



Transformer Oil

Phillips 66® Transformer Oil is a highly refined electrical insulating oil developed for use in oil-immersed transformers, capacitors, tap changers, and circuit breakers where the equipment manufacturer specifies a Type II inhibited oil meeting ANSI/ASTM D3487-09 requirements.

Transformer Oil is formulated with hydrotreated naphthenic base oils and an oxidation inhibitor to control sludge and deposit formation and provide extended service life compared with non-inhibited Type I transformer oils. It has a high dielectric strength and low power factor to provide excellent insulating properties. It has excellent low-temperature properties and is noncorrosive to copper and copper alloys. This product does **not** contain any PCBs.

Applications

- Oil-immersed transformers
- Circuit breakers & switches
- Fuses
- Tap changers
- Other oil-immersed electrical equipment

Transformer Oil meets the requirements of the following industry and OEM specifications:

- ANSI/ASTM D3487-09 Type II Inhibited Oil
- British Standard BS 148, Class 1A
- Federal VV-I-530A, Class II Specification
- GE A13A3A2 (10CA)
- IEEE
- International Standard IEC 60296
- NEMA Type II (obsolete)
- Westinghouse Specification PDS 55822AG

Features/Benefits

- Excellent insulating properties
- High dielectric strength ⁽¹⁾
- Low power factor
- Resists oxidation and deposit formation
- Excellent low-temperature properties
- Compatible with materials used in transformers
- Does not contain any PCBs

⁽¹⁾**Note:** *In order to maintain its high dielectric strength for use as an insulating oil, the oil must be kept clean and dry. Contamination with even a small amount of water will significantly decrease the dielectric strength. The drums are sealed at the terminal with a blanket of dry air to keep moisture out. The drums should be stored indoors and covered to protect them from dust and debris. If stored outdoors, they should be positioned on their sides or upside down and covered to protect them from exposure to the elements. Every effort should be made to use the entire drum once the seal is broken to help prevent contamination. If contamination is suspected, always inspect the drum and test the oil for dielectric strength before use.*

Inhibited Electrical Insulating Oil





Transformer Oil

Typical Properties	
ISO Grade	10
Specific Gravity @ 60°F	0.887
Density, lbs/gal @ 60°F	7.39
Color, ASTM D1500	0.5
Flash Point (COC), °C (°F)	160 (320)
Pour Point, °C (°F)	-60 (-76)
Viscosity	
cSt @ 40°C	9.6
cSt @ 100°C	2.3
SUS @ 100°F	60.3
SUS @ 210°F	34.0
Viscosity Index	19
Acid Number, ASTM D974, mg KOH/g	<0.01
Aniline Point, ASTM D611, °C (°F)	75 (167)
Corrosive Sulfur, ASTM D1275B	Non-corrosive
Dielectric Breakdown Voltage ⁽²⁾	
Disc Electrodes, 60 Hz, ASTM D877, kV	40
Oxidation Stability, RPVOT, ASTM D2272, minutes	280
PCB Content, ASTM D4059, wt %	None
Power Factor @ 60 Hz, ASTM D924	
@ 25°C (77°F), %	0.003
@ 100°C (212°F), %	0.074
Water, ASTM D1533, wt %	0.0015

⁽²⁾ At the point of manufacture

Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/EN/products/Pages/MSDS.aspx>.