



Ecomax SE

Biodegradable hydraulic fluid from renewable sources



Description

Ecomax SE fluids are a range of environmentally acceptable hydraulic oils based on unsaturated vegetable based synthetic esters. Ecomax SE is formulated with high viscosity base oils which provide very low pour points as well. Its additive package ensures good oxidation stability and possesses good anti corrosion and anti wear characteristics and less impact on aquatic and marine environments.

- Swedish Standard SS 15 54 34 SP listed
- CEC L-33-A-93 biodegradability of >90 %

Applications

These oils are recommended for mobile as well as stationary hydraulic systems replacing conventional mineral oils especially in areas with increased risk of spillage or accidental leakage. These installations are usually found in offshore applications and other marine environments such as harbour cranes, subsea and life saving equipment. The right choice of the viscosity depends very much on the working and ambient temperature of the equipment. ISO VG 22 and 32 are more suitable for the lower temperatures where ISO 46 is the most all-round product. In case of higher temperatures choose the ISO VG 68. ISO/FDIS 15380 HEES.

Benefits

- Very high viscosity index
- High shear stability
- Good lubricating properties
- Good oxidation stability resulting in a very long lifetime and reduced cost
- Excellent seal compatibility
- Miscible with conventional mineral oils
- European Ecolabel reg. number NL/27/002

Typical performance data

	Test method	SE 15	SE 22	SE 32	SE 46	SE 68
Density @ 20 °C, gr/m ³	ISO 3675	0.91	0.91	0.92	0.92	0.92
Viscosity @ 40 °C, cSt	ISO 3104	15	22	30-35	44-50	64-72
Viscosity @ 100 °C, cSt	ISO 3104	4	4.5	7.5	9.5	11
Viscosity Index	ASTM D2270	170	150	240	222	210
Pour point, °C	ASTM D97	<-45	<-44	-40	-40	-40
Flash point, °C	ASTM D93	>200	>200	260	260	270
Dry TOST, hours	ASTM D-943	>600	>600	>600	>600	>600

All performance data on this Technical Data Sheet are indicative only and can vary during production

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Environmental data

Biodegradability, %	OECD 301 F	Readily biodegradable >80
Toxicity	OECD 201-203, 401	Non toxic
Bioaccumulation	OECD 305 D	No accumulation
Skin and eye irritation	OECD 401-402, 404-405	Not irritant
Mutagenity	OECD 471	Not mutagenic
Biological renewability, %		>80

Vickers vane wear test

Vane pump	Test method	Limit, max	Result
104C pump, 13.7 MPa, 1,200 min-1, 66 °C, 100 hrs	ISO 20763 ASTM D7043	120 30	<2 <2
35VQ25 pump, 20.79 MPa, 2,400 min-1, 93 °C, 150 hrs	ASTM D6973	75 15	<2 <2



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