cyclon® ENGINEERED TO PERFORM

TECHNICAL PRODUCT SHEET

HYDRAULIC HFDU

ISO 46, 68

DESCRIPTION

HYDRAULIC HFDU is a Premium fire-resistant hydraulic fluid based on synthetic esters, engineered to deliver reliable performance in demanding environments where conventional mineral oil fluids pose safety risks. It combines excellent thermal stability, oxidation resistance, and lubricity with inherent self-extinguishing properties, ensuring safe operation in steel production, mining, marine, and other high-risk industrial applications. Fully compliant with ISO 12922 HFD-U classification, it provides outstanding wear protection, long service life, and environmental compatibility, making it the preferred choice for modern hydraulic systems operating under severe conditions.

APPLICATIONS

HYDRAULIC HFDU is recommended for hydraulic systems operating in fire-risk and safety-critical environments where fire-resistant fluids are required. It is ideally suited for use in steel mills, foundries, mining equipment, marine and offshore systems, and other high-temperature or high-risk industrial applications, particularly where ISO 12922 HFD-U–compliant fluids are specified.

SPECIFICATIONS

ISO	6743-4 HFDU (ISO-L-HFDU)	Danielli	CODE Type 36 0.151166.E
ISO	12922		
ISO	15380		

PROPERTIES

HYDRAULIC HFDU exhibits excellent fire resistance with inherent self-extinguishing behavior, significantly reducing fire risk in safety-critical environments. The synthetic ester formulation provides high thermal and oxidative stability, ensuring stable performance and minimizing sludge formation under severe operating conditions. It delivers outstanding anti-wear and lubricity performance, protecting pumps and system components even under high loads. The fluid also demonstrates good viscosity-temperature behavior, low foaming tendency with rapid air release, and excellent compatibility with common sealing materials, supporting reliable operation, extended service life, and consistent performance in demanding hydraulic applications.

BENEFITS

HYDRAULIC HFDU significantly reduces fire risk through its inherent fire-resistant and self-extinguishing properties, enhancing safety in high-risk operating environments. Its synthetic ester formulation provides excellent protection against wear, thermal stress, and oxidation, helping to extend equipment life and reduce maintenance costs. The fluid supports reliable, trouble-free system operation under severe conditions, while offering a long service life that enables extended maintenance intervals. In addition, its environmental compatibility and compliance with ISO 12922 HFD-U make it an ideal choice for modern hydraulic systems where performance, safety, and sustainability are equally critical.

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PHYSICAL-CHEMICAL CHARACTERISTICS

HYDRAULIC RX	METHOD	ISO 46	ISO 68
Density at 15°C, g/cm^3	ASTM D4052	0.920	0.935
Viscosity, Kinematic (cSt) 40°C	ASTM D445	46	68
Viscosity, Kinematic (cSt) 100°C	ASTM D445	9.7	12.48
Viscosity index	ASTM D2270	185	185
Flash point, COC, °C	ASTM D92	>310	>310
Fire Point, COC, °C	ASTM D92	360	360
Pour point, °C	ASTM D97	-36	-36
Copper corrosion	ASTM D 130	1a	1a
Foam Tendency / Stability, ml Sequence I Sequence II Sequence III	ASTM D892	 30 / 0 50 / 0 30 / 0	 30 / 0 50 / 0 30 / 0
Saponification number, mgKOH/g	ASTM D94	190	190
FZG test, A/8.3/90	DIN 51354	>11	>11
Biodegradability @28 days, %	OECD 301 B	>85	>85

The above mentioned characteristics represent mean values.

STORAGE

All packages must be stored in covered, well-ventilated areas. If outdoor storage cannot be avoided, barrels must be placed horizontally to prevent water ingress and to protect labels and markings from damage. Products must not be stored at temperatures above 60 °C and must not be exposed to direct sunlight, freezing conditions, or extreme temperature fluctuations.

HEALTH & SAFETY

This product is not considered to pose significant risks to health or safety when used as intended and in accordance with recommended personal hygiene practices. It must not be applied for purposes other than those for which it has been formulated. For detailed guidance on safe handling and use, refer to the Safety Data Sheet (SDS).

USED OILS

Used lubricants must be collected at designated collection points to prevent environmental contamination. They must not be mixed with solvents, brake fluids, or antifreeze.