

## **TRANSFORMER OIL**

# **EXSYM Trafo Univolta 13T**

Electrical insulating oil

### **Properties**

**EXSYM Trafo Univolta 13T** is an uninhibited transformer oil that conforms to IEC 60296 Edition 4.0. Developed and formulated to deliver solid resistance to oil degradation, **EXSYM Trafo Univolta 13T** provides good oxidation stability thanks to its natural inhibitors. This increases the possibilities for a longer transformer life with less maintenance.

### **Designed for heavy duty**

This product has been specially developed for use in oil-filled electrical equipment – including power and distribution transformers, rectifiers, circuit breakers and switchgears.

### **Performance and benefits**

Good heat transfer. Thanks to low viscosity and viscosity index, this standard grade offers extremely good heat transfer characteristics, ensuring heat is efficiently removed from core and windings. Reliable oxidation stability. Developed and formulated to deliver good resistance to oil degradation, this grade also provides good oxidation stability for enhanced transformer life and minimum maintenance. Very good low temperature properties. Naphthenic characteristics allow the transformer to start at the lowest possible temperature – without using pour point depressants. High dielectric strength. This insulating oil both meets and exceeds the toughest demands on dielectric strength – when stored and handled correctly.

### **Product description**

**EXSYM Trafo Univolta 13T** fulfils the requirements for IEC 60296 Edition 4.0 uninhibited oil. EXSYM classify this product as a standard grade.

**EXSYM Trafo Univolta 13T** is rigorously analysed and passes the following corrosion tests:

- ASTM D1275 method B
- IEC 62535
- DIN 51353

In accordance with IEC 60296 Edition 4.0, all additives are declared.

### **There's more to us than this**

We're delighted you chose one of our transformer oils. If you have any questions about other products and services, get in touch with your local EXSYM contact. Besides top quality oils, we offer a wide range of services, including rapid delivery worldwide, sample analysis, training, seminars and much more. All you have to do is ask. Find out more at [www.EXSYM.com](http://www.EXSYM.com)

### **Health and Safety**

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment. EXSYM check oil level design is trade mark of EXSYM MOBIL LTD. or one of its subsidiaries. [More information available:](http://www.exsymmobilltd.com)

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Property	Unit	Test Method	Specification Limits		Typical Data	
			min	max		
1 - Function						
Viscosity, 40°C	mm2/s	ISO 3104		12.0	10.0	
Viscosity, -30°C	mm2/s	ISO 3104		1800	1000	
Pour point	°C	ISO 3016		-40	-48	
Water content	mg/kg	IEC 60814	30 70	30	<20	
Breakdown voltage						
- Before treatment	kV	IEC 60156				40-60
- After treatment	kV					>70
Density, 20°C	kg/dm3	ISO 12185		0.895	0.870	
DDF at 90°C		IEC 60247		0.005	<0.001	
2 - Refining/stability						
Appearance		IEC 60296	Clear, free from sediment		complies	
Acidity	mg KOH/g	IEC 62021		0.01	<0.01	
Interfacial tension	mN/m	EN 14210	40		45	
Corrosive sulphur		DIN 51353	non-corrosive		non-corrosive	
Potentially corrosive sulphur		IEC 62535	non-corrosive		non-corrosive	
Corrosive sulphur		ASTM D 1275 B	non-corrosive		non-corrosive	
DBDS	mg/kg	IEC 62697-1		not detectable	not detectable	
Antioxidant	wt %	IEC 60666		not detectable	not detectable	
Metal passivator additives	mg/kg	IEC 60666		not detectable	not detectable	
2-Furfural and related compounds content	mg/kg	IEC 61198		0.05	<0.05	
Aromatic content	%	IEC 60590			9	
3 - Performance						
Oxidation stability at 120°C,164 h		IEC 61125 C				
Total acidity	mg KOH/g			1.2	0.50	
Sludge	wt %			0.8	0.15	
DDF at 90°C				0.500	0.080	
4 - Health, safety and environment (HSE)						
Flash point, PM	°C	ISO 2719	135		152	
PCA	wt %	IP 346	3		<3	
PCB		IEC 61619	not detectable		not detectable	

Date Issued: 2013

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