

prolec®



VG-100®
Fluid Innovation
for energy and
environment
safety



VG-100® is the first biodegradable dielectric fluid developed in Mexico, with patents granted for its use in electrical transformers. VG-100® has been successfully used in a number of distribution and power units for over 15 years and has proven to be a feasible alternative for refilling transformers in service that use conventional mineral oil.

VG-100® fluid is fully biodegradable and has excellent fire resistance. It possesses outstanding electrical, physical and chemical properties, making it an effective cooling and insulation medium for distribution and power transformers.

Product Overview

VG-100® is a dielectric oil made from natural esters derived from edible soybean seeds, using a proprietary process to use in electrical equipment, such as transformers. It was developed by Prolec GE in 2009 as an environmentally friendly alternative to conventional dielectric fluids, since it is 100% natural and biodegradable, and free from synthetic antioxidants, petroleum-based compounds, or toxic substances.

VG-100® fluid meets with international standards and requirements for its application in electrical transformers, such as ASTM and IEEE, and is also certified by FM and UL.





 VG-100®

First biodegradable
dielectric fluid
for transformers made
in Mexico

Typical Properties

VG-100® fluid fully complies with all standards and requirements established for dielectric vegetable oils used in transformers.^{1,2,3}

Table 1. Typical properties of VG-100® fluid

Property	Method	Typical Value
Dielectric strength (kV), 2mm	ASTM D1816	50 - 70
Power factor (%) at 25°C at 100°C	ASTM D924	0.05 - 0.16 0.29 - 3.6
Density (g/cm ³)	ASTM D129	0.92
Viscosity (cSt) at 0°C at 40°C at 100°C	ASTM D445	180 31 - 33 7.4 - 8.2
Color	ASTM D1500	L0.5
Flash point (°C)	ASTM D92	320 - 340
Fire point (°C)	ASTM D92	350 - 360
Pour point (°C)	ASTM D97	-19 to -24
Biodegradability (%)	OECD 301F	100% (readily biodegradable)
Toxicity	OECD 203	Zero Mortality

1. C57.147. IEEE Guide for Acceptance and Maintenance of Natural Ester Fluids in Transformers

2. ASTM D6871. Standard Specification for Natural Ester Fluids Used in Electrical Apparatus

3. Typical data for new fluid. These values may vary depending on the handling. For more information, please contact Prolec GE at 1-800 43 77653



VG-100®

Performance

Fire Safety

- High fire point (>300°C)
- FM and UL certifications
- Self-extinguishing
- Reduces fire risk
- Reduces costs for fire protection

Increased Environmental Protection

- 100% natural
- Fully biodegradable
- Does not contaminate water
- Non-toxic
- Reduces or eliminates environmental risks

Enhanced Performance

- Transformer materials compatibility
- Free of corrosive sulfur and PCB compounds
- Alternative for refilling transformers filled with mineral oil
- Increases lifetime of cellulose insulation
- Higher capacity to absorb moisture
- Compatible also with natural and synthetic esters



VG-100[®]

Applications

Distribution Transformers

- Residential (1 phase Pole and 1 phase Pad mounted)
- Commercial (3 phase Pad mounted)
- Industrial (Secondary Substation, Small power)

Power Transformers

- Generation
- Transmission

Renewable Energy Transformers

- Wind
- Solar

Retrofilling

- Transformers in service filled with mineral oil







LOCATIONS

MEXICO

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