APAR
Tomorrow's solutions today

POWEROIL®
Powering Ahead

DKSH

POWEROIL TO SE SYNTHETIC ESTER

High Performance Synthetic Ester Based Transformer Oil

The Sustainable Choice For Transformers

K3 Class | High Oxidation Stability | Biodegradable

www.apar.com

ABOUT US

NUMBER 1 INDIAN & 3rd LARGEST GLOBAL TRANSFORMER OILS MANUFACTURER

With a legacy spanning over six decades, APAR has evolved from a modest power conductor manufacturer into a global powerhouse in the electrical and energy infrastructure space, earning worldwide acclaim for our pioneering spirit and commitment to quality. A FORTUNE 500 company in India that ventured into the Speciality Oils business in 1968.

The company's three state of the art manufacturing facilities at Rabale, Navi Mumbai, Silvassa - D&N Haveli, and Hamriyah Free Zone, Sharjah, UAE, support a global hub-and-spoke distribution network spanning more than 125 countries. The company has established strategic joint ventures across key regions including Southeast Asia (Malaysia, Indonesia), South Africa, Eastern Europe (Turkey), Australia, and Uganda (Kampala), with additional facilities currently under development. This global footprint ensures faster, localised servicing across every continent, reinforcing its commitment to customer responsiveness.

$2 Billion	140+	66	11
Revenue	Global footprint	Years of excellence	Manufacturing facilities

POWEROIL TO SE - SYNTHETIC ESTER

POWEROIL TO SE – APAR's Synthetic Ester is developed to use in Power and distribution transformers, including free breathing and sealed transformers, for longer service life of equipment's, fire safety, environment and cost benefits.

KEY FEATURES

- Excellent oxidation stability exceeding IS 16081:2013 & IEC 61099:2010 standards.
- Superior moisture tolerance – Absorbs large amount of moisture with no impact in breakdown voltage.
- Extends cellulose life by absorbing moisture from cellulose into fluid.
- Retro filling of Transformers increases the life of Solid Insulation.
- Ideal for cold weather conditions – Very low pour point.
- High Fire point (> 300o C) – K3 class.
- Outstanding dielectric properties.
- Fully biodegradable.

ENVIRONMENTAL BENEFITS

- Readily Biodegradable (OECD 301 B) > 80 %.
- Low Aquatic toxicity (OECD 201, 203); ideal for floating Installations.
- Increased fire safety.

PRODUCT DATA OF SYNTHETIC ESTER POWEROIL TO SE

APPROVALS & CERTIFICATIONS

Test and approved by Independent laboratories:

- Engie Laboratory, Belgium
- ERDA, India

FM APPROVED

Sr No.	Characteristics	Unit	Test Method	Specification	Typical Value
A. PHYSICAL					
1.	Color		ISO 2211	Max. 200 Hazen	150
2.	Appearance		Visual	Clear, free from sediments and suspended matter	Clear, free from sediments and suspended matter
3.	Density at 20° C	kg/dm3	ISO 3675 or ISO 12185	Max. 1000	970
4.	Kinematic Viscosity at 40° C Kinematic Viscosity at - 20° C	mm 2 / sec	ISO 3104/ ASTM D 7042 Kinematic Viscosity at - 20° C	Max. 35 Max. 3000	29 1500
5.	Flash Point	°C	ISO 2719	Min. 250	256
6.	Fire Point	°C	ISO 2592 / ASTM D92	Min. 300	310
7.	Pour Point	°C	ISO 3016	Max. - 45	-45
B. CHEMICAL					
1.	Water content	mg /kg	IEC 60814	Max. 200	100
2.	Acidity	mg KOH/g	IEC 62021-1 or 2	Max. 0.03	0.02
3.	Oxidation Stability at 120° C, 164 Hrs.		IEC 61125 Method C		
	Total Acidity	mg KOH/g	1.9.4 of IEC 61125 : 1992	Max. 0.3	0.1
	Total Sludge	%	1.9.1 of IEC 61125 : 1992	Max. 0.01	0.005
C. ELECTRICAL					
1.	Breakdown Voltage As received (Untreated)	kV	IEC 60156	Min. 45	60
2.	Dielectric Dissipation Factor (Tan δ)at 90°C & 50 Hz	-	IEC 60247	Max. 0.03	0.015
3.	DC Resistivity at 90°C	GΩ.m	IEC 60247	Min. 2	12

POWEROIL SE IS WIDELY ACCEPTED IN SENSITIVE ZONES AND CRITICAL AREAS FOR

- Free-breathing Transformers (New and retro-fill).
- Suitable for indoor, outdoor and underground installations.
- In floating solar power systems Installations offshore oil & gas platforms.
- Distribution Transformers in highly –dense urban areas.
- In locomotive Transformers.
- Transformers in ships, Islands, Marine Systems & Mining sites.
- Transformers in offshore windmill systems.

APAR has built a reputation for its transformer oil as a very reliable component in for all types of transformers. Our transformer oils provide high dielectric properties essential for good insulation, efficient cooling, minimizing energy losses, and high oxidation stability that results in one of the longest drain intervals in the industry. All of these features contribute to a higher ESG score for the system.

APAR's Synthetic Ester-based alternatives provide higher bio-degradability compared to mineral oils and also provide extended service life and high temperature resistance, suitable for demanding environments, reducing losses through better heat transfer and simplifying disposal. These newly developed T-oils are ideal for environmentally sensitive installations of solar and wind on the water or near water bodies. They also provide superior performance in traction transformers used to power locomotives.

HIGHLIGHTS

- World's 3rd Largest Transformer Oil manufacturer.
- APAR commands almost 60% market share in the power transformer segment and close to 40% in the distribution segment in India.
- Only Indian company to win entire T-Oil supply to all major HVDC projects in India.

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DKSH is a channel partner of APAR Industries Limited, India in Australia and New Zealand Market for Speciality Oil products.