



**SPITFIRE 13000**



**Product | Type**

**Hydraulic 46** **Formulated with premium base oil technology and an ashless (“zinc free”)**

**Application**

SPITFIRE 13000 are formulated with premium base oil technology and an ashless (“zinc-free”) additive system that provides exceptional oxidation stability, water separability, foam suppression, and protection against wear, rust and corrosion. They are designed to meet or exceed the performance requirements of conventional anti-wear hydraulic oils, especially in severe, high-output applications such as axial piston pumps. The zinc-free formula makes it well suited for applications involving yellow metals found in hydraulic systems. SPITFIRE 13000 are long-life lubricants (are not vegetable oil based), with dramatically longer oxidation stability test lives than conventional zinc-based hydraulic fluids. A longer TOST life equates to longer service life, which can improve the customer’s bottom line. This level of oxidation stability is especially applicable in high efficiency (high speed, high temperature, high output) applications where severe stress is placed on the hydraulic fluid. SPITFIRE 13000 is shear-stable hydraulic oils designed to improve equipment efficiency and increase operating temperature range of the applicable grade. Many hydraulic systems are required to operate in environmentally sensitive areas where leaks or spills of hydraulic fluid may result in contamination of the soil or nearby waterways. Conventional anti-wear hydraulic oils are formulated with metal-containing performance additives which can persist in the environment in the event of leaks.

**Meets the Specifications of:**

• Denison HFO	• MIL –L-17672 D
• Afnor NF E 48-603	• BB HTGD 90117
• DIN51524, Part 1	• US Steel 120
• DIN51517 part 2	• DP 6521 (DAA,DAB,DAH,DAG)
• DIN51515 part 1	• VDMA 24568
• DIN51515 part 2	• Cincinnati P38, P55, P54, P57 and P62
• DIN51524 part 2 and 3 (HLP, HVLP)	• BS489
• DIN 51506 (VBL, VCL, VDL)	• GE GEK 32568 A/C
• TLV 9013	• CEGB 207001
• Mitsubishi Heavy Industries E00-87182	



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Characteristics	Spitfire 13000
	46
Density @ 15 C, kg/l	0.893
Pour Point, C	-9
Flash Point, C	228
Kinematic Viscosity, cSt	
@ 40 C	46
@ 100 C	9.22
Viscosity Index	116.0

The product typical may change without notice. However, the performance of the product would meet & exceed the API & OEM requirements



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**Customer Benefits**

- Premium performance
- Ashless formulation meets or exceeds major vane, piston and gear pump manufacturer’s requirements for viscosity, rust and corrosion protection, hydrolytic stability, water separability, foam inhibition, and filterability.
- Exceptional oxidation stability
- Longer service life than conventional zinc-based anti-wear hydraulic oils or vegetable hydraulic oils.
- Excellent anti-wear properties
- Provides excellent wear protection.
- Low toxicity

Very low acute aquatic toxicity to both fish and invertebrates based on tests of water accommodated fractions. Ashless formulation facilitates conventional recycling programs.

- Zinc-free/Ashless
- Suited for applications involving yellow metals found in piston pumps.
- Excellent wear protection in all operating conditions.
- Superior thermal and oxidation stability to resist oil degradation and thickening for longer oil service life.
- Rapid water separation, excellent air release and anti-foam properties to ensure trouble-free operation.
- Specially selected additives system prevents the formation of damaging deposits, varnish, sludge and rust.

**Recommended Oil Interval Changes**

The recommended oil change interval is 2000 hours. The oil change intervals can be as short as 1500 hours to 3000 hours in some machinery fitted with filters. SPITFIRE 13000 are not compatible with zinc/calcium containing fluids, and OEM recommended lubricant change-out procedures including drain and flush requirements need to be adhered to. Do not use in high pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.