



## **NEW BIODEGRADABLE DIELECTRIC FLUID FOR LOW TEMPERATURE AND SEVERE USE**



### **DESCRIPTION**

NYCODIEL 1233 is a new concept of dielectric fluid based on low viscosity neopolyol ester.

It combines many advantages, such as low viscosity, low temperature, high thermal stability, high fire point and biodegradability.

### **APPLICATION**

NYCODIEL 1233 has been designed to combine advantages of mineral oil in terms of low viscosity to improve cooling and advantages of synthetic ester in terms of high thermal stability, safety and biodegradability, as measured according to test methods mentioned in IEC 61099.

It is a suitable and a safe alternative to mineral oils when biodegradability is required.

It is particularly adapted to transformers operating in very cold areas.

### **ADVANTAGES**

- **Excellent oxidation stability (IEC 61125) : long life-time even in harsh conditions. Few deposits, little sludge**
- **Typical Fire point around 280°C : fire safe**
- **Very low water content and high moisture tolerance : slow aging of transformer**
- **Biodegradability (OECD 301B) : 90% within 28 days**
- **NWG (UBA) (Not Hazardous to water) : environmentally friendly**
- **Based on more than 50% renewable carbon**

[www.nycodiel.com](http://www.nycodiel.com)

TND1233-1E3a

The values above are typical values. They do not constitute any contractual commitment.  
Sales specifications are available on request. The present technical data sheet replaces all the previous editions.





Characteristic	Unit	Typical Result	IEC 61099	Test method
<b>Physical</b>				
Colour Apha	-	80	max. 200	ISO 2211 ASTM D1209
Appearance	-	Limpid	Limpid	Visual
Density at 20°C	kg/dm3	0.953	max. 1	ISO 12185 ASTM D4052
Kinematic viscosity at 100°C at 40°C at - 20°C at - 50°C (35 min) at - 50°C (72h) at - 50°C (168h)	mm <sup>2</sup> /s	3.81 16.1 400 11450 11550 11500	- max. 35 max. 3000 -- -- --	ISO 3104 ASTM D445
Flash point PM	°C	241	min. 250	ISO 2719 ASTM D93
Fire point	°C	284	min. 300	ISO 2592 ASTM D92
Pour point	°C	- 66	max. - 45	ISO 3016
<b>Chemical</b>				
Water content	mg/kg	55	max. 200	ISO 12937
Acid value	mg KOH/g	0.02	max. 0.03	ISO 6618 ASTM D974
Oxidation stability 164h - total acid - total deposit	mg KOH/g %	0.09 0.004	max. 0.3 max. 0.01	IEC 61125 Method C
Oxidation stability 800h - total acid - total deposit	mg KOH/g %	0.23 0.005	NA	IEC 61125 Method C
<b>Electrical</b>				
Breakdown voltage	kV	65	min. 45	IEC 60156
Dielectric dissipation factor 90°C and 50Hz	-	0.01	max. 0.03	IEC 60247
Resistivity at 90°C	GΩ.m	10	min. 2	IEC 60247
<b>Biodegradability</b>				
Biodegradability	%	90%	-	OECD 301B
% Renewable carbon content	%	78	-	Calculation

