

KOYOTO ELECT OIL N-42 INHIBITED OILS

High Quality Naphthenic Transformer Oil



Product Data Sheet

Product Description

KOYOTO ELECT OIL N-42 INHIBITED OILS 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 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 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	
Function			
Kinematic Viscosity, mm ² /s, Max	ISO 3104	at 40 °C	12.0
		at -30 °C	1800
Pour Point °C, Max	ISO 3016	≤ -40	
Water Content, mg/kg, Max	IEC 60814	a) Bulk	30
		b) Drum	40
Break Down Voltage, kV, Min	IEC 60156	As Delivered	30
		After treatment	70
Density @ 20 °C, kg/dm ³ , Max	ISO 3675	0.895	
DDF @ 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 ELC

Refining/Stability		
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 & Paper 150°C, 72 hrs	IEC 62535	Non Corrosive
Cu strip, 150°C, 48 hrs	ASTM D 1275 B	Non Corrosive
DBDS, mg/kg, Max	IEC 62697-1(in preparation)	Not Detectable (< 5)
Anti-Oxidant Additives, %	IEC 60666	0.08 – 0.40
Metal Passivators, mg/kg, Max		Not Detectable (< 5)
2-Furfural content, mg/kg, Max	IEC 61198	Not Detectable (< 0.05)
Stray Gassing	CIGRE	No General Requirement
Performance		
Oxidation Stability, 500 hrs, Max	IEC 61125 METHOD- C	
-Total acidity, mg KOH/g		1.2
- Sludge, %		0.8
- DDF @ 90°C, Max		0.5
Health, safety and environment (HSE)		
Flash Point °C, Min	ISO 2719	135
Polycyclic Aromatics % mass, Max	IP 346	3.00
Total PCB content mg/Kg	IEC 61619	Not Detectable (< 2)
Carbon Type Analysis, %		
C _N , % Min	ASTM D 2140	42
C _p , % Max		60
C _A , % Max		10
Conforms to Standards		
IEC 60296:2012 (I)		✓
ASTM D 3487 Type II		✓

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

Note

KOYOTO ELECT OIL N-42 INHIBITED OILS Transformer oils are High Grade Inhibited Transformer oil has superior oxidation stability – meeting the high grade requirements as specified in IEC 60296:2012, high dielectric strength and are used in equipment requiring operations at high elevated temperatures & greater

Packaging Options:

KOYOTO ELECT OIL N-42 INHIBITED OILS 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 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.