

Hydraulic Fluid Technical Data Sheet

Hydraulic fluids are essentially incompressible liquids that transmit power from a pump to a motor or actuator through a piping system. During operation, the system operates under pressure and the viscosity of the fluid must be high enough to minimize leakage and protect the pump from wear. Conversely, high viscosity hurts flow properties and efficiency at low temperatures if viscous drag becomes significant. Since hydraulic fluids may operate over a range of temperatures, the pour point and viscosity index are important. The fluid provides lubrication to the pump and valves and helps to prevent corrosion of metal parts. It must also be compatible with elastomeric sealing materials. The fluid must be formulated to guard against oxidation, hydrolysis and deposit formation, and it should not be toxic or harmful if accidentally discharged.

Hydraulic systems are commonly used in both mobile and stationary applications, therefore fluids must be designed to perform over a wide range of temperature and pressure service conditions. Synthetic esters offer shear stable, high viscosity index fluidity for excellent pump efficiency. They are preferred when biodegradability, fire resistance, wide temperature range, or other advanced performance characteristics are required. The International Standards Organization (ISO) classifies fire resistant synthetic ester fluids in the HFDU category, and several LEXOLUBE and LUBRICIT products can be used to achieve a Factory Mutual fire resistance certification. Several Z&S synthetic ester products are on the EU EcoLabel LuSC list and/or the NSF HX-1 list of acceptable components that can be selected to formulate H1 food grade lubricants.

Synthetic Ester	Chemistry	Viscosity @ 40°C (cSt)	Viscosity @ 100°C (cSt)	Viscosity Index	Flash Pt. (°C)	Pour Pt. (°C)
LUBRICIT 2-EHO	Monoester	8	2.7	190	220	-40
LUBRICIT DINA	Diester	11	3.1	150	220	-60
LEXOLUBE 3I-310	Polyol	14	3.4	120	230	-65
LUBRICIT TMP C9	Polyol	21	4.6	140	275	-50
LUBRICIT DTDA	Diester	23	4.9	145	245	-55
LUBRICIT NGDO	Polyol	24	5.8	200	260	-30
LUBRICIT DTDA/1	Diester	27	5.4	135	250	-60
LUBRICIT TMP C18	Polyol	46	9.4	190	325	-40
LUBRICIT PE 418	Polyol	66	12	185	330	-20
LEXOLUBE PQ-68	Polyol	68	8.6	100	250	-30
LUBRICIT 9526	Complex	330	45	185	320	-40
LEXOLUBE CP-460LC	Complex	460	46	160	290	-25
LEXOLUBE CG-3000	Complex	3000	290	235	310	-20

Features

- High flash and fire point
- Excellent lubricity
- Biodegradability
- High viscosity index/pump efficiency
- Wide temperature range performance
- Low varnish/deposit formation

Applications

- Fire resistant (HFDU) fluids
- Mobile machinery
- Marine (VGP) hydraulics
- Tractor transmission hydraulic fluids
- Food processing (HX-1)
- Environmentally friendly oils (LuSC)

Please inquire about NSF food grade and additional tailor-made products that can be made to fit your exact performance requirements.

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