



ISO-9001 Registered Quality System.
ISO-21469 Compliant.

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PRODUCT DATA

LUBRIPLATE SYNXTREME FRHD-46

FM Approval ID 0003057229

DESCRIPTION

LUBRIPLATE SYNXTREME FRHD-46 is a high-performance hydraulic fluid designed for demanding industrial applications requiring fire resistance, and excellent anti-wear properties over wide temperature ranges.

APPLICATIONS

- ⇒ **Excellent Anti-Wear Performance** – Exceptional load-carrying capabilities and specially formulated to provide effective corrosion protection and anti-wear performance in hydraulic systems. Rated as anti-wear, which means the potential for greater reliability, less downtime, and lower maintenance costs.
- ⇒ **Fire Resistance** – High flash and fire points provide safety in applications calling for fire resistant fluids, thus providing operating confidence and potentially reduced insurance costs. FM approved, using FM test method 6930, has classified HF 46 Hydraulic Fluid as “Approved Industrial Fluids”.
- ⇒ **Biodegradability** – Readily biodegradable according to OECD 301F.

COMPATIBILITY

- ⇒ **Other Hydraulic Fluids** – It is compatible with hydrocarbon-based hydraulic fluids. As with any fluid conversion, recognized industry procedures including system cleanup and flushing should be followed.
- ⇒ **Elastomers** – Suitable for use with many elastomeric materials used in seals and gaskets. Compatible elastomers are: Viton, Kalrez, Silicone, Polysulfide, EPR, Butyl Rubber, Buna N, Fluoraz, EPDM, Natural Black Rubber, Natural Red Rubber and Atlas.
- ⇒ **Plastics** – Compatibility should be assessed for any plastic components (such as reservoir sight glasses) exposed to a hydraulic fluid.
- ⇒ **Paints** – Ester based fluids show some solvency for common oil-based paints but minimal solvency for many epoxy-based paints.

STORAGE RECOMMENDATIONS

1. Products should be stored between 40°F-120°F.
2. Products should be stored in a dry covered environment.
3. Products should not be stored in warm, direct sunlight.
4. Improper storage conditions can significantly alter the shelf life of the product. Such conditions would include temperature, moisture, open containers, etc.

Typical Test Data

PROPERTY	TEST METHOD	TYPICAL RESULTS*	
Performance Properties			
Four-Ball Wear Test	ASTM D-4172	0.38	
V104 Vane Pump Test (total mg wear)	ASTM D-7043	<10	
Viscosity @ 40°C (cSt)	ASTM D-445	50.37	
Viscosity @ 100°C (cSt)		9.6	
Viscosity @ 0°C (cSt)		390	
Viscosity Index	ASTM D-2270	176	
Fire Properties			
Flash Point – Cleveland Open Cup, °C	ASTM D-92	312	
Fire Point, °C	ASTM D-92	316	
FM Approvals	Test Standard 6930	ID#0003057229	
Physical - Chemical Properties			
Specific Gravity @ 60°F	ASTM D-1298	0.914	
Foam Test – Sequence I, Initial Volume/ml Sequence II, Initial Volume/ml Sequence III, Initial Volume/ml	ASTM D-892	10/0 10/0 10/0	
Pour Point, °C		ASTM D-97	-41
Ash Content (%)		ASTM D-482	0.008
Corrosion Protection (TORT)	ASTM D-665A	Pass	
Copper Strip Corrosion	ISO 2160	1a, shiny	
Weight, lbs./gal. (20°C)		7.617	

PACKAGING AVAILABLE

5 Gallon Pail
55 Gallon Drum
275 Gallon IBC

Part No.

L1023-060
L1023-062
L1023-072



LUBRIPLATE® SYNXTREME FRHD-46

FM Approved, Fire Resistant Hydraulic Fluid

Designed For Demanding Industrial Applications Requiring Fire Resistance And Excellent Anti-Wear Performance.

Advantages -

- High-Performance, 100% Synthetic, Polyolester (POE)-Based.
- Factory Mutual Approved Fire Resistant Hydraulic Fluid.
- Exceptionally High Flash Point For Superior Fire Protection.
- Outstanding Shear Stability and High Viscosity Index.
- Provides Superior Anti-Wear Performance
- ECO-Friendly, Readily Biodegradable (OECD 301F).



Specifications -

Performance Properties	Test Method	Results	
Four Ball Wear Test	ASTM D-4172	0.38	
V104C Vane Pump Test (total mg wear)	ASTM D-7043	<10	
Viscosity @ 40°C (cSt)	ASTM D-445	50.37	
Viscosity @ 100°C (cSt)	ASTM D-445	9.6	
Viscosity @ 0°C (cSt)	ASTM D-445	390	
Viscosity Index	ASTM D-2270	176	
Fire Resistance Properties			
Flash Point – Cleveland Open Cup	ASTM D-92	593°F / 312°C	
Fire Point	ASTM D-92	600°F / 316°C	
FM Approvals	Test Standard 6930	ID#0003057229	
Physical - Chemical Properties			
Specific Gravity @ (60°F / 16°C)	ASTM D-1298	0.914	
Foam Test – Sequence I, Initial Volume/ml	ASTM D-892	10/0	
Foam Test – Sequence II, Initial Volume/ml	ASTM D-892	10/0	
Foam Test – Sequence III, Initial Volume/ml	ASTM D-892	10/0	
Pour Point	ASTM D-97	-41	
Ash Content (%)	ASTM D-482	0.008	
Corrosion Protection (TORT)	ASTM D-665A	Pass	
Copper Strip Corrosion	ISO 2160	1a, shiny	
Weight, lbs/gal. @ (68°F / 20°C)	-	7.617	
Packaging Available	5 Gallon Pail	55 Gallon Drum	275 Gallon Bin
Part Number	L1023-060	L1023-060	IBCL1023-072

LUBRIPLATE LUBRICANTS COMPANY

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LUBRIPLATE® SYNXTREME FRHD-46

APPLICATIONS

LUBRIPLATE SYNXTREME FRHD-46 is a high performance hydraulic fluid designed for demanding industrial applications requiring fire resistance, and excellent anti-wear properties over wide temperature ranges.

FEATURES

Excellent Anti-Wear Performance – Exceptional load-carrying capabilities and specially formulated to provide effective corrosion protection and anti-wear performance in hydraulic systems. Rated as anti-wear, which means the potential for greater reliability, less downtime, and lower maintenance costs.

Fire Resistance – High flash and fire points provide safety in applications calling for fire resistant fluids, thus providing operating confidence and potentially reduced insurance costs. FM approved, using FM test method 6930, has classified SYNXTREME FRHD-46 Hydraulic Fluid as “Approved Industrial Fluid”.

Biodegradability – Readily biodegradable according to OECD 301F.

COMPATIBILITY

Other Hydraulic Fluids – LUBRIPLATE SYNXTREME FRHD-46 is compatible with hydrocarbon-based hydraulic fluids. As with any fluid conversion, recognized industry procedures including system cleanup and flushing should be followed.

Elastomers – Suitable for use with many elastomeric materials used in seals and gaskets. Compatible elastomers are: Viton, Kalrez, Silicone, Polysulfide, EPR, Butyl Rubber, Buna N, Fluoraz, EPDM, Natural Black Rubber, Natural Red Rubber and Aflas.

Plastics – Compatibility should be assessed for any plastic components (such as reservoir sight glasses) exposed to a hydraulic fluid.

Paints – Ester based fluids show some solvency for common oil-based paints but minimal solvency for many epoxy-based paints.

CONVERTING HYDRAULIC SYSTEMS FROM OTHER FLUIDS TO SYNXTREME FRHD-46

As with any fluid conversion, recognized industry procedures including system cleanup and flushing should be followed. **LUBRIPLATE HYDROFLUSH** synthetic, cleaning and flushing fluid is recommended. LUBRIPLATE HYDROFLUSH is available in 5 Gallon Pails - Part Number L0798-60 and 55 Gallon Drums - Part No. L0798-062.

1. Completely drain and clean the reservoir, while the old fluid is warm.
2. Drain and blow-out piping, tubing, headers, hoses, valve stacks and manifolds with clean dry air.
3. Drain pumps, accumulators, hydraulic motors and cylinders to insure removal of all fluids.
4. Dismantle, wash and clean strainers.
5. Drain & clean filter housings. Determine filter element compatibility with the SYNXTREME FRHD-46 fluid and replace or clean as necessary.
6. Thoroughly drain and clean coolers.
7. Close the system and circulate a small amount of **LUBRIPLATE HYDROFLUSH** fluid at low pressure.
8. Thoroughly drain the system and if possible run crackle test. If test estimates higher than .05-.10% moisture, then repeat step 7.
9. Thoroughly drain system (repeating Steps 1-6 above) and refill promptly with new SYNXTREME FRHD-46 fluid.
10. After system is in operation, inspect carefully for leakage during the next two to three weeks.

DRAIN

Reservoir, and blow-out piping, tubing, headers, hoses, valve stacks and manifolds



CHARGE

Close the system and circulate a small amount of **LUBRIPLATE HYDROFLUSH**



DRAIN SYSTEM

Blow dry air, repeat step 7 if needed



CHARGE

With **LUBRIPLATE SYNXTREME FRHD-46 Fluid**

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