



Syndustrial® FR Hydraulic Fluid

Syndustrial FR Hydraulic Fluid is a premium quality, synthetic, fire-resistant hydraulic fluid specifically developed for use in industrial equipment operating in areas subject to fire hazards, such as in steel mills, surface mines and foundries. It is approved by Factory Mutual Research Corporation as a less flammable hydraulic fluid, and also is readily biodegradable for reduced environmental impact in case of spills or leaks.

Syndustrial FR Hydraulic Fluid is formulated with synthetic polyol ester (POE) base oil and select ashless additives to provide outstanding fire resistance and excellent lubrication and wear protection for hydraulic pumps and motors. It has outstanding oxidation resistance and thermal stability at high temperatures, plus excellent detergency, to protect against sludge and varnish formation, and provide long service life. It protects hydraulic system components against rust and corrosion. It is readily biodegradable as determined by the CEC-L33-A97 test method.

Syndustrial FR Hydraulic Fluid does not contain water, mineral oil or phosphate ester. It may be used in hydraulic systems designed for conventional mineral oil-based hydraulic fluids without compromising overall hydraulic system integrity. However, it should **not** be mixed with other fluid types. When converting from water-glycol fluids, invert emulsions or phosphate esters, the system should be flushed prior to conversion, and seal compatibility should be verified.⁽¹⁾

Applications

- Hydraulic systems subject to fire hazards and/or extreme heat
- Steel mills, surface mines, foundries and manufacturing plants

Syndustrial FR Hydraulic Fluid is approved by FMRC as meeting the requirements of the following industry specification:

- Factory Mutual Group II, Type HFDU, Less Flammable Hydraulic Fluid

Features/Benefits

- Fire resistant
- High flash point, fire point and autoignition temperature for reduced fire/explosion hazard
- Outstanding oxidation resistance and thermal stability at high temperatures
- Excellent wear protection for hydraulic pumps and motors

**Synthetic Polyol Ester,
Fire-Resistant Hydraulic Fluid;
FMRC Approved & Readily Biodegradable**

Contact Information

**U.S. Customer Service:
1-800-822-6457**

**Technical Hot Line:
1-877-445-9198**

**International Customer Service:
+1-832-486-3363
+1-832-486-3870**

**E-mail address:
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- Protects against rust and corrosion
- Good low-temperature fluidity
- Nontoxic, non-irritating and contains no hazardous ingredients
- Readily biodegradable for reduced environmental impact in case of leaks or spills
- Fire resistance certified by Factory Mutual Research Corporation

⁽¹⁾ **Note:** For information on fluid conversion or seal and elastomer compatibility, please call our Technical Support Hot Line.

Syndustrial® FR Hydraulic Fluid

Typical Properties

ISO Grade	46	68
Specific Gravity @ 60°F	0.919	0.919
Density, lbs/gal @ 60°F	7.65	7.65
Appearance, Visual	Light Amber	Light Amber
Flash Point (COC), °C (°F)	270 (518)	270 (518)
Fire Point (COC), °C (°F)	360 (680)	360 (680)
Autoignition Temperature, ASTM E659, °C (°F)	450 (842)	450 (842)
Pour Point, °C (°F)	-20 (-4)	-20 (-4)
Viscosity,		
cSt @ 40°C	46.0	68.0
cSt @ 100°C	10.0	14.0
SUS @ 100°F	231	341
SUS @ 210°F	60	75
Viscosity Index	220	215
Acid Number, ASTM D974, mg KOH/g	2.0	1.5
Copper Corrosion, ASTM D130	1b	1b
Foam Test, ASTM D892	Pass	Pass
Rust Test, ASTM D665 A	Pass	Pass
FZG Scuffing Test, ASTM D5182, Failure Load Stage	>12	>12
Biodegradability in 28 Days, CEC-L33-A97, %	96.7	94.5

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via <http://w3.conocophillips.com/NetMSDS>.

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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