
- 275 Gallon Totes

SUITABLE USES

Any industry (foundries, steel mills, construction, mining, marine, oil & gas, plant operations, etc.) utilizing mobile or stationary hydraulically powered equipment that requires a Factory Mutual (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.

LIMITATIONS

Not compatible with water containing fluids.

APPLICATION

- Follow recommendations provided in your equipment's owner's manual
- Follow your organization's manuals and/or best practices for preparation, cleaning, conversion, application and ongoing maintenance practices
- If you have further questions, please contact Honu Eco Tech Services by filling out the contact us form on honueco.com

STORAGE AND SHELF LIFE

Storage – Keep in a cool, dry and well-ventilated place. Store in a properly labelled, original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. To help maintain product quality, do not store in heat or direct sunlight.

Shelf Life - Product shelf life is 24 months from date of packaging. In some cases product can last longer, please contact your Honu Eco representative

CAUTIONS

Ensure adequate ventilation. Do not breathe vapor/dust. Use personal protective equipment and avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. See the Safety Data Sheet (SDS) for emergency, proper handling and disposal information. Intentional misuse by concentrating and inhaling the product can be harmful or fatal.

AVAILABILITY

- Worldwide

APPROVALS / CERTIFICATIONS

- BioPreferred – 96% Biobased Content
- Classified as Environmentally Acceptable Lubricants (EAL's) as per the guidance document that defines standards for Environmentally Acceptable Lubricants (EPA 800-R-11-002) and as required by EPA's 2013 US Vessel General Permit (VGP)

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Typical Properties

Properties	ASTM Test Method	HF-FR 46	HF-FR 68
Product Code		HBHF20046FR	HBHF20068FR
ISO Grade		46	68
Specific Gravity	D-1298	0.91	0.91
Viscosity @40°C, cSt	D-445	46	68
Viscosity @100°C, cSt	D-445	10	12
Viscosity Index	D-2270	>200	>200
Flash Point °C	D92	315	315
Fire Point °C	D92	343	343
Pour Point °C	D97	-25	-25
Foam Test	ASTM D892	41/39/1	41/39/1
Gear Lubrication, FZG Load Stage,	DIN 51354-2	>11	>11
Copper Corrosion	ASTM D665A	Pass	Pass
Readily Biodegradable (meaning>60%)		Pass	Pass
Biodegradability %	OECD 301B	>70	>70
Minimally Toxic		Pass	Pass
Algae (EC 50), 72 hr, mg/L	OECD 201	>17,000	>17,000
Daphnia (EC 50), 48 hr	OECD 202	>6,400	>7,700
Fish (LC 50), 96 hr, mg/L	OECD 203	>12,000	>27,000
Not Bioaccumulative* (*Calculated value as per		Pass	Pass
Bio-based Content, %	ASTM D6866	>95	>95

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