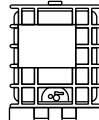


<b>Product</b>	<b>Sinopec Super Insulated Transformer Oil</b>
<b>Summary</b>	<p><b>Product description</b></p> <p>Sinopec Super Insulated Transformer Oil is blended with highly refined mineral oil and a selected antioxidant. It is designed for insulating and cooling transformers, oil-immersed switch-gear and other electrical insulating applications. There are three kinds of transformer oil, I-10°C super insulated transformer oil, I-20°C super insulated transformer oil and I-40°C super insulated transformer oil, which meet the requirements of IEC60296:2012. Sinopec transformer oil IEC don't contain polychlorinated biphenyls (PCBs).</p>

Available sizes



DRUM – 200L



IBC – 1000L

Also  
available  
in bulk

## Applications

Sinopec Super Insulated Transformer Oil is suitable for use in:

- Oil-filled transformers, where it acts as a non-conducting insulating and cooling medium.
- Oil-immersed switch-gear.
- Other electrical insulating applications.

## Features and benefits

- Excellent dielectric (insulating) properties, effectively prevent discharge in an electric field.
- Low viscosity and low density lead to the oils having good cooling properties and good heat transfer characteristics at room temperature and below, and so ensure effective cooling of transformer core and coils.
- Even at very low temperatures the oil viscosity remains low, and therefore allows the transformer to be started up under very cold conditions without problem.
- Excellent oxidation stability characteristics are provided by the stable base oil together with the high-performance oxidation inhibitor system, and prevent the formation of acidic material and sludge in service, extending the life of the oil.

Sinopec Super Insulated transformer oil meets the requirements of IEC60296: 2012.

- For the special application requirements (high oxidative stability and low sulfur content) of transformer oil , the oil comply with IEC 60296:2012, including clause 7.1 requirements.

# Product Data Sheet

## Typical Data

Grade	SPECIFICATION LIMITS of IEC60296:2012	Sinopec Super Insulated Transformer oil		
		I-10℃	I-20℃	I-40℃
Kinematic viscosity, mm <sup>2</sup> /s				
cSt @ 40℃, ISO 3104	≤12	9.66	10.85	9.68
cSt @ -10℃, ISO 3104	≤1800	106.54	–	–
cSt @ -20℃, ISO 3104	≤1800	–	283	–
cSt @ -40℃, IEC 61868	≤2500	–	–	2091
Pour point, °C, ISO 3016	*	-42	-45	-57
Water Content, mg/kg, IEC60814	< 30	29	14	13
Dielectric Breakdown (as received) , kV, IEC 60156	30	54	75	87
Dielectric dissipation factor @ 90℃, IEC 60247	0.005	0.0006	0.0001	0.0002
Density @ 20℃, g/mL, ISO 3675	0.895	0.836	0.847	0.840
Particle Content ,IEC60970	No requirement	ISO Code: 15/13/11	ISO Code: 13/12/10	ISO Code: 15/14/11
Appearance, IEC 60296	Clear & bright	Clear & bright	Clear & bright	Clear & bright
Acidity, mg KOH/g, IEC 62021	≤0.01	0.009	<0.01	<0.01
Interfacial tension, mN/m, ISO6295	40	47.98	52	48
Total Sulfur content, %, ISO 14596**	No requirement	0.0031	0.00482	0.006
Corrosive sulfur, DIN51353	Non-corrosive	Non-corrosive	Non-corrosive	Non-corrosive
Potentially corrosive sulfur, IEC 62535	Non-corrosive	Non-corrosive	Non-corrosive	Non-corrosive
DBDS ,mg/kg, IEC 62697	Non-detectable (<5 mg/kg)	<1	<1	<1
Inhibitors ,%, IEC 60666	(I) inhibited: (0.08 – 0.40%)	0.33	0.32	0.34
Metal passivator additives , mg/kg, IEC 60666	Non-detectable (<5 mg/kg)	BTA: <1 Irgamet 39: <5	BTA: <1 Irgamet 39: 2	BTA: <1 Irgamet 39: <5
2-Furfural & related compounds, mg/kg, IEC 61198	Non-detectable (<0.05 mg/kg) for each	<0.05	<0.05	<0.05
Oxidation stability, 500 h @ 120℃, IEC 61125C***				
total acidity, mg KOH/g	≤1.2	0.039	0.19	0.24
sludge, wt%	≤0.8	0.0318	<0.01	<0.01
DDF at 90℃	≤0.500	0.0021	0.0088	0.0110
Flash point (PMCC), °C, ISO 2719	135	168	138	166
PCA Content , %, IP 346	≤ 3	0.15	0.92	0.70
PCB Content, mg/kg , IEC 61619	Not detectable (< 2 mg/kg)	< 2	< 2	< 2
Note: *	Pour point , °C			
I -10℃ Transformer oil	≤-20			
I -20℃ Transformer oil	≤-30			
I -40℃ Transformer oil	≤-50			
** The specification limits of Total Sulfur content in this sheet is General grade transformer oil .The Special grade transformer oil is ≤0.05.				
***The specification limits of Oxidation stability in this sheet is General grade transformer oil .The Special grade transformer oil is more strict: total acidity≤0.3mg KOH/g, sludge≤0.05%, DDF at 90℃≤0.050.				

These data are given as an indication of typical values and not as exact specifications.

# Product Data Sheet

## Industry and OEM specifications

Sinopec Transformer Oil meets the performance requirements of the following industry specifications:	
IEC	60296:2012

Sinopec Transformer Oil holds the following formal OEM approvals:	
ABB	Specification 1ZBA117001-1: HI-B (Sinopec 25 Transformer Oil <sup>1</sup> ) HI-A (Sinopec 45 Transformer Oil <sup>1</sup> )
Siemens	TUN 901 293 (2007) (Sinopec 25 and 45 Transformer Oil <sup>1</sup> )

<sup>1</sup>Note: Sinopec 25 and 45 Transformer oil is now changed the name as Sinopec I-10°C and I-40°C general Transformer Oil, the process and properties are the same.

## Accuracy of information

Data provided in this PDS is typical and subject to change as a result of continuing product research and development. The information given was correct at the time of printing. The typical values given are subject to variations in the testing procedures and the manufacturing process may also result in slight variations. Sinopec guarantees that its lubricants meet any industry and OEM specifications referred to on this data sheet.

Sinopec cannot be held responsible for any deterioration in the product due to incorrect storage or handling. Information on best practice is available from your local distributor.

## Product and environmental safety

This product should not cause any health problems when used in the applications suggested and when the guidance provided in the Material Safety Data Sheet (MSDS) is followed. Please consult the MSDS for more detailed advice on handling; MSDSs are available from your local distributor. Do not use the product in applications other than those suggested.

As with all products, please take care to avoid environmental contamination when disposing of this product. Used oil should be sent for reclamation/recycling or, if not possible, must be disposed of according to relevant government/authority regulations.

The SINOPEC trademark is registered and protected.

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Sinopec Super Insulated Transformer Oil