

Nytro Libra is an uninhibited transformer oil that conforms to IEC 60296:2020 edition 5.0, Type B, TVBU. Developed and formulated to deliver solid resistance to oil degradation, Nytro Libra 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

Nytro Libra fulfils the requirements for IEC 60296:2020 edition 5.0 uninhibited oil and it is 100% recyclable. Nynas classify this product as a standard grade.

In accordance with IEC 60296:2020 edition 5.0 all additives are declared.

Solutions for the transition to a sustainable society

Nynas offers bitumen and naphthenic specialty products for applications that touch people's lives every day, for example in electrification and road infrastructure. Our core competence is to upgrade heavy molecules into high performance, long-lasting specialty products. We operate in an international market with a strong focus on Europe, working closely with customers to create solutions to meet challenges and capture opportunities in the transition to a sustainable society.

Find out more at www.nynas.com

PROPERTY	Unit	Test Method	Specification Limits		Typical Data
			Min	Max	
1 - Function					
Viscosity, 40°C	mm²/s (cSt)	ISO 3104		12	9.5
Viscosity, -30°C	mm²/s (cSt)	ISO 3104		1800	1090
Pour point	°C	ISO 3016		-40	-51
Water content	mg/kg	IEC 60814		30	< 20
Breakdown voltage	kV	IEC 60156			
- Before treatment	kV	IEC 60156	30		40-60
- After treatment	kV	IEC 60296	70		> 70
Density, 20°C	kg/dm³	ISO 12185		0.895	0.877
DDF at 90°C		IEC 60247		0.005	< 0.001
2 - Refining/stability					
Colour		ISO 2049		1.5	< 0.5
Appearance at 15°C		IEC 60296	Clear, Free from Sediment		Clear, Free from Sediment
Acidity	mg KOH/g	IEC 62021		0.01	< 0.01
Interfacial tension at 25°C	mN/m	IEC 62961	40		47
Corrosive sulphur		DIN 51353	Non-Corrosive		Non-Corrosive
Potentially corrosive sulphur		IEC 62535	Non-Corrosive		Non-Corrosive
Corrosive sulphur		ASTM D1275	Non-Corrosive		Non-Corrosive
DBDS	mg/kg	IEC 62697-1	Not Detectable		Not Detectable
Antioxidants	wt %	IEC 60666	Not Detectable		Not Detectable
Metal passivator additives	mg/kg	IEC 60666	Not Detectable		Not Detectable
Other additives *			None		None
2-Furfural and related compounds content	mg/kg	IEC 61198		< 0.05	< 0.05
Aromatic content	%	IEC 60590			8
3 - Performance					
Oxidation stability at 120°C, 164 h		IEC 61125			
- Total acidity	mg KOH/g	IEC 61125		1.2	0.8
- Sludge	wt %	IEC 61125		0.8	0.12
- DDF at 90°C		IEC 61125		0.500	0.041
4 - Health, safety and environment (HSE)					
Flash Point, PM	°C	ISO 2719	135		148
PCA	wt %	IP 346		< 3.0	< 3.0
PCB	mg/kg	IEC 61619	Not Detectable		Not Detectable

*this product contains no undeclared additives

NYTRO LIBRA is an uninhibited insulating oil meeting IEC 60296:2020 edition 5.0 (2020), Type B, TVBU and it is 100% recyclable. Breakdown voltage after treatment as per definition in IEC 60296, section 6,4

Severely hydrotreated insulating oil
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