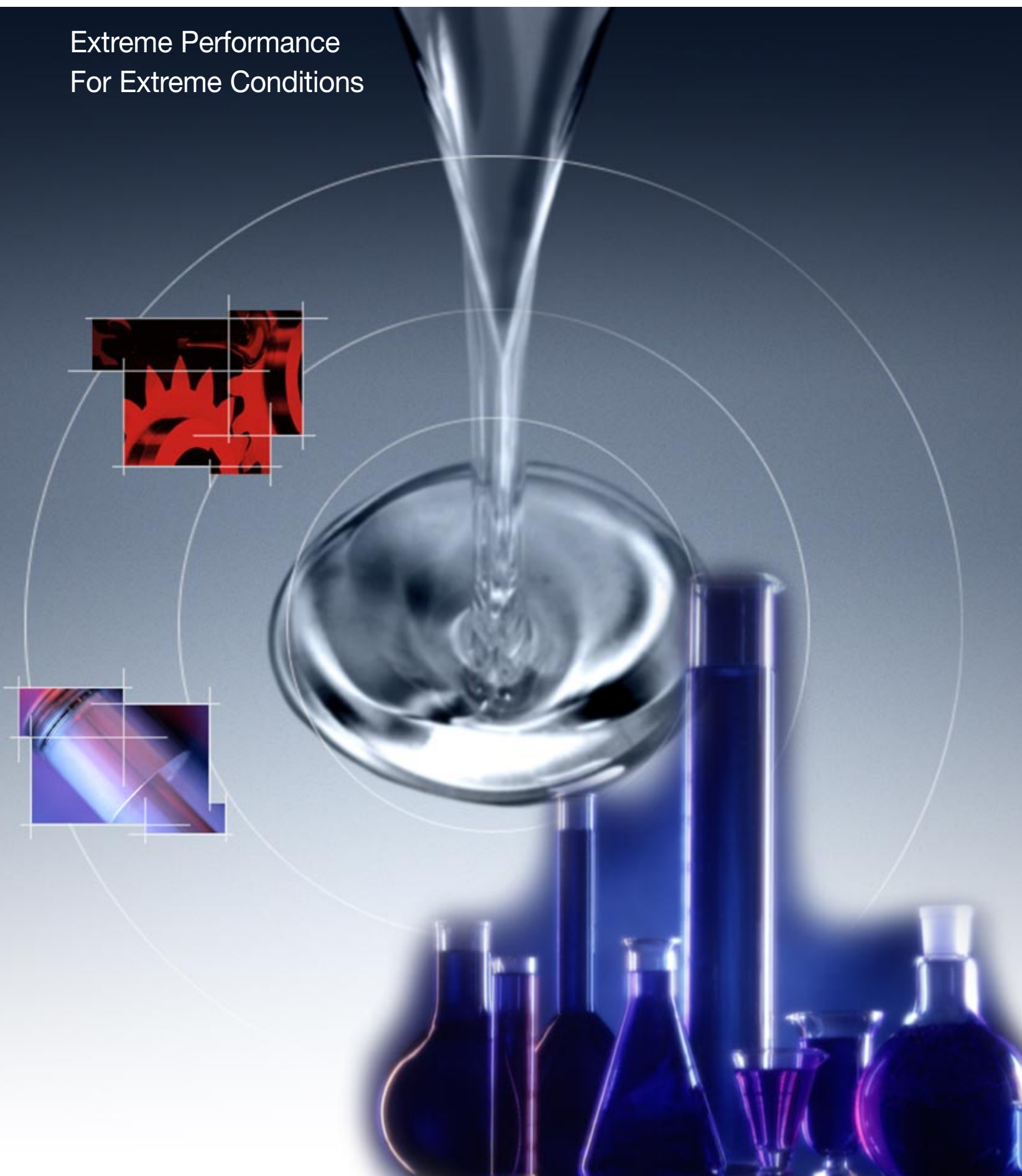


Synthetic Lubricant Basestocks

Extreme Performance
For Extreme Conditions



Your Source For Synthetic Solutions

Formulators have an extensive range of quality synthetic lubricant basestocks available from one, reliable source – the Synthetics business of ExxonMobil Chemical. We're the world's leading producer of polyalphaolefins (PAO), alkylated naphthalenes (AN) blendstocks and esters. Our product lines complement one another, giving lubricant manufacturers one convenient source for all their synthetic basestock needs.

Reliable, High Quality, Global Supply

We have multiple manufacturing locations in the United States and Europe, along with sales offices strategically located worldwide to ensure product availability for formulators. ExxonMobil Chemical's synthetic lubricant basestocks are manufactured at facilities that are ISO 9002 certified. Our manufacturing processes provide excellent product consistency and ensure product quality as well as ready availability.

Our technical, sales, marketing and distribution networks enable us to provide outstanding customer service plus the logistical support and prompt delivery required by customers operating throughout the world.

A Strong Commitment to Technology

Our Synthetics business includes technical experts devoted to understanding and researching synthetic lubricant basestocks and their applications. We can help you select the most cost-effective basestock for your end-use from our diverse product range. With our extensive experience, we can also develop and manufacture products for specialty applications.

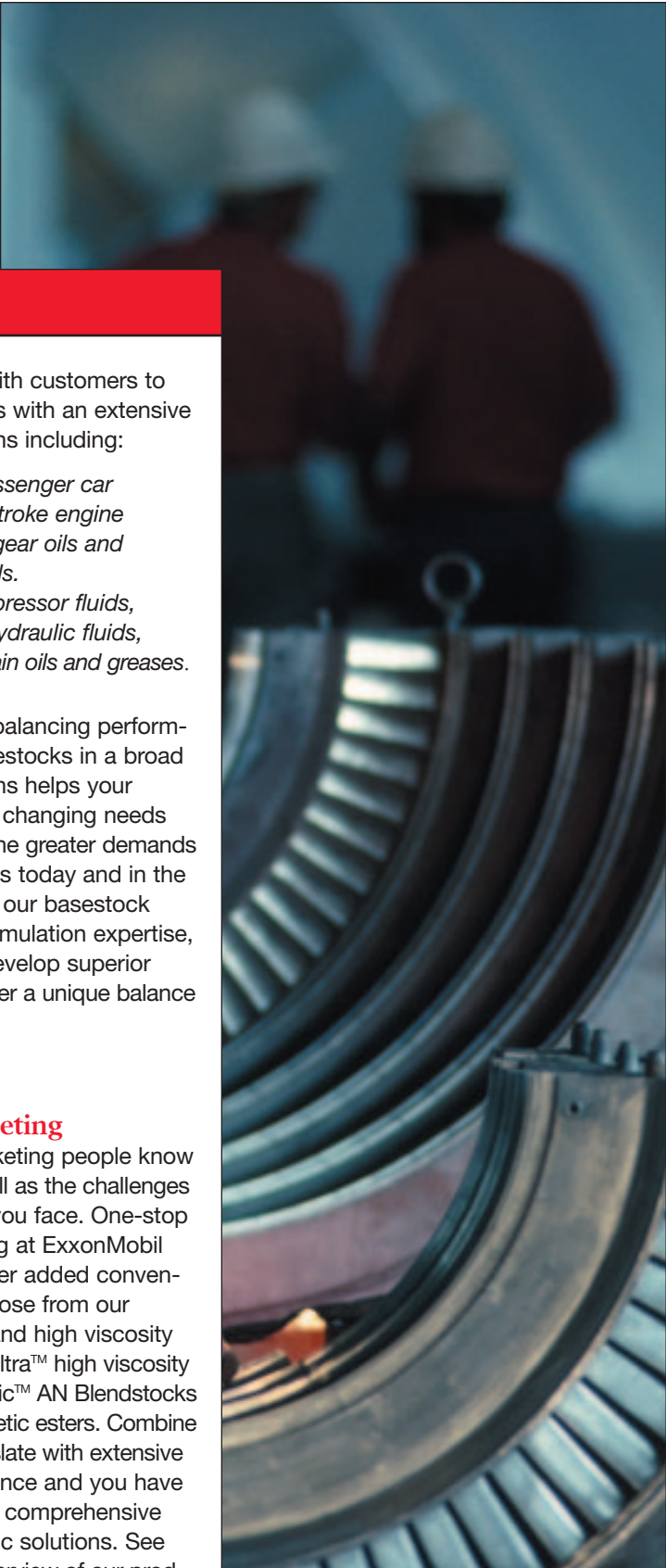
We have worked with customers to formulate lubricants with an extensive range of applications including:

- *Automotive – Passenger car motor oils, two-stroke engine oils, automotive gear oils and transmission fluids.*
- *Industrial – Compressor fluids, circulating oils, hydraulic fluids, gear oils, ovenchain oils and greases.*

Our experience in balancing performance needs of basestocks in a broad range of applications helps your company meet the changing needs of the market and the greater demands placed on lubricants today and in the future. By coupling our basestock experience with formulation expertise, we can help you develop superior lubricants that deliver a unique balance of properties.

Knowledgeable Sales and Marketing

Our sales and marketing people know your industry as well as the challenges and opportunities you face. One-stop synthetics shopping at ExxonMobil Chemical can deliver added convenience. You can choose from our SpectraSyn™ low and high viscosity PAO, SpectraSyn Ultra™ high viscosity index PAO, Synesstic™ AN Blendstocks and Esterex™ synthetic esters. Combine our broad product slate with extensive formulation experience and you have the industry's most comprehensive portfolio of synthetic solutions. See the tables for an overview of our product range, and consult your ExxonMobil Chemical Synthetics sales representative about your particular needs. You can also visit our Web site for product information and specifications on our entire line at: www.exxonmobilsynthetics.com.



Extreme conditions demand more from lubes. Our researchers continue to develop synthetic solutions to help formulators meet these challenges.

Polyalphaolefins (PAO)

Meet your performance requirements with our broad slate of SpectraSyn™ PAO and SpectraSyn Ultra™ High VI PAO products. Find the PAO basestocks you need in one convenient source – from low viscosity to high viscosity and High VI. Our synthetic PAO basestocks provide outstanding lubrication for such applications as passenger car engine oils, driveline lubricants, industrial machinery and heavy-duty truck engines.

Formulators can boost the performance of their lubricants with our SpectraSyn™ PAO basestocks.



	SG@ 15.6/ 15.6°C	KV @ 100°C cSt	KV @ 40°C cSt	KV @ -40°C cSt	VI	Pour Pt. °C	CCS @ A/B, cp	Noack Volatility	Flash Pt. °C, Open Cup
SpectraSyn™ 2	0.798	1.7	5	262	–	-66	–	–	157
SpectraSyn™ 2B	0.799	1.8	5	–	–	-54	–	–	149
SpectraSyn™ 4	0.820	4.1	19	2,900	126	-66	1,424 A	14	220
SpectraSyn™ 5	0.824	5.1	25	4,920	138	-57	2,420 A	6.8	240
SpectraSyn™ 6	0.827	5.8	31	7,800	138	-57	4,000 A	6.4	246
SpectraSyn™ 6LN	0.828	6.4	34	–	143	-39	3,841 A	4.2	260
SpectraSyn™ 8	0.833	8.0	48	19,000	139	-48	4,800 B	3.3	260
SpectraSyn™ 10	0.835	10.0	66	39,000	137	-48	8,840 B	3.2	266
SpectraSyn™ 40	0.850	39.0	396	–	147	-36	–	–	281
SpectraSyn™ 100	0.853	100	1,240	–	170	-30	–	–	283
SpectraSyn Ultra™ 150	0.850	150	1,500	–	218	-33	–	–	≥265
SpectraSyn Ultra™ 300	0.852	300	3,100	–	241	-27	–	–	≥265
SpectraSyn Ultra™ 1000	0.855	1,000	10,000	–	307	-18	–	–	≥265

A = -35°C B = -30°C

Esters

ExxonMobil Chemical manufactures a broad range of organic esters for use in lubricant applications. Ranging from dibasic to complex polyol, these materials feature performance properties such as:

- Good thermal and oxidative stability
- Low volatility
- Detergency and dispersancy
- Improved lubricity
- Biodegradability

Esterex™ esters can be used as sole basestocks, or in combination with other base fluids, to enable the lubricant to provide cost efficiencies such as improved equipment reliability, extended oil life and reduced energy consumption.

	SG @ 15.6/15.6°C	KV @ 100°C cSt	KV @ 40°C cSt	VI	Pour Pt. °C	Flash Pt. °C	Color ASTM	Water, ppm	TAN, mg KOH/g
Esterex™ A32	0.928*	2.7	9	149	-63	207	<0.5	<500	<0.08
Esterex™ A34	0.922*	3.2	12	137	-60	199	<0.5	<1000	<0.08
Esterex™ A41	0.921	3.5	14	134	-63	231	<0.5	<500	0.02
Esterex™ A51	0.915	5.3	27	133	-57	240	<0.5	<350	0.02
Esterex™ P35	0.994*	3.5	18	47	-45	–	<0.5	<1000	<0.07
Esterex™ P61	0.967*	5.4	38	62	-42	224	<0.5	<1000	<0.07
Esterex™ P81	0.955*	8.5	86	55	-33	229	<0.5	<1000	<0.14
Esterex™ TM101	0.990*	10.0	92	86	-36	221	<0.5	<1000	<0.16
Esterex™ TM111	0.978*	11.9	129	76	-33	241	<0.5	<1000	<0.16
Esterex™ TM141	0.969	14.3	170	77	-39	262	0.5	<500	0.03
Esterex™ DB121	0.914	13.4	95	142	-42	300	<2.0	<500	0.25
Esterex™ NP343	0.945	4.3	19	136	-48	257	0.5	<350	0.02
Esterex™ NP372	0.940	7.0	50	96	-39	235	<0.5	<500	0.04
Esterex™ NP396	0.918	9.4	47	187	-48	281	1.0	<500	0.12
Esterex™ NP451	0.993	5.0	25	130	-60	255	<0.5	<500	0.01
Esterex™ NP471	0.967	6.7	38	132	-51	276	<0.5	<500	0.03
Esterex™ NP4101	0.929	11.5	59	193	-27	326	<1.0	<500	0.33
Esterex™ C4261	0.980	27.3	275	131	-36	267	1.0	<300	1.0
Esterex™ C4461	1.020	42.4	437	149	-33	265	<2.0	–	1.4

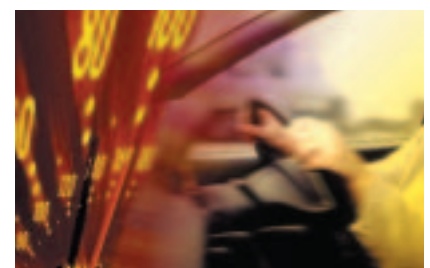
*@ 20/20°C

A = Adipate P = Phthalate TM = Trimellitate DB = Other Dibasic NP = Neopolyol C = Complex

Potential Applications



Auto Engine Oil	Drive-line	2-Cycle	Industrial Gear	Hydraulic	Air Compressor	Oven-chain	Grease	Bio-degradable
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Alkylated Naphthalenes

Synesstic™ Alkylated Naphthalenes (AN) Blendstocks provide formulators with proven API category Group V base fluids to use in extending the performance of many automotive and industrial lubricants.

Available in high and low viscosity grades, Synesstic™ AN Blendstocks have step-out hydrolytic and thermo-oxidative stability to help formulators improve the performance of mineral oil and PAO-based lubricants. Excellent additive solubility and outstanding compatibility with seal materials also contribute to making Synesstic™ the right blendstock for lubricants in a variety of applications.

Performance Benefits

- Step-out hydrolytic stability
- Outstanding thermal and oxidative stability
- Excellent additive solubility
- Compatible with a wide range of elastomers
- Non-emulsive properties



	SG @ 15.6/ 15.6°C	KV @ 100°C cSt	KV @ 40°C cSt	VI	Pour Pt. °C	Flash Pt. °C, Open Cup	Color ASTM	Water, ppm	TAN, mg KOH/g
Synesstic™ 5	0.908	4.7	29	74	-39	222	<1.5	<50	<0.05
Synesstic™ 12	0.887	12.4	109	105	-36	258	<4.0	<50	<0.05



**Synesstic™ AN Blendstocks –
Blendstocks for Extreme Conditions**

Stability Profile		
	Synesstic™ 5	Synesstic™ 12
Hydrolytic Stability, TAN Increase	0.02	0.02
Thermal Stability, % KV Change	0.4	1.1
Oxidative Stability, DCP-IP (min)	60+	60+



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