SINCE 1839 Schaeffer MANUFACTURING COMPANY

ISO 9002 CERTIFIED

TECHNICAL DATA

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#230 FIRE RETARDENT GEAR LUBE

Fire Retardant Gear Lube is a polyol ester based, thermally stable, extreme pressure Group II fire resistant gear lubricant that is recommended for use in industrial enclosed gear drives, where potential fire hazards exist.

Fire Retardant Gear Lube is blended from the finest quality polyol ester synthetic base fluids available and provide the following advantages:

1. Excellent lubricity characteristics.
2. Excellent viscosity-temperature characteristics
3. High flash and auto-ignition points.
4. Very good low temperature properties.
5. Very good resistance to thermal degradation.

Blended into these polyol ester synthetic base fluids is a non-corrosive multifunctional additive package which provides the following performance advantages:

1. Enhanced thermal and oxidative stability.
2. Excellent extreme pressure properties.
3. Prevention of the formation of sludge and varnish deposits.
4. Excellent protection of components from rust and corrosion.
5. Enhanced protection of copper, brass and bronze components
6. Very good demulsibility characteristics.

Fire Retardant Gear Lube is compatible with all ferrous and non-ferrous metals and their alloys. Fire Retardant Gear Lube is also compatible with the following elastomers normally used with petroleum based gear lubricants.

Elastomer Type	**Compatibility**
Fluroelastomer (Viton, Teflon)	Satisfactory
Nitrile Buna N	Satisfactory
Poyurethane	Satisfactory
Nylon	Satisfactory
Silicon Rubber	Satisfactory
Butyl	Satisfactory but with reduced life
Ethylene Propylene	Satisfactory but with reduced life
EPR	Satisfactory but with reduced life
Neoprene	Satisfactory but with reduced life
Low Nitrile Buna N	Satisfactory but with reduced life

Fire Retardant Gear Lube, like any other synthetic base fluid, under the proper circumstances will burn. However unlike some type of synthetic based fluids, Fire Retardant Gear Lube when burned will not evolve large volumes of dense and noxious smoke and fumes.

Fire Retardant Gear Lube meets and exceeds US Steel 224, AGMA 9005, AGMA 250.04 and AGMA 251.02 specifications.

INSTALLATION

To Convert from Other Polyol Ester Fluids, Phosphate Ester, or Oil- Synthetic Blends:

Fire Retardant Gear Lube is compatible and miscible with polyol ester, phosphate ester and oil-synthetic blends as long as the used fluids are in good condition and contain no water. Add Fire Retardant Gear Lube to the gear box or to completely convert, drain out the old fluid and recharge with Fire Retardant Gear Lube.

To Convert from Petroleum Oil Based Fluids:

Completely drain and recharge the gear box with Fire Retardant Gear Lube. However to preserve the highest degree of fire resistance, the residual amount of petroleum oil left in the gear box should be less than 5% of the total volume of the gear box. Depending upon the design of the gear box system, this may require a flush with the Fire Retardant Gear Lube.

In all conversions, consideration should be given to the use of proper seals. There should also be an appropriate time given for the cleaning and/or replacement of strainers and filter elements to ensure trouble free operation after change-over.

TYPICAL PROPERTIES

ISO Grade/ SAE Grade	150/90
Specific Gravity 60°F	.9089
Viscosity @ 40°C, cST (ASTM D-445)	135-165
Viscosity @ 100°C, cST (ASTM D-445)	19.50-23.50
Viscosity Index (ASTM D-2270)	175
Flash Point °F/°C (ASTM D-92)	543°/283.89°
Fire Point °F/°C (ASTM D-92)	604°/317.78°
Auto Ignition Temperature °F/°C (ASTM E-659)	900°/482.22°
Pour Point °F/°C (ASTM D-97)	-5°/-20.56°
Rust Test (ASTM D-665)	
Procedure A (Distilled Water)	Pass
Procedure B (Salt Water)	Pass
Copper Strip Corrosion Test, 3 hrs. (ASTM D-130)	1a
Four Ball EP Test (ASTM D-2783)	
Weld Point, kg	400
Load Wear Index, kg	55.2
Four Ball Wear (ASTM D-4172)	
(40 kg/1200 rpm/75°C/1hour)	
Scar Diameter, mm	0.47
Falex EP Test Procedure A (ASTM D-3233)	
Failure load, lbs	2,550
Timken EP Test (ASTM D-2782)	
Ok Load, lbs	60
Demulsibility Characteristic (ASTM D-2711)	
Free Water, ml	80.0
% Water in Oil	0.5
Emulsion, ml	0.5
Foam Test (ASTM D-892)	
Sequence I	0/0
Sequence II	0/0
Sequence III	0/0