

KunLun Petro50GX Negative Gassing Tendency Transformer Oil

Introduction

With low sulphur content、 low pour point、 high aromatic content naphthenic crude as raw material, Petro50GX transformer oil is made by concocting the base oil produced using special technology with high quality antioxygen package additive. It has characteristics such as fast heat transfer, good oxidation stability, outstanding behavior of electricity, good degassing property and negative gassing tendency etc. This product has stable and reliable performance, and is produced in strict quality control procedure with fixed product resource.

Quality Grade

Petro50GX negative gassing tendency transformer oil meets the requirements of GB2536 – 2011 (I-40 °C)、 IEC60296: 2020 TVAL (LCSET-40°C) standard and ASTM D3487-2016 II.

Application Area

Petro50GX negative gassing tendency transformer oil is suitable for power transformer, converter transformer, Instrument transformer, high-voltage bushing and related equipment, and the use of the environment above -50°C.

Performance Features

Technical performance	Application effect
Very good heat transfer	Thanks to low viscosity and viscosity index, this high grade offers extremely good heat transfer characteristics, ensuring heat is efficiently removed from core and windings.
Outstanding oxidation stability	Developed and formulated to deliver maximum resistance to oil degradation, this grade provides outstanding oxidation stability for enhanced transformer life and minimum maintenance.
Excellent electrical insulation performance	The negative gas evolution performance is beneficial to absorb gas under partial discharge and reduce the risk of equipment burst. Effectively prevent discharge phenomenon and power loss under high-voltage electric field, due to its high breakdown voltage and low DDF. This insulating oil meets the toughest demands on dielectric strength.
Very good low temperature properties	Free of pour-point depressant and its pour point can be down to -60 °C. At -40°C, the viscosity is less than 2500mm ² /s, suitable for extremely cold area.
Appropriate content of	Ensuring the dissolution of the oil sludge generated during the

naphthenic hydrocarbon and higher aromatic hydrocarbon	equipment is running, avoiding destroying insulating material and affecting heat transfer.
Environment-friendly	Free of any polychlorinated biphenyls, contains no DBDS.

Petro50GX passes the ASTM D1275B, IEC62535 and DIN51353 corrosion tests.

Typical application

Petro50GX has been applied Jiangsu Siyuan Hertz Instrument transformer Co. Ltd. in 2021.

Typical Properties

PROPERTY	UNIT	TEST METHOD		SPECIFICATION LIMITS		Petro50GX TYPICAL DATA
		China	International	MIN	MAX	
1 - Function						
Pour point	°C	GB/T3535	ISO 3016		-50	-60
Viscosity at 40°C	mm ² /s	GB/T265	ISO 3104		8.5	7.25
Viscosity at -30°C	mm ² /s	GB/T265	ISO 3104		1800	545
Viscosity at -40°C	mm ² /s	GB/T265	ISO 3104		2500	2058
Water content	mg/kg	GB/T7600	IEC60814		30	20
Breakdown voltage						
- Before treatment	kV	GB/T507	IEC60156	30		40-60
- After treatment	kV	GB/T507	IEC60156	70		>70
Impulse breakdown voltage (25mm gap, negative polarity)	kV	GB/T 21222	D3300	145		190
Density at 20°C	kg/m ³	SH/T0604	ISO 12185		895	870
DDF at 90°C		GB/T5654	IEC60247		0.005	<0.001
2 - Refining/stability						
Appearance		GB2536	IEC60296	Clear, free from sediment		Clear, free from sediment
Colour		GB/T 6540	ISO 2049		0.5	<0.5
Acidity	mgKOH/g	NB/SH/T0836	IEC 62021-1		0.01	<0.01
Interfacial tension	mN/m	GB/T6541	ISO 6295	44		47
Total sulphur content	%	SH/T0689	ASTMD5453		0.05	<0.001
Corrosive sulphur		SH/T0804	DIN 51353	non-corrosive		non-corrosive
Potentially corrosive sulphur		DL/T 285	IEC 62535	non-corrosive		non-corrosive
DBDS	mg/kg	GB/T 32508	IEC 62697-1	Not detectable		Not detectable
Antioxidant additive	%	SH/T0802	IEC60666		0.30	0.3
2-furfural and related compounds	mg/kg	NB/SH/T0812	IEC61198	Not detectable		Not detectable
Aromatic content	%	DL/T 929	IEC6590	10		12
Stray gassing under thermo-oxidative stress			Procedure in Clause A.4 (oil saturated with air) in the presence of copper	Non stray gassing: < 50 µl/l of hydrogen (H ₂) and < 50 µl/l methane CH ₄) and < 50 µl/l ethane (C ₂ H ₆)		5 1.4 0.12
3 - Performance						
Oxidation stability (500h)		NB/SH/T0811	IEC61125C			
- Total acidity	mgKOH/g				0.3	0.03
- Sludge	%				0.05	0.002

- DDF at 90℃		GB/T5654	IEC60247		0.050	0.0233
Oxidation stability (pressure vessel test)	min	SH/T0193	ASTMD2112	350		422
Gassing tendency	μl/min	/	ASTMD 2300		-20	-28
ECT	μC/m ³	DL/T385	IEC60296	Report		1
4 – Health, safety and environment (HSE)						
Flash point	℃	GB/T261	ISO 2719	135		142
PCA content	%	NB/SH/T0838	IP346		3	2.0
PCB content	mg/kg	SH/T0803	IEC 61619	not detectable		not detectable

Packaging, storage and transportation

Packaging, marking, transportation, storage, delivery and acceptance shall be implemented in accordance with NB/SH/T 0164 standards.

Packed in 200L large barrels, with a net weight of 170±2Kg, which can be packed and shipped according to customer requirements.

Notices

Transformer oil is very susceptible to contamination by moisture, various solid particles, fibers and acetylene gas. Therefore, it is very important to keep transformer oil dry and clean. The air in the storage environment cannot contain acetylene gas.

Transformer oil storage containers must be dedicated and stored indoors or in a controlled climate as much as possible. It is strictly forbidden to touch lubricating oils such as engine oil, hydraulic oil and gear oil. The container must be waterproof, moisture-proof and prevent mechanical impurities from entering.

It must be clearly marked during transportation to prevent confusion with other types of petroleum products.

The containers, oil tanks, pipelines, valves, etc. used should be carefully cleaned and inspected before use to prevent contamination.

Health and safety

Avoid long-term or repeated skin contact, prohibit intervention, and keep away from children.

Please protect the environment. Packaging and waste liquid should be handed over to a qualified unit for centralized disposal. It is prohibited to pour into the drainage system, water and soil.

For other health and safety information, please refer to the safety data sheet (MSDS) of the product.