



bioTRANSOL

efficient | safe | eco-friendly

A Natural Ester Based Dielectric Fluid



TECHNICAL DATA OF BIOTRANSOL-HF

	Standard Test Methods		ASTM D6871	IEC 62770 IS 16659	bioTRANSOL HF
Property	ASTM	ISO/IEC	New unused fluids	New unused fluids	Typical Values
PHYSICAL PROPERTIES					
Colour	D1500	ISO 2211	≤ 1.0		0.5
Flash Point COC (°C)	D92	ISO 2592	≥ 275		320 - 330
Flash Point PMCC (°C)		ISO 2719		>250	>260
Fire Point (°C)	D92	ISO 2592	≥ 300	> 300	350 - 360
Pour Point (°C)	D97	ISO 3016	≤ -10	≤ -10	-18 to -21
Density at 20°C (g/cm ³)		ISO 3675		≤ 1.0	0.92
Viscosity (mm ² /sec)	D445	ISO 3104			
100°C			≤ 15	≤ 15	7.2 - 8.5
40°C			≤ 50	≤ 50	32 - 35
Visual Examination	D1524	IEC61099 9.2	bright and clear	clear, free from sediments and suspended matter	bright and clear
ELECTRICAL PROPERTIES					
Dielectric Breakdown(kV)2.5mm gap		IEC 60156		≥ 35	70
Gassing Tendency (mm/min)	D2300		≤ 0		-6.6
Dissipation Factor					
25°C (%)	D924	≤ 0.20			0.15
90°C (tan δ)		IEC 60247		≤ 0.05	0.005 - 0.02
100°C (%)	D924		≤ 4.0		2
CHEMICAL PROPERTIES					
Corrosive Sulfur	D1275	IEC 62697	non-corrosive	non-corrosive	non-corrosive
Water Content (mg/Kg)	D1533	IEC 60814	≤ 200	≤ 200	< 50
Acid Number (mg KOH/g)	D974	IEC 62021.3	≤ 0.06	≤ 0.06	0.03
PCB Content (mg/Kg)	D4059		not detectable	Free from PCBs	Not detectable
Oxidation Stability (48hrs, 120°C)		IEC 61125C			
Total Acidity (mg KOH/g)		IEC 62021.3		≤ 0.6	0.1
Viscosity 40°C (mm ² /sec)		ISO 3104		≤ 30% increase over initial	17 to 18 %
Dissipation Factor at 90°C (tan δ)		IEC 60247		≤ 0.5	0.2
Biodegradation		OECD 301		Readily biodegradable	Readily biodegradable

* Please contact local sales office for any specific application requirement

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BIOTRANSOL HF is a natural ester based di-electric fluid based on renewable vegetable oils. The fluid is readily biodegradable as per US EPA OECD 301B, environmentally friendly and non-toxic to aquatic life. The product is certified for its electrical and chemical properties by CPRI, a reputed laboratory in India for dielectric fluid testing. It is also tested & certified at the reputed laboratories of Intertek for its biodegradability & absence of aquatic toxicity.

Designed to have superior properties as compared to conventional mineral based oils, bioTRANSOL HF is classified under K class based on its high flash and fire point. These characteristics make bioTRANSOL HF the ideal choice for applications requiring high fire safety and environmental protection in case of accidents or spillages.

With over 60 years in the business of designing di-electric fluids for Transformers, Savita has crafted bioTRANSOL, to not only protect the environment but also significantly increase the life and performance of your transformer. bioTRANSOL is your ideal di-electric fluid in applications requiring higher levels of efficiency, safety and environmental consciousness.

Efficient

- ✓ Faster moisture extraction from paper insulation while maintaining BDV, thereby increasing performance and extending life of your transformer.
- ✓ Slows ageing of transformer by enhancing life of solid insulation material.
- ✓ Transformer Load can be enhanced as a result of diminished paper ageing.
- ✓ Reduces maintenance time and cost.
- ✓ Less consumption of fluid relative to conventional oils.
- ✓ Lower insurance premiums as a result of superior safety properties.
- ✓ Lowers cost of clean-up and impact in case of accidental spillages.
- ✓ Delays asset replacement and capex by prolonging the life of an aged transformer after Retrofil.

Safe

- ✓ With a high Fire and Flash Point ($>320^{\circ}\text{C}$, $>300^{\circ}\text{C}$), bioTRANSOL significantly reduces risk of ignition and fire in case of accident.
- ✓ Enhances safety for workers during installation, maintenance and condition monitoring.
- ✓ Minimum damage in the event of spillage, as a result of its biodegradable nature.

Eco-Friendly

- ✓ Designed from entirely renewable sources (with Biodegradation $>98\%$).
- ✓ Reduces carbon footprint by being completely biodegradable.
- ✓ Non-Toxic and eco-friendly to the environment and aquatic life.

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