cyclon® ENGINEERED TO PERFORM

TECHNICAL PRODUCT SHEET

HYDRAULIC HLP—D

ISO 32, 46, 68

DESCRIPTION

HYDRAULIC HLP-D is a specifically designed mineral hydraulic fluid containing a highly specialized zinc-free (ashless) and detergent/dispersant additive system, intended for the protection of industrial hydraulic systems where emulsifiable fluids are used and from contaminants, deposits and water which may have enter the hydraulic system and damage pump parts. Hydraulic HLP-D disperses contaminants and holds them in suspension while adhering particles/deposits are dissolved. Hydraulic HLP-D exceeds the requirements of DIN 51524 part 2 (HLP type). However, it must be noted that due to the presence of the detergent/dispersant additives (ISO-L-HLPD requirements) water separation properties are not met.

APPLICATIONS

HYDRAULIC HLP-D is suitable for use in industrial and marine hydraulic systems where due to high ingresses of water or contamination, a high degree of dispersancy is required to prevent water dropout in the system. Hydraulic HLP-D is particularly recommended for use in hydraulic systems of machine tools where water-mixed cutting fluids may enter the hydraulic system. It can also be used in applications that experience high levels of contamination e.g., mobile hydraulic units (excavators, bulldozers, wheel loaders, truck hydraulic systems).

SPECIFICATIONS

DIN	51524 Part 2 HLP (excl. demulsifying properties)	Daimler	DBL6721-1
ISO	6743-4 (ISO-L-HLPD)	Ortinghaus	ON9.2.19
ISO	11158 HM		

PROPERTIES

HYDRAULIC HLP-D features an ashless (zinc-free) formulation that delivers proven anti-wear and extreme pressure (EP) protection for reliable component safeguarding. Its detergent and dispersant system provides superior hydrolytic stability, ensuring consistent performance in the presence of moisture. The formulation offers excellent resistance to foam formation and rapid air release, supporting smooth system operation. It is fully compatible with common seal materials such as SRE-NBR1, and demonstrates excellent water emulsifying ability with very good filterability for dependable, efficient service.

BENEFITS

HYDRAULIC HLP-D ensures corrosion-free protection across a wide range of operating conditions, from low to severe duty loads. It prevents sticky sludge formation under harsh conditions, enabling trouble-free operation and improved system efficiency. Designed for safe use with zero environmental impact, it delivers a long service life, while also preventing water dropout and filter blockage to maintain consistent and reliable system performance.

cyclon®

ENGINEERED TO PERFORM

TECHNICAL PRODUCT SHEET

PHYSICAL-CHEMICAL CHARACTERISTICS

HYDRAULIC HLP-D	METHOD	ISO 32	ISO 46	ISO 68
Density at 15°C, g/cm^3	ASTM D4052	0.870	0.865	0.878
Viscosity, Kinematic (cSt) 40°C	ASTM D445	32	46	68
Viscosity, Kinematic (cSt) 100°C	ASTM D445	5.5	6.9	8.9
Viscosity index	ASTM D2270	105	105	103
Flash point, COC, °C	ASTM D92	210	230	240
Pour point, °C	ASTM D97	-30	-30	-24
Copper corrosion	ASTM D 130	1a	1a	1a
Foam Tendency / Stability, ml Sequence I Sequence II Sequence III	ASTM D892	 20 / 0 20 / 0 20 / 0	 20 / 0 20 / 0 20 / 0	 30 / 0 30 / 0 30 / 0
Air release, min	ASTM D3427	3.5	3.8	4.0
FZG Test (A8.3/90) Load stage	DIN 51354	>12	>12	>12
Brugger test, N/mm^2	DIN 51347	>46	>51	-

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.