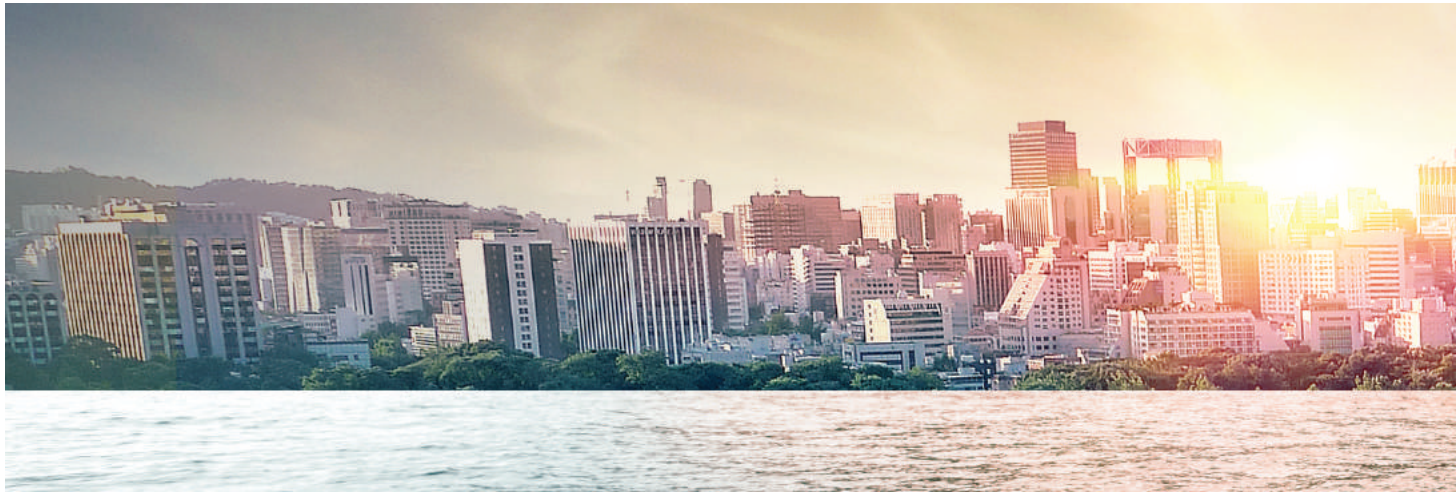




A large, high-quality photograph of a water splash serves as the background for the lower half of the page. The water is a clear, vibrant blue, and the splash is captured in a dynamic, mid-air state, with numerous bubbles and droplets visible. The water surface is uneven, with ripples and small waves. The overall effect is clean and refreshing.

SHINHO  
CHEMICAL CO., LTD.



## / SHINHO CHEMICAL CO.,LTD.

It is great appreciated to who loves and cherishes SHINHO CHEMICAL Co., Ltd.

SHINHO CHEMICAL Co., Ltd. established in 2003, is a specialized producing company for Insulating Oil.

We produce various products which is suitable for the international standards such as KS standard,

IEC and ASTM on the basis of Korean Technology.

We are a technology leading company which is certified by not only from domestic market but also from overseas market,

and achieved KEPCO TRUSTED PARTNER prize in the part of Quality, Reliability and Customer Satisfaction Index.

We will be the top leader in the field of Insulating Oil through Quality Assurance by ISO 9001, continuous product producing and technology consulting by our own laboratory and cooperative system between industries and academies.

We, SHINHO CHEMICAL Co., Ltd., do challenge into the unlimited competition by endless technological innovation.

# Customer, Humanity, Respect Technology





## 2003

Oct. Start Machine Oil Production  
Aug. Production of hydraulic oil and water solubility cutting oil  
Jun. Oil production of construction mould separation  
Mar. SHINHO CHEMI. Co.,Ltd. Established

## 2004

Dec. Achieved GQ Mark

## 2005

Sep. Start Insulating oil production

## 2006

Mar. Achieved KS Mark  
Feb. Achieved ISO9001 Certificate



## 2007

Jul. Production facility extension for  
Insulating oil (21,000kℓ/year)  
May. Insulating oil providing contract to the  
KEPCO ('07~'08)  
Apr. Venture Company designation

## 2008

Jul. - Insulating oil providing contract to the  
KEPCO ('08~'09)  
- Break through 20,000kℓ (100K drum) of accumulated  
Insulating oil production  
Apr. Approved INNO-Biz

## 2009

Dec. Production facility extension for  
Insulating oil (42,000kℓ/year)  
Jul. Insulating oil providing contract to the  
KEPCO ('09~'10)

## 2010

Mar. Storage Facility extension (180,000ℓ)



## 2011

Dec. Capital increasing (KRW 400M)  
Oct. GS Caltex Insulating oil partner  
(OEM providing contract)  
Sep. Insulating oil providing contract to the  
KEPCO ('11~'12)

## 2012

Oct. Insulating oil providing contract to the  
KEPCO ('12~'13)  
Mar. Production facility extension for  
Insulating oil (48,000kℓ/year)

## 2013

Aug. KEPCO Trusted Partner qualification

## 2014

Oct. Insulating oil providing contract to the  
KEPCO ('14~'15)  
Feb. Production facility extension for  
Insulating oil-Uninhibited type (24,000kℓ/year)

## 2015

Mar. Storage Facility extension (80,000ℓ)  
Oct. Insulating oil providing contract to the  
KEPCO ('15~'16)

2003 ~ 2006

2005 ~ 2010



## / SHINHO Trans oil

### Our product,

SHINHO Trans Oil, do excellent function of insulation and cooling in oil immersed transformer and oil condenser.

Our product is made by optimized purification process from the select of base oil. We produce the best quality insulating oil what is superior to KS(Korea Standard) and international standards such as IEC 60296, ASTM and so on.

Our product has excellent properties for flash point, pour point, evaporation, oxidation stability and breakdown voltage. Using our product helps transformer maximize efficiency, prolong its life and reduce downtime.



## / Certification



/ TEST SAMPLE (IEC 60296)

※ Results      U type : Uninhibited type  
                         I type : Inhibited type

Test	Requirements for Transformer oil	Results		
		U type	I type	
1–FUNCTION				
Viscosity at 40° C	≤ 12 mm2/s	9.40	7.88	
Viscosity at –30° C	≤ 1800 mm2/s	773	355	
Pour Point	≤ –40° C	–48	–42	
Water Content	∠ 30 mg/kg	∠10	∠10	
Dielectric Breakdown (as received)	≥ 30 kV	65		
Dielectric Breakdown (after filtering)	≥ 70 kV	80		
Density at 20° C	≤0.895 g/mL	0.864	0.840	
Dissipation Factor at 90° C	≤ 0.005 absolute	0.001	0.001	
2–REFINING/STABILITY				
Appearance	Clear & bright	Clear & bright		
Acidity	≤ 0.01 mg KOH/g	∠0.01		
Interfacial Tension	No requirement (mN/m)	49		
Total Sulfur content	No requirement (mg/kg)	184.5		
Corrosive Sulfur	Non–corrosive	Non–corrosive		
Potentially corrosive sulfur	Non–corrosive	Non–corrosive		
DBDS	Non–detectable(∠5 mg/kg)	Not detected		
Metal passivator additives	Non–detectable(∠5 mg/kg)	Not detected		
Other additives	Not performed			
2–Furfural & related compounds	Non–detectable (∠0.05 mg/kg) for each	Not detected		
Stray Gassing	No requirement	See Last Page		
3–PERFORMANCE				
Oxidation Stability	≤ 1.2 mg KOH/g	Total Acids	0.29	0.10
	≤ 0.8%	Total Sludge	0.08	0.08
	≤ 0.5 absolute	DDF at 90°C	0.0792	0.01
Gassing Tendency	No requirement (ul/min)	Run 1	+44.1	
		Run 2	+42.6	
		Average	+43.4	
ECT, static charge	No requirement	Run 1	1	
		Run 2	1	
		Run 3	1	
		Average	1	
3–HEALTH, SAFETY AND ENVIRONMENT (HSE)				
Flash Point, Closed cup	≥ 135° C	160	144	
PCA Content	≤ 3%	0.9	0.3	
PCB Content	Not detectable(∠ 2 mg/kg)	Not detected		

## / FACTORY & LABORATORY



Tank storage



Factory



Drums



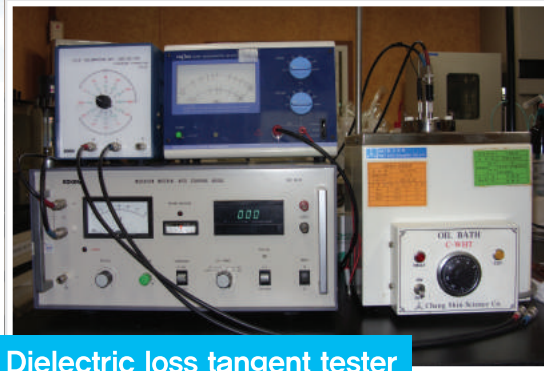
Laboratory

Export trade of





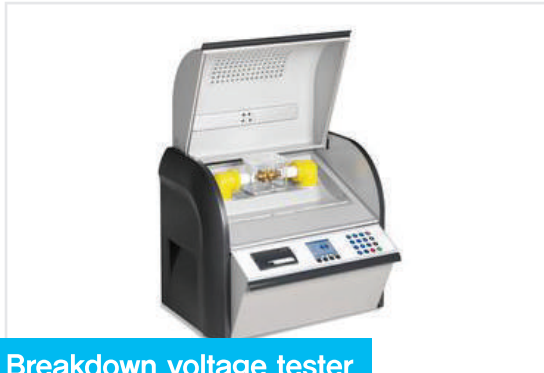
Particle counter



Dielectric loss tangent tester



Gas chromatography



Breakdown voltage tester

