Clarity Bio EliteSyn PE 46

High performance biodegradable hydraulic oil

Product description

Clarity Bio Elitesyn PE 46 is a high performance, palm oil free biodegradable hydraulic fluid, specifically designed for use in applications where environmental contamination may occur.

Clarity Bio Elitesyn PE 46 is a zinc-free hydraulic fluid, formulated with a mixture of fully biodegradable saturated ester, combined with additives designed for low environmental impact, providing good oxidation stability, corrosion protection, EP and low-temp performance.

Palm oil-free hydraulic oils comply with the EU Deforestation Regulation (EUDR), ensuring that they are sourced from deforestation-free supply chains and meet stringent environmental standards.

Customer benefits

- Formulated with an advanced range of fully biodegradable esters, and additives for applications where environmental contamination may occur
- Engineered to provide good oxidation stability and corrosion protection
- Designed to provide component protection even in extreme pressure (EP) and wet environments
- Provides good protection across a wide temperature range (-30°C up to 100°C)
- Meets stringent environmental standards including OECD 301B: >60%, Swedish Standard SS 15 54 34, and WGK 1 rating according to the German Water Hazard Classification[1]
- Hydraulic oil that meets EPA Vessel General Permit (VGP 2013) requirements for Environmentally Acceptable Lubricants (EALs).

Product highlights

- **Formulated for applications where environmental contamination may occur**
- **Provides good oxidation stability and corrosion protection**
- **Designed to protect even in EP and wet environments**
- **Provides protection across a wide temperature range**
- **Meets stringent environmental standards**
- **Meets EPA VGP 2013 requirements for EALs**

Selected specification standards include:

DIN	Eco-label
ISO	Swedish-Standard
VDMA	VGP/VIDA

[1] Wassergefährdungsklasse

Applications

Clarity Bio EliteSyn PE 46 is suited for all stationary and mobile hydraulic systems as recommended by ISO 15380, HEES.

Product should be used in these cases where there is a danger to soil or water pollution.

Typical applications are Mobile hydraulics in drainage areas and road construction, forestry and timber industry, vehicles for ski racing track maintenance, municipal vehicles and facilities, auto hoist, hydraulic engineering, forklift, horticulture and landscaping, sewage plant, freshwater recovery, floater dredgers, sluices, water maintenance boats, tunnelling machines, offshore equipment, concrete pumps, track laying machines, etc.

Seal compatibility:

In accordance with ISO 15380, it is recommended to test a variety of seals, including AU, NBR1, HNBR/1, and FKM2. These materials serve as reference standards and may differ from commercially available seal materials. It is essential to consider the applicability of the elastomer's behavior in practical use. In cases of uncertainty, compatibility testing is advised. Test conditions should be tailored to the specific application.

Approvals, performance and suitable for use

Approvals

- Swedish-Standard-15 54 34 (Environmental properties of hydraulic oils according to SS 15 54 34 | RISE)
- Certified with the EU Ecolabel for environmental excellence; EU Ecolabel: DE/027/336

Performance

- ISO 15 380 HEES
- DIN ISO 15 380 HEES
- VDMA 24568, HEES
- SS 15 54 34
- VGP/VIDA compliant (meets VGP 2013 requirements for EALs)

Product maintenance and handling

Always take an oil sample to evaluate the condition of the system.

When changing over to Clarity Bio Elitesyn PE 46, the guidelines for changing fluids from mineral-based oils to environmentally acceptable fluids according to DIN ISO 15 380 (HEES) must be followed.

Check with OEMS for specific change over procedures.

Avoid any spillage of used and unused product to the environment.

Product residue and package/container should be disposed of in dedicated collection points.

Typical test data

Test	Test Methods	Results
Typical Shelf Life: 24 months from date of filling indicated on the product label		
Appearance	Visual	Clear and bright
Colour	ISO 2049	L0.5
Content of carbon of biological origin, min, %	ASTM D6866	25
Kinematic Viscosity at -20°C, mm²/s	ISO 3104	2450
Kinematic Viscosity at 0°C, mm²/s	ISO 3104	408
Kinematic Viscosity at 40°C, mm²/s	ISO 3104	45.02
Kinematic Viscosity at 100°C, mm²/s	ISO 3104	7.906
VI	ISO 2909	150
Low temperature Fluidity after 7 days, °C	ASTM D2532	-24
Density at 15°C, kg/l	ISO 12185	0.9123
Pour Point, °C	ISO 3016	-48
Flash Point, °C	ISO 2592	>300
Fire Point, °C	ISO 2592	>300
TAN, mg KOH/g	DIN ISO 6618	0.47
Foam Seq (I, II, III), ml	ISO 6247	0/0
Air release @ 50°C, min	ISO 9120	1.7
Water separation, time to 3ml emulsion at 54°C, min	ISO 6614	24min/37 ml H2O
Water content, ppm	KF	307
Rust prevention, 24h, proc A & B	ISO 7120	Pass
Copper Corrosion 100°C, 3hr, rating	ISO 2160	1B