

# KOYOTO ELECT OIL N-42 UN-INHIBITED OILS

High Quality Naphthenic Transformer Oil



## Product Data Sheet

### Product Description

Eiffel Elect Oil N-42 Un-inhibited Transformer oils are severely refined hydro-cracked / hydro-treated virgin un-inhibited Naphthenic insulating oils with highest degree of purity and stability. It is manufactured from judiciously selected blend of latest technology feed stocks, which is highly suitable for all grades of Power & distribution Transformers, Circuit Breakers, Oil filled switches and X-ray equipment.

### Features & Benefits

- Very low sulphur and no DBDS.
- Low Pour point.
- High dielectric strength.
- Non corrosive as tested by all present methods, DIN & ASTM tests & New IEC 62535 method.
- Low viscosity oils offering excellent and fast heat transfer.
- Higher Flash point, resulting on Low evaporation losses and better safety
- Remarkably low sludge and acidity formation, in both ageing and oxidation tests, results in longer life of oil and equipment
- Compatible with transformer construction material.

### Application

KOYOTO ELECT OIL N-42 UN-INHIBITED OILS Transformer oils are highly suitable for all grades of

- Power Transformers, Distribution Transformers
- Circuit Breakers
- Oil filled switches
- X-ray equipment.

### Specifications

KOYOTO ELECT OIL N-42 UN-INHIBITED OILS Transformer oils conforms to and exceed the requirements of ASTM D 3487 Type II & IEC 60296:2012.

### Typical Characteristics

TEST DESCRIPTION	TEST METHOD	SPECIFICATION LIMITS
<b>Function</b>		
Kinematic Viscosity, mm <sup>2</sup> /s (Max)	ISO 3104	
at 40 °C		12.0
at -30 °C		1800
Pour Point °C	ISO 3016	≤ -40
Water Content, Max mg/kg	IEC 60814	
a) Bulk		30
b) Drum	40	
Break Down Voltage, Min.	IEC 60156	
As Delivered (kv)		30
After treatment (kv)	70	
Density kg/dm <sup>3</sup> , @ 20 °C, Max	ISO 3675	0.895
DDF at 90 °C, Max	IEC 60247	0.005

*The above figures are typical of blends with normal production tolerance and do not constitute a specification.*

### ***Freeze Protection of KOYOTO Antifreeze EL***

<b>Refining/Stability</b>		
Appearance	Visual	Clear, odourless liquid free from suspended impurities
Neutralization Value / Acidity, mg KOH/g, Max	IEC 62021-1 / IEC 62021-2	0.01
Interfacial tension, mN/m, Min	ASTM D 971	40
Total Sulphur Content, %, Max	IP 373 / ISO 14596	No General Requirement
Corrosive Sulphur, silver strip, 100°C, 18 hrs	DIN 51353	Non Corrosive
Cu strip & Kraft Paper 150°C, 72 hrs	IEC 62535	Non Corrosive
DBDS, mg/kg, Max	IEC 62697-1 (in preparation)	Not Detectable (< 5)
Anti-Oxidant Additives	IEC 60666	Not Detectable (0.01)
Metal Passivators, mg/kg, Max		Not Detectable (< 5)
2-Furfural content, mg/kg, Max		Not Detectable (< 0.05)
<b>Performance</b>		
Oxidation Stability, 164 hrs	IEC 61125 METHOD- C	
-Total acidity, mg KOH/g, Max		1.2
- Sludge, %, Max		0.8
- DDF @ 90°C, Max		0.5
<b>Health, safety and environment (HSE)</b>		
Flash Point °C, PMCC, Min	ISO 2719	135
Polycyclic Aromatics % mass, Max	IP: 346	3.00
Total PCB content mg/Kg	IEC 61619	Not Detectable (< 2)
<b>Carbon Type Analysis, %</b>		
C <sub>N</sub> , %, Min	ASTM D 2140	42
C <sub>P</sub> , %, Max		60
C <sub>A</sub> , %, Max		10
<b>Conforms to Standards</b>		
IEC 60296:2012 (U)		✓
ASTM D 3487 Type I		✓

*The above figures are typical of blends with normal production tolerance and do not constitute a specification.*

#### **Packaging Options:**

KOYOTO Elect Oil Inhibited Transformer oils are offered in 200-210 litres of steel drums and also in bulk in Flexi bags or ISO tanks.

#### **Storage Precautions:**

Extreme care is taken while packing these products, including filling of drums in inert atmosphere, as Electrical Insulating oils / Transformer oils are very sensitive to very minute concentrations of contaminants, such as moisture, particulate matter, fibers, etc. Hence, care should be taken to store KOYOTO ELECT OIL N-42 UN-INHIBITED OILS Transformer oil in a clean and dry condition. It is strongly recommended that all storage tanks / drums be maintained such that oil is not in contact with atmospheric air. Also these oils should always be stored indoors in climate controlled environments.