



# Advance synthetic base stocks



# KÔACH PACIFIC SPECIALITY OILS

## Advance synthetic base stocks

Unlock the future of lubricants with our advanced synthetic base stocks, designed to meet the demands of today's dynamic marketplace.

Our diverse portfolio of cutting-edge synthetic base stocks provides the flexibility you need to create innovative, high-performance lubricants.

### **PACIFIC BRAWNSYN (mPAO) SERIES**

Achieve outstanding performance across a wide temperature range with our high-viscosity metallocene polyalphaolefin (mPAO) base stocks. These advanced base stocks offer superior shear stability, higher viscosity index (VI), and lower pour points, enabling enhanced blending efficiency and performance over traditional synthetic PAOs.

### **PACIFIC BRAWNSYN (PAO) SERIES**

Meet the rigorous demands of extreme temperatures with our comprehensive range of polyalphaolefin (PAO) base stocks. Available in both low and high viscosities, PACIFIC BRAWNSYN (PAO) Series ensures optimal fluidity and performance for a variety of synthetic and synthetic blend lubricants.

### **PACIFIC BRAWNSYN PLUS (PAO) SERIES**

Formulate top-tier lubricants with our advanced low-viscosity synthetic fluid. Featuring low volatility and excellent low-temperature fluidity, PACIFIC BRAWNSYN PLUS (PAO) Series helps you create lubricants that deliver extended drain intervals and improved fuel economy / energy efficiency.

### **PACIFIC BRAWNSYN SERIES**

Enhance the stability and performance of your lubricants with our synthetic base stock, AN. Ideal as a blend component with PAO or mineral oils, PACIFIC BRAWNSYN Series offers exceptional hydrolytic and thermo-oxidative stability, superior additive solvency, and excellent seal compatibility for a wide range of automotive and industrial applications.

### **PACIFIC BRAWNESTER SERIES**

Extend equipment life and boost high-temperature performance with PACIFIC BRAWNESTER Series. Whether used alone or combined with other base fluids, esters enhance lubricant capabilities, particularly where biodegradable solutions are needed.

Formulators today face the challenge of improving energy efficiency, reducing emissions, and enhancing fuel economy. Additionally, there is a constant push for lubricants that support longer drain intervals, operate effectively across broader temperature ranges, and withstand severe conditions.

Count on our innovative synthetic base stocks to meet and exceed the stringent performance expectations of Original Equipment Manufacturers (OEMs). Together, we can drive the next wave of lubricant innovation.



# PACIFIC BRAWNSYN (mPAO) SERIES



As the demand for lubricants offering exceptional energy efficiency, extended drain intervals, enhanced performance across diverse temperature ranges, and increased durability under severe conditions continues to grow, formulators are tasked with creating innovative solutions. This is why many are turning to the unparalleled properties of mPAO base stocks.

Our high-performance, high-viscosity mPAO base stocks deliver the versatility required to develop a wide spectrum of cutting-edge lubricants for today's discerning marketplace. Engineered through a proprietary catalyst process, these synthetic base stocks offer superior shear stability, an elevated viscosity index (VI), and lower pour points compared to traditional PAOs, ensuring optimal blending efficiency and unmatched performance.

Ideally suited for both industrial and automotive applications, mPAO base stocks provide a truly advanced technological solution, equipped to meet the evolving challenges of today and the future.

## PRODUCT RANGE

PACIFIC BRAWNSYN 2000  
PACIFIC BRAWNSYN 4000

## PACIFIC BRAWNSYN (mPAO) SERIES

Technical Parameters	SG at 15.6 °C	KV at 40 °C	KV at 100 °C	VI	Flash Pt °C	Pour Pt °C
BRAWNSYN 2000	0.888	645	68.25	188	290	44.25
BRAWNSYN 2000	0.891	1790	163.80	216	300	34.60

# PACIFIC BRAWNSYN (PAO) SERIES



## Unleashing the Potential of Lubricant Formulation

Formulators of finished automotive and industrial lubricants encounter significant challenges in today's demanding marketplace. Enhanced performance capabilities, improved low-temperature flow, and superior durability are essential. For trusted solutions, formulators turn to our comprehensive portfolio of PAOs, which meet a wide range of performance requirements across various lubricant applications, including passenger car engine oils, driveline lubricants, industrial machinery, greases, heavy-duty truck engines.

PACIFIC BRAWNSYN Series high-viscosity PAO base stocks are available in viscosity grades of 40 and 100 cSt. These base stocks are particularly well-suited for formulating industrial oils that require high stability under demanding conditions. Their high viscosity index (VI) ensures improved flow at low temperatures and increased film thickness at high temperatures.

## PRODUCT RANGE

- PACIFIC BRAWNSYN 100
- PACIFIC BRAWNSYN 101
- PACIFIC BRAWNSYN 102
- PACIFIC BRAWNSYN 103
- PACIFIC BRAWNSYN 104
- PACIFIC BRAWNSYN 105
- PACIFIC BRAWNSYN 106
- PACIFIC BRAWNSYN 107
- PACIFIC BRAWNSYN 108
- PACIFIC BRAWNSYN 109

## PACIFIC BRAWNSYN (PAO) SERIES

Technical Parameters	SG at 15.6 °C	KV at 40 °C	KV at 100 °C	VI	Flash Pt °C	Pour Pt °C	Volatility, %	CCS @ A/B
ASTM Standards	D4052	D445	D445	D2270	D92	D97 / 5950	D5800	D5293
BRAWNSYN 100	0.838	5.25	1.78	N/A	165	-69	--	--
BRAWNSYN 101	0.839	5.25	1.78	N/A	156	-56	--	--
BRAWNSYN 102	0.838	6.72	2.10	N/A	157	-60	--	--
BRAWNSYN 103	0.861	19.95	4.30	126	231	-69	14.50	1495
BRAWNSYN 104	0.865	26.25	5.35	138	252	-60	7.20	2540
BRAWNSYN 105	0.868	32.55	6.09	138	258	-60	6.70	2375
BRAWNSYN 106	0.875	50.40	8.40	139	273	-50	4.30	5040
BRAWNSYN 107	0.877	69.30	10.50	137	280	-50	3.60	9280
BRAWNSYN 108	0.893	415.80	40.95	147	295	-38	--	--
BRAWNSYN 109	0.896	1302	105	170	297	-32	--	--

# PACIFIC BRAWNSYN PLUS (PAO) SERIES



## Elevate Your Automotive Lubricants with KÔACH PACIFIC SPECIALITY OILS

If your goal is to formulate top-tier automotive lubricants that align with the current trends for low viscosity and fuel-efficient oils, **KÔACH PACIFIC SPECIALITY OILS** offers the ideal solution.

To comply with increasingly stringent emission regulations, automotive original equipment manufacturers (OEMs) are demanding ever-lower lubricant viscosity grades. Both engine oils and transmission oils are undergoing significant viscosity reductions to enhance fuel economy.

To meet these demands, lighter base oils are being utilized. While these oils typically exhibit superior low-temperature fluidity, as defined by API viscosity classifications, they often suffer from higher volatility, leading to increased emissions and oil consumption.

As the industry transitions to lighter viscosity grades (e.g., 0W or 7W) with stricter volatility requirements, **PACIFIC BRAWNSYN PLUS (PAO) Series** offers a remarkable advantage. With its lower volatility and enhanced low-temperature viscosity, **PACIFIC BRAWNSYN PLUS (PAO) Series** enables formulators to optimize their base stock blends to achieve the desired performance.

**PACIFIC BRAWNSYN PLUS (PAO) Series** is available in three viscosity grades, each ideally suited for modern automotive lubricant applications.

## PRODUCT RANGE

PACIFIC BRAWNSYN PLUS 3000  
PACIFIC BRAWNSYN PLUS 3001  
PACIFIC BRAWNSYN PLUS 3002

## PACIFIC BRAWNSYN PLUS (PAO) SERIES

Technical Parameters	SG at 15.6 °C	KV at 40 °C	KV at 100 °C	VI	Flash Pt °C	Pour Pt °C	Volatility, %	CCS @ A/B
ASTM Standards	D4052	D445	D445	D2270	D92	D97 / 5950	D5800	D5293
BRAWNSYN PLUS 3000	0.856	16.17	3.78	126	235	-68	17.85	1100
BRAWNSYN PLUS 3001	0.861	18.25	4.95	132	239	-63	12.60	1350
BRAWNSYN PLUS 3002	0.868	31.85	6.95	150	258	-56	6.30	3780



# PACIFIC BRAWNSYN SERIES



## Enhancing Lubricant Performance in Extreme Conditions

Formulating lubricants that perform exceptionally well under extreme conditions can be challenging, yet it is an expectation many customers have today. To help you meet these high expectations, we offer PACIFIC BRAWNSYN base stocks. These base stocks are engineered to empower lubricants to deliver durability and optimal performance across diverse operating conditions.

AN base stocks feature excellent thermal and oxidative stability, which enhances lubricant life and deposit control. Additionally, their exceptional hydrolytic stability makes them an ideal choice for high-moisture environments.

Combining the stability of polyalphaolefin (PAO) with the solubility benefits of esters, PACIFIC BRAWNSYN Series base stocks enable formulators to extend the performance of both synthetic and mineral-oil-based lubricants. This versatility makes PACIFIC BRAWNSYN Series base stocks suitable for a wide range of automotive and industrial applications.

## PRODUCT RANGE

PACIFIC BRAWNSYN 500  
PACIFIC BRAWNSYN 1000

## PACIFIC BRAWNSYN SERIES

Technical Parameters	SG at 15.6 °C	KV at 40 °C	KV at 100 °C	VI	Flash Pt °C	Pour Pt °C	Water ppm	TAN mg KOH/g	Colour
ASTM Standards	D4052	D445	D445	D2270	D92	D97 / 5950	D1064	D974	D1500
BRAWNSYN 500	0.953	30.45	4.95	78	235	-40	< 50	< 0.05	< 1.5
BRAWNSYN 1000	0.931	114.45	13.20	110	270	-38	< 50	< 0.05	< 4.0



# PACIFIC BRAWNESTER SERIES



## **ESTERS: The Pinnacle of High-Performance Lubrication**

Esters are meticulously synthesized to create molecular structures that excel in high-performance lubrication. With exceptional stability and solvency, PACIFIC BRAWNESTER Series offer a valuable solution for formulations requiring dependable lubricant performance and extended life.

Our comprehensive PACIFIC BRAWNESTER Series includes adipate, neopolyol, phthalate, and trimellitate esters. These can be used in a variety of applications, including compressor oils, gear oils, transmission fluids, and engine oils. Their compatibility with polyalphaolefin (PAO) and other base stocks, also available from **KÔACH PACIFIC SPECIALITY OILS**, provides a versatile solution for your formulation challenges.

PACIFIC BRAWNESTER Series boast a wide operating temperature range and are renowned for their excellent thermal and oxidative stability and solvency—qualities that the lubricant market demands. With low volatility, superior lubricity, and cleanliness, they enhance durability and extend lubricant life in demanding applications. Additionally, many esters are biodegradable, making them an ideal choice for formulating lubricants for environmentally sensitive applications.

## **PRODUCT RANGE**

PACIFIC BRAWNESTER 1000  
PACIFIC BRAWNESTER 1001  
PACIFIC BRAWNESTER 1002  
PACIFIC BRAWNESTER 1003  
PACIFIC BRAWNESTER 1004  
PACIFIC BRAWNESTER 1005  
PACIFIC BRAWNESTER 1006  
PACIFIC BRAWNESTER 1007  
PACIFIC BRAWNESTER 1008

## PACIFIC BRAWNESTER SERIES

Technical Parameters	SG at 15.6 °C	KV at 40 °C	KV at 100 °C	VI	Flash Pt °C	Pour Pt °C	Water ppm	TAN mg KOH/g	Biodeg %
ASTM Standards	D4052	D445	D445	D2270	D92	D97 / 5950	D1064	D974	D1500
BRAWNESTER 1000	0.955	10.00	2.94	156	218	-68	< 500	< 0.05	< 1.5
BRAWNESTER 1001	0.949	12.60	3.60	143	209	-63	< 1000	< 0.05	< 4.0
BRAWNESTER 1002	0.947	14.70	3.80	151	242	-60	< 500	< 0.05	< 1.5
BRAWNESTER 1003	0.942	28.35	5.50	142	260	-60	< 350	< 0.05	< 4.0
BRAWNESTER 1004	0.973	19.95	4.75	142	270	-50	< 350	< 0.05	< 1.5
BRAWNESTER 1005	0.993	26.25	5.25	136	268	-63	< 500	< 0.05	< 4.0
BRAWNESTER 1006	0.993	39.85	5.67	65	235	-44	< 1000	< 0.05	< 1.5
BRAWNESTER 1007	0.983	88.20	8.75	55	278	-35	< 1000	< 0.05	< 4.0
BRAWNESTER 1008	0.997	130.20	12.95	85	287	-35	< 1000	< 0.05	< 1.5

## MONOESTERS

### ISOPROPYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR IPL 30	Isopropyl Laurate	3.6	124	-12	50 (APHA)	2
NESTOR IPO 60	Isopropyl Oleate	6.1	145	-12	3 (Gardner)	80

### BUTYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR BUS 60	Butyl Stearate	6.1	165	20	2 (Gardner)	1
NESTOR IBO 65	Isobutyl Oleate	6.32	165	-24	2 (Gardner)	80
NESTOR BUO 65	Butyl Oleate	6.75	165	-20	1 (Gardner)	80
NESTOR IBS 70	Isobutyl Stearate	7.25	190	-24	100 (APHA)	1
NESTOR DBA 70	Di-Butyl Adipate	7.25	142	-32	1 (Gardner)	1

### ISOTRIDECYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR ITL 10	Iso-Tridecyl Laurate	10.3	> 250	-45	60 (APHA)	1
NESTOR ITS 20	Iso-Tridecyl Stearate	17.2	> 250	-6	80 (APHA)	2

### PEG ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR PEG 50	PEG-400 Dioleate	47.3	325	-6	4 (Gardner)	55

### SORBITAN ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR SMO 1000	Sorbitan Monooleate	1000	295	-6	8 (Gardner)	75

### 2-ETHYLHEXYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR ELE 50	2-Ethylhexyl Laurate	5.20	180	-36	20 (APHA)	1
NESTOR ELO 85A	2-Ethylhexyl Oleate	8.70	250	-24	0.5 (ASTM)	60
NESTOR ELO 85B	2-Ethylhexyl Oleate	8.70	250	-24	0.5 (ASTM)	60
NESTOR FAE 85	Fatty Acid C16-18 & C18 unstd 2-Ethylhexyl ester	8.70	220	-12	1 (Gardner)	38
NESTOR FAE 90	Fatty Acid C16-18 & C18 unstd 2-Ethylhexyl ester	9.27	200	-10	4 (Gardner)	30
NESTOR EES 95	2-Ethylhexyl Stearate	93.40	230	3	30 (APHA)	1
NESTOR EEP 95	2-Ethylhexyl Palmitate	93.40	220	-6	20 (APHA)	1
NESTOR TET 85	Tris (2-Ethylhexyl) Trimellitate	88.20	270	-55	50 (APHA)	0.5
NESTOR DEA 100	Di (2-Ethylhexyl) Azelate	10.73	260	-65	50 (APHA)	0.5
NESTOR EED 95	2-Ethylhexyl Dimerate	95.8	270	-40	8 (Gardner)	60

## DI-ESTERS

### NEOPENTYLGLYCOL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gI <sub>2</sub> /100g)
NESTOR NGO 25	Neopentylglycole Oleate	26.3	280	-27	4 (Gardner)	85
NESTOR TNO 30	TMP & Neopentylglycole Oleate	34.7	295	-27	4 (Gardner)	80

### ADIPATES

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gI <sub>2</sub> /100g)
NESTOR IDA 15	Iso-Decyl Adipate	16.7	225	-60	20 (APHA)	0
NESTOR ITA 30	Iso-Tridecyl Adipate	28.32	240	-50	50 (APHA)	0
NESTOR DEA 45	Di (2-Ethylhexyl) Adipate	8.47	220	-65	20 (APHA)	0
NESTOR DIBASIC 60 SX	Dibasic esters	5.25	140	N/A	1 (Gardner)	0
NESTOR DIBASIC 60	Dibasic esters	5.25	135	N/A	1 (Gardner)	0

### PHTHALATES

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gI <sub>2</sub> /100g)
NESTOR DDP 40	Di (Iso-Decyl) Phthalate	41.4	240	-51	20 (APHA)	0
NESTOR DTP 85	Di (Iso-Tridecyl) Phthalate	86.3	260	-45	50 (APHA)	0

### SEBACATES

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gI <sub>2</sub> /100g)
NESTOR DES 15	Di (2-Ethylhexyl) Sebacate	13.7	230	-65	70 (APHA)	0

## POLY-ESTERS

### GLYCEROL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gI <sub>2</sub> /100g)
NESTOR CCT 20	Caprylic/Capric Tryglicerides	16.8	250	-18	20 (APHA)	0.3
NESTOR GLY 40	Glycerides, C16-18 C18 uns	38.2	290	-6	4 (Gardner)	90
NESTOR GLM 75	Glyceril Monooleate	76.7	190	-18	4 (Gardner)	70
NESTOR GLY 80	Glycerides C16-18 C18 uns	82.5	250	3	6 (Gardner)	100

### TRIMELLITATES

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gI <sub>2</sub> /100g)
NESTOR TGS 90	Tris (2-Ethylhexyl) Trimellitate	87.4	270	-54	50 (APHA)	0.5
NESTOR TGS 60	Tris (C8-10) Trimellitate	57.2	220	-48	80 (APHA)	0
NESTOR TGS 150	Tris (Iso-Decyl) Trimellitate	145	295	-32	80 (APHA)	0
NESTOR TGS 300	Tris (Iso-Tridecyl) Trimellitate	308	260	-15	70 (APHA)	0



## POLY-ESTERS

### TMP

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR TMP 20	TMP C8-10	22.4	280	-51	150 (APHA)	0.5
NESTOR TMP 25	TMP C9	23.7	265	-51	100 (APHA)	1
NESTOR TMP 35	TMP Cocoate	32.3	320	-9	5 (Gardner)	10
NESTOR TMP 220	TMP Cocoate	224	320	-9	5 (Gardner)	10
NESTOR TMP 320	TMP Cocoate	337	320	-9	5 (Gardner)	10
NESTOR TMP 460	TMP Cocoate	471	320	-9	5 (Gardner)	10
NESTOR TMP 1000	TMP Cocoate	930	320	-9	5 (Gardner)	10

### TMP OLEATE

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR TMO 46A	TMP Oleate	47.2	320	-15	0.7 (ASTM)	78
NESTOR TMO 46B	TMP Oleate	47.2	320	-45	1 (ASTM)	90
NESTOR TMO 46C	TMP Oleate	47.2	320	-42	0.8 (ASTM)	78
NESTOR TMO 46D	TMP Oleate	47.2	320	-45	4 (Gardner)	78
NESTOR TMC 68A	TMP Complex esters	69.7	320	-27	8 (Gardner)	78
NESTOR TMC 68B	TMP Complex esters	69.7	320	-45	8 (Gardner)	78
NESTOR TMC 100	TMP Complex esters	104	320	-45	8 (Gardner)	78
NESTOR TMC 150	TMP Complex esters	157	320	-45	8 (Gardner)	78
NESTOR TMC 220	TMP Complex esters	228	320	-45	8 (Gardner)	78
NESTOR TMC 320	TMP Complex esters	334	320	-45	8 (Gardner)	78
NESTOR TMC 460	TMP Complex esters	497	320	-36	8 (Gardner)	78
NESTOR TMC 680	TMP Complex esters	693	320	-45	8 (Gardner)	78
NESTOR TMC 1500	TMP Complex esters	1528	320	-45	8 (Gardner)	78

### PENTAERYTHRITYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR PEO 60	PE Oleate	63.7	300	-24	1 (ASTM)	85
NESTOR PEC 110	PE Complex ester	114	310	-24	3 (ASTM)	85
NESTOR PIS 150	PE Isostearate	156	280	-24	80 (APHA)	0.5
NESTOR PEC 350	PE Complex ester	358	300	-9	3 (ASTM)	85
NESTOR PEC 450	PE Complex ester	462	300	-9	3 (ASTM)	85

## SPECIAL ESTERS

### PELARGONIC ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR NGP 85	Neopentylglycole Pelargonate	86.7	220	-39	5 (Gardner)	1
NESTOR EEP 110	2-Ethylhexyl Pelargonate	11.2	220	-63	5 (Gardner)	1
NESTOR PEL 170	C5-9 Pelargonate	18.4	220	-65	5 (Gardner)	1
NESTOR TMP 200	TMP Pelargonate	21.8	250	-51	5 (Gardner)	1
NESTOR TMC 40	TMP Complex esters	42.5	280	-24	5 (Gardner)	1
NESTOR TMC 350	TMP Complex esters	356	240	-54	5 (Gardner)	1

## SATURATED ESTERS

### ISOTRIDECYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR SE-ITL 10	Iso-Tridecyl Laurate	10.3	> 250	-45	60 (APHA)	1
NESTOR SE-ITS 20	Iso-Tridecyl Stearate	17.2	> 250	-6	80 (APHA)	2

### ETHYLHEXYL ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR SE-EEL 5	2-Ethylhexyl Laurate	5.3	180	-33	20 (APHA)	1
NESTOR SE-EEC 6	2-Ethylhexyl Coccoate	6.45	180	-24	100 (APHA)	10
NESTOR SE-EEP 10	2-Ethylhexyl Palmitate	9.58	220	-6	20 (APHA)	1
NESTOR SE-DEA 10	Di (2-Ethylhexyl) Azelate	10.73	250	-54	50 (APHA)	0.5
NESTOR SE-TET 85	Tris (2-Ethylhexyl) Trimellitate	85.67	270	-54	50 (APHA)	0.5

### TMP

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (gl/100g)
NESTOR SE-TMC 20	TMPC8-10	22.4	280	-51	150 (APHA)	0.5
NESTOR SE-TMC 25	TMPC9	23.7	265	-51	100 (APHA)	1
NESTOR SE-TMC 35	TMP Coccoate	32.3	320	-9	100 (APHA)	10
NESTOR SE-TMC 220	TMP Coccoate	224	320	-9	100 (APHA)	10
NESTOR SE-TMC 320	TMP Coccoate	337	320	-9	100 (APHA)	10
NESTOR SE-TMC 460	TMP Coccoate	471	320	-9	100 (APHA)	10
NESTOR SE-TMC 1000	TMP Coccoate	930	320	-9	100 (APHA)	10

## COMPLEX ESTERS

Technical Parameters	Chemical Description	KV at 40 °C	Flash Pt °C	Pour Pt °C	Colour	Iodine Value (glz/100g)
NESTOR COM 46	Complex Ester	47.2	270	-36	150 (APHA)	1
NESTOR COM 68	Complex Ester	69.4	270	-27	100 (APHA)	1
NESTOR COM 100	Complex Ester	104	270	-24	5 (Gardner)	1
NESTOR COM 460	Complex Ester	457	270	-24	5 (Gardner)	1
NESTOR COM 2000	Complex Ester	2080	270	-24	5 (Gardner)	1
NESTOR COM 12000	Complex Ester	11795	270	-24	5 (Gardner)	1
NESTOR COM 48000	Complex Ester	48450	270	-24	5 (Gardner)	1

## Why PAO and Ester base oils are superior than conventional mineral oils?

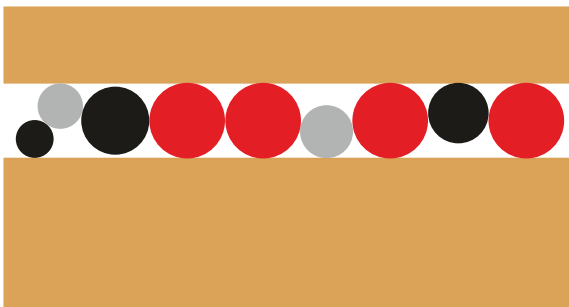
While groups I-IV make up the majority of base oils, group V is more of a “catch-all” for all other types of base oils. Properties such as Silicone, Polyester, PAG (polyalkylene glycols), Ester & biolubes are commonly found within Group V. These Group V base oils are typically mixed with other oils to achieve a desired end result, but are not among the most desired as a standalone option.

Each one of these base oil groups have different qualities, and are intended for use in various applications. And just because a Group IV PAO is a superior quality oil compared to a group II, doesn't mean it will always be the better option in certain applications. Each application is unique and it is important to always follow the manufacturer's recommendation on which type of oil to use and when. However, it is always beneficial to understand the different groups of base oils when choosing the best oil for you.

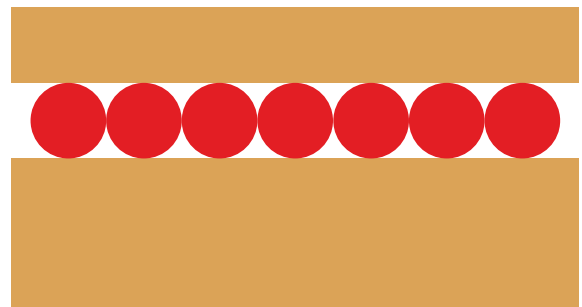
API BASE OIL CATEGORIES				
	Base Oil Category	Sulfur (%)	Saturates (%)	Viscosity Index
Mineral	Group I (solvent refined)	>0.03	and/or <90	80 to 120
	Group II (hydrotreated)	<0.03	and >90	80 to 120
	Group III (hydrocracked)	<0.03	and >90	>120
Synthetic	Group IV	PAO Synthetic Lubricants		
	Group V	All other base oils not included in Groups I, II, III or IV		

PAO & Ester base oils have greater molecular uniformity and stability compared to conventional mineral base oils. They reduce oils burn-off in the presence of the extreme heat and oxidation which results in:

- 🛡️ Reduced oil consumption
- 🛡️ Improved wear protection



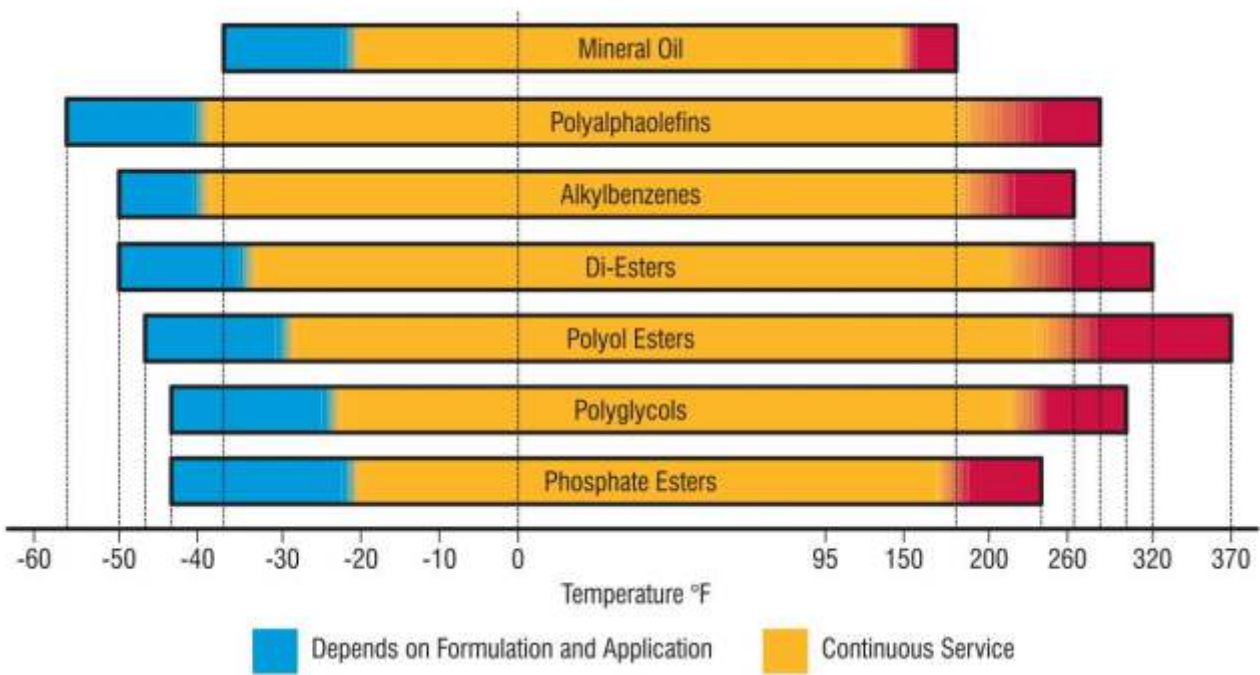
**Conventional Mineral oil molecule**



**PAO & Ester base oil molecule**



## Why PAO and Ester base oils are superior than conventional mineral oils?



Temperature comparison between PAO & Ester base oil and mineral oil



## **KÔACH PACIFIC SPECIALITY OILS PVT. LTD.**

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