



Silicones

Powerful like a major, flexible like a formulator

BRB 894 Transformer Fluid

Polydimethylsiloxane

Description

BRB 894 Transformer Fluid is a dielectric liquid consisting of polydimethylsiloxane, whose purity has been checked for electrotechnical applications.

Application

BRB 894 Transformer Fluid is used as an insulation and cooling liquid for submerged transformers and medium voltage equipments when fire safety or environment is important.

Features

- **BRB 894 Transformer Fluid** meets the requirements of:
 - o IEC 60836 "Specifications for unused silicone insulating liquids for electrotechnical purposes"
 - o ASTM D 4652-05 "Silicone fluids used for electrical applications"
- **BRB 894 Transformer Fluid** is classified as:
 - o Silicone Type T1 transformer liquid according to IEC 60836
 - o L-NTUK-8360300 according to IEC 61039
- Non-toxic, classified as non-hazardous
- Chemically inert
- Non-halogenated
- Contains no additives
- Compatible with a wide range of solid electrical insulating materials
- High thermal stability and oxidation resistance

Benefits

- Excellent electrical properties and operating capabilities over a wide temperature range
- Environmentally safe
- Non-propagation of fire
- Excellent thermal stability (designed to operate at both high and low temperatures)
- Good heat transfer properties

Warranty: The information given in this product data sheet are believed to be fully accurate. However, BRB International BV shall not be liable for its content and make no warranty with respect thereto. For additional information we request you to contact BRB International BV visit our web-site: www.brb-international.com



Typical Data

As per IEC 60836

Parameter	Unit	Value
Color & appearance		Crystal
clear liquid		
Density at 20°C	Kg/dm ³	0.96
Viscosity at 25°C	cSt	50
Viscosity at 40°C	cSt	37
Flash point - open cup	°C	>300
Fire point	°C	370
Refractive index at 20°C		1.404
Pour / freezing point	°C	<-50
Water content	ppm	20
Neutralization value	mg KOH/g	0.01
Breakdown voltage at 20°C (IEC 60156)	kV/ 2.5 mm	50
Dissipation factor at 90°C- 50Hz (IEC 60247)		0.001
Permittivity at 90°C - 50Hz (IEC 60247)		2.55
DC resistivity at 90°C (IEC 60247)	ohm.cm	3.6 x 10 ¹³
Specific heat	kJ/kg.K	1.51
Thermal conductivity	W/ (m.K)	0.151
Heat of combustion	kJ/kg	32100
Limit oxygen index	% O ₂	23
Surface tension at 25°C	mN/m	20.7

How to Use

Since the solubility of water in silicone is higher than in other dielectric liquids (200 ppm at 25°C and 600 ppm at 55°C), DO NOT leave the package of **BRB 894 Transformer Fluid** open, to avoid water take up.

A silicone fluid containing 50 ppm of water still retains a dielectric strength which is very similar to that of dry fluid. Beyond this point, desiccant treatment is necessary as for other dielectric fluids. The same equipment design as for mineral oils can be used. The treatment consists of heating the oil under vacuum so as to eliminate water and gases. The dielectric fluid should as well be filtered on a dry filter paper. **BRB 894 Transformer Fluid** has a vapor pressure of less than 10⁻² mm Hg at 200°C so it can be treated at up to 200°C under a vacuum of 1 mmHg.

Avoid using the same equipment for the treatment of both mineral oils and **BRB 894 Transformer Fluid**, because a contamination by a small amount of mineral oil rapidly reduces the fire resistance of silicone liquids, although it does not greatly affect the dielectric properties.

BRB 894 Transformer Fluid can be handled in the same way and equipment as other insulating liquids. Wherever possible, the equipment used for handling **BRB 894**.



Transformer Fluid should be reserved for that intention only. Thorough cleaning is vital if switching from one insulation liquid to another.

Pumping equipment must be carefully selected, as silicone fluids do not adequately lubricate certain pump designs. The use of improperly designed pumps may result in premature failure and metal particle contamination of the liquid.

Reprocessing procedures for silicone transformer fluid are described in IEC 60944. For other methods of recycling or disposal, consult the Product Safety Data Sheet.

A Product Safety Data Sheet should be obtained from your BRB office prior to use.

ATTENTION: Before handling, read product information, Product Safety Data Sheets and container labels for safe use, and any physical and/or health hazard information.