

Lubrication Technologies, Inc.

Synthetic Lubricant Cross Reference Chart Series

API Group V Lubricant Base Stocks



Philadelphia, PA

Base Stock	2	3	4	5	6	8	10	11	12	14	19	22	24	40	100	150
MONO ESTERS																
Lexolube	IPP, IPO, NBS (all 3 are 2 cSt)															
Lexolube	T-110, HS-S (3) (3)		B-109 (4)													
Lexolube	EHP (3)															
DIESTERS																
Lexolube	2X-108 (3)		2X-109 (5)													
POLYOL ESTERS																
Lexolube	21-214 (2)	31-310 (3)	3N-310, 3Q-310 (4) (4)	4N-415, 4T-415 (6) (6)	3G-310, 4VQ415, 5NQ-517 (10) (10) (10)	6NQ-617 (20)										
Lexolube					PQ-68 (9)	POE-68HT (10)	POE-100HT (12)	POE-220HT (19)	POE-350HT (24)							
COMPLEX ESTERS																
Lexolube					CPE-70 (11)			GP-220 (30)			CP-460LC (46)	CPE-1000 (95)				
Lexolube													Z-100 (90)	Z-6000 (120)		
PYROMELLITATES																
Lexolube										4PM-114 (15)						

Base Stock	Nominal Viscosity at 100C, cSt															
	2	3	4	5	6	8	10	11	12	14	19	22	24	40	100	150
FOOD GRADE HX-1 ESTERS																
Lexolube								FG-68 HX1 (10)		FG-100 HX1 (12)		FG-220 HX1 (19)		FG-350 HX1 (24)		
Lexolube				GT-855IG (4)			FG-22HX1 (5)	FG-46HX1 (7)								

Click on the Inolex logo above which will take you to their web site for complete specifications of all their lube basestocks.



Edison, NJ

Base Stock	Nominal Viscosity at 100C, cSt (actual viscosity in parenthesis below the product name/number designation)													
	2	3	4	5	6	8	10	12	14	40	100	150	300	1,000
Ester														
Esterex		A32, A34, A41 (2.8), (3.2), (3.6)		A51 (5.4)						TM111 (11.9)				
				P55, P61 (8), (5.4)		P81 (8.3)								
			NP343 (4.3)	NP451 (5.0)										
Alkylated Naphthalenes														
Synestic				5 (4.7)						12 (12.4)				

Click on the ExxonMobil logo above which will take you to their web site for complete specifications of all their lube basestocks.



Louisiana, Missouri

Base Stock	Nominal Viscosity at 100C, cSt								
	2	3	4	5	6	8	10	12	20
POE									
CalEster			S2, A, T, 600 (4.1), (4.3), (4.4), (4.6)		DB2, J, L (5.0), (5.0), (5.6)		F, K, M (8.8), (8.8) (11.2)	202 (12.0)	H (19.0)
Food Grade HX-1									
CalEster			T (4.4)						

Lubrication Technologies, Inc.
Houston, TX 77082
www.lubritecinc.com



South Charleston, WV, Freeport, TX. Terneuzen, Netherlands

<i>Base Stock</i>	10	15	22	32	<i>Nominal Viscosity at 40C, cSt</i>										
					46	68	100	150	220	320	460	680	1000	2000	17000

PAG (Water Insoluble)															
UCON LB-	65			165	250	285	385, 525, 625		1145	1715					

SYMBIO					Base Fluid										
--------	--	--	--	--	------------	--	--	--	--	--	--	--	--	--	--

PAG (Water Soluble)															
UCON 50-	HB-55	HB-100		HB-170	HB-260	HB-400	HB-660				HB-2000	HB-3520	HB-5100		
UCON 75-						H-450				H-1400				H-9500	H-90000
UCON 60-						H-340	H-760	H-1100	H-1600	H-2300			H-5300		

<i>Base Stock</i>	2	4	5	6	<i>Nominal Viscosity at 100C, cSt</i>										
					7	8	10	12	40	60	80	100	150		
SYNALOX									40-D150	40-D220	40-D300		40-D700		

<i>Base Stock</i>			32	46	<i>Nominal Viscosity at 40C, cSt</i>										
					68	100	150	220	320	460					
SYNALOX					40-D50		40-D100								

UCON HD				46-FG	68-FG	100-FG									
---------	--	--	--	-------	-------	--------	--	--	--	--	--	--	--	--	--

UCON					Lubricant 100										
------	--	--	--	--	---------------	--	--	--	--	--	--	--	--	--	--

<i>Base Stock</i>		22	32	46	<i>Nominal Viscosity at 40C, cSt</i>										
					68	100	150	220	320	460	680				
PAG (Oil Soluble)															
UCON OSP		18	32	46	68		150	220	320	460	680				

INEOS Oligomers

<i>Base Stock</i>	4	10	12	15	<i>Nominal Viscosity at 100C, cSt</i>									
					30	50	75	100	200	600	000	4000	12,000	

Polybutene (PIB)														
INDOPOL [®]	L-14	L-50	H-7	H-8	H-15	H-25	H-35	H-50	H-100	H-300	H-1500	H-1900	H-6000	H-18000





Washington, NJ; Cincinnati, OH; Düsseldorf, Germany; Ludwigshafen, Germany

<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
		55	100	170	260	660	2000	3520	5100				
PAG (Water Soluble)													
PLURASAFE WS					260	660				5100			
Typical					(258)	(655)				(5142)			
<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
			100	150	250	300	400	600					
PAG (Water Insoluble)													
PLURASAFE WI			135	165	250	285	385	625					
Typical			(130)	(174)	(250)	(291)	(385)	(617)					
<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
		55	100	170	260	660	700						
PAG (Water Insoluble)													
PLURASAFE WI D						600	700						
						(615)	(730)						
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>									
		10	15	22	32	46	68	100	150	220	320	460	1000
Breox					B35		B75	B125		B225	B335		IL1007
					(33)		(76)	(122)		(224)	(330)		(641)
<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
		55	100	170	260	500	700			1000			
PAG (Water Soluble)													
PLURASAFE WS D											1147		
Typical											(1100)		
<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
		55	100	170	260	500	700						
PAG (Water Soluble)													
PLURASAFE WS B					330	600							
Typical					(250)	(420)							
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>									
		10	15	22	32	46	68	100	150	220	320	460	1000
Breox				50A20		50A50			50A140	75W270	45A380		50A1000, 60W1000, 43A1000
				(19)		(52)			(133)	(272)	(380)		(1000) (1000) (1050)
<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
									40000	80000			
PAG													
PLURACOL V										1075	10		
Typical										(46000)	(80000)		

<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
High Viscosity PAG	320		460	1000	2000	4000	10000	20000		50000				
Breox					75W2050 (2025)			75W18000 (18000)		75W55000				
Breox				TB195 (850)	TB120, TB150 (2600) (2850)		TB110 (11460)		TB170 (3800)					
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
Complex/Polyol Esters	10	15	22	32	46	68	100	150	220	320		460	1000	2000
Synative ES	2917 (8.4)	875 (13.6)		2918 (32)			932T (91)	2905 (150)				2908, 2902 (430) (500)	1200 (1150)	2873 (2030)
Synative ES	2344 (10)	2920 (17)	2925 (19.8)	2929 (26.5)			3345 (112)					3237 (445)		
Synative ES			2934, 2939, 2931 (21.2) (25.4) (25.6)	2964 (47.5)				2962 (143)						
Synative ES			TMTC (19)	GTO (38)	3157 (46)									
Synative ES TMP				05, 05H (46) (46)	05/68 (71)		05/140 (138)		05/320 (326)				05/1000 (1000)	
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
Methyl Esters	2	4	6	8	10	15	22	32	46	68	100	150	220	320
Synative ES	8309 (2.3)	METI05, 2301 (4) (4.5)	932M (6.1)											
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
Mono Esters	2	4	6	8			10	15	22	32	46	68	100	150
Synative ES		2911 (5)	EHK (6)	9846, EHO, EHOV, EHTI, EHPA (8) (8) (8) (8) (9)				ITS (16)						
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
Diesters	2	4	6	8	10				15	22	32	46	68	100
Synative ES				DEHA (8)	2976, 2958, DNA, DPHA, DEHS, 2970 (9) (10.3) (11) (11.5) (12) (13.7)			2960 (17.5)	DITA, 2971 (26) (26.7)			2900 (83)		



NYCO
AMERICA

Tournai, Belgium

<i>Base Stock</i>	<i>Nominal Viscosity at 100C, cSt</i>																		
	2	3	4	5	6	7	8	9	10	20	30	40	100	400					
MONOESTERS																			
Nycobase	7100, 8110 (1.3), (1.3)																		
DI-ESTERS																			
Nycobase	ADE (2.3)	SEH (3.2)	ADD (3.6)	ADT (5.3)					3608 (13.6)										
NEOPOLYOL ESTERS																			
Nycobase	8210 (2.5)	7300 (3.4)	5400 (3.7)	8317 (4.0)	8103 (4.4)	7400 (4.7)	8311 (4.9)	5750 (5.1)	8418 (6.6)	8318S (7.6)	3118 (9.4)	1040X (10.0)	1060X (20.0)	9600X (25.0)					
			7450 (4.4)	8410 (5.8)			20441 (8.7)			STM (14.3)									
COMPLEX ESTERS																			
Nycobase					8306 (5.7)	2036S (6.0)			8345 (8.0)	8145 (8.5)	8812, 20237 (12) (12)	3645 (17)	8355 (20)	8828 (28)	8361 (22)	4045 (43)	8851 (50)	8896 (110)	6001 (500)
FOOD GRADE ESTERS																			
Nycobase			30401FG (4.4)	30502FG (4.9)							43203FG (33.2)	45004FG (50)				46115FG (580)			
SPECIAL ESTERS																			
Nycobase										619, 618 (18) (19.4)					LPG4000 (450)				



Houston, TX; Chicago, IL; Santa Fe Springs, CA

<i>Base Stock</i>	<i>Nominal Viscosity at 100C, cSt</i>															
	1	2	3	4	5	6	7	8	10	12	14	18	20	40	50	100
Monoesters																
	2976 (1.1)															
	2311 (1.4)															
Diesters																
	2906 (2.7)		3110 (3.2)	2910 (3.6)	5203, 2901, 2923 (4.8), (5.4), (5.5)			2955 (6.9)	2922 (8.2)				2949 (13)			
Triesters										2920 (9.4)	2932 (13)	2930 (16)			2940 (20)	

Lubrication Technologies, Inc.
Houston, TX 77082
www.lubritecinc.com

POEs

	<i>Nominal Viscosity at 100C, cSt</i>									
	2	3			4	5				
HATCOL	2957, 1507, 2962, 3330 (2.1), (2..2), (2.5), (2.6)	2915, 3336, 3337 (3.0), (3.4), (3.6)			2925, 2938, 2377 (4.0), (4.4), (4.4)	2330, 3505, 3502, 2989, 2960, 2970, 2954, 2965, 3508 (4.7), (4.7), (4.9), (4.9), (4.9), (5.0), (5.0), (5.1), (5.3),				
	<i>Nominal Viscosity at 100C, cSt</i>									
	6	7				8	9	10		11
HATCOL	3306, 3506, 3178, 3304, 2352, 2990, 3329, 3146, 3169 (5.5), (5.5), (5.6), (5.6), (5.6), (6.2), (6.2), (6.2), (6.3)	3501, 3354 (6.9), (7.1)				3504 (8.3)	3320, 5068, 1106, 3373 (8.6), (8.7), (8.8), (9.4)		5127, 3391 (9.9), (10)	3503 (11)
	<i>Nominal Viscosity at 100C, cSt</i>									
	12	14	18	19	20	21	26	36		
HATCOL	2999 (12)	2372 (14)	5150 (18)	3507 (19)	3316 (20)	3349, 2300 (21), (21)	3365 (26)	3371 (36)		

CRODA

New Castle, DE; Leek, UK; Gouda, Netherlands

<i>Base Stock</i>	<i>Nominal Viscosity at 100C, cSt</i>										
	2	3	4	6	8	10	12	14	28	40	100
Diester											
Priolube	3959 (2.4)	1859 (2.6)	1858 (4.5)	1936 (5.3)	3972 (7.6)				1875 (14.0)		
Priolube	1856, 1857 (3.3), (3.4)				3985 (13.0)						
Priolube	3963 (3.2)		3960 (4.5)			3967 (13.0)					
Priolube	3958 (3.0)		3949 (4.5)			3905 (18.0)					
	3966 (3.3)		1935 (3.7)								
<i>Base Stock</i>	<i>Nominal Viscosity at 40C, cSt</i>										
	32	46	68	100	150	220	320	460	680	1000	1500
PAG, Water Insoluble											
Emkarox VG			96 (92)	126 (125)	146 (145)	180, 222 (180) (221)	380 (380)	462 (460)			
PAG, Water Soluble											
Emkarox VG					132W, 130W (131), (152)	330W (328)			681W (680)	1055W (1052)	
<i>Base Stock</i>	<i>Nominal Viscosity at 40C, cSt</i>										
	10000	20000	40000	100000	15000						
Emkarox HV	20 (19500)		45 (45000)	105 (105000)	165 (165000)						
	26 (26000)										

<i>Base Stock</i>					<i>Nominal Viscosity at 100C, cSt</i>								
	2	4	6	8	10	40	50	60	80	100			
Complex Ester													
Priolube		1857 (3.4)				2087, 2046 (35), (40)	1851 (49)			3986 (2000)			
						2088 (35)		1847 (90)	1929 (125)				
<i>Base Stock</i>					<i>Nominal Viscosity at 100C, cSt</i>								
	1	2	4	6	8	10	40	50	60	80	100		
Mono Ester													
Priolube		1451 (2.7)	1976 (5.4)										
Priolube		LL564, 1458 (2.5)	(2.9)										
<i>Base Stock</i>					<i>Nominal Viscosity at 40C, cSt</i>								
		32	46	68	100	150	220	320		460			
Tri Ester													
Priolube		1941 (52)	1942 (71)	1940 (91)	1943 (97)	1938 (143)		1939 (306)					
<i>Base Stock</i>					<i>Nominal Viscosity at 40C, cSt</i>								
	10	15	22	32	46	68	100	150	220	320			
Diester													
Priolube		1859, 1857, 1856, 1858, 3960 (9.0), (11.7), (12.5), (18), (19)				3985 (84)	1875 (95)	3905 (135)					
Priolube		3959, 3958, 1935 (7.7), (10.5), (14.5)	1936 (26.3)		3972 (41.5)		3967 (94)						
Priolube		396, 3966 (11.5), (12.2), (16)	3949										
<i>Base Stock</i>					<i>Nominal Viscosity at 40C, cSt</i>								
	10	15	22	32	46			68	100	150	220	320	
Polyol Ester													
Priolube			3970, (20),	1800, 3971, 1808 (28), (30), (35)		2089, 1973, 1427, 1960 (44), (46), (48)	(50)	1445 (67),	3999, 1968 (90), (100)	3987 (145)			
Priolube			1428 (22)	1446 (30)	1435 (41)			1963 (68)	1407 (84)	1964 (100)	1889 (170)	1962 (220)	1965 (320)
Priolube		1937 (19)				2065 (48)		1426 (65)	2044, 2500 (85)	2500 (90)			
<i>Base Stock</i>					<i>Nominal Viscosity at 40C, cSt</i>								
		32	46	68	100	150	220	320		460			
Self Emulsifiable Ester													
Priolube					2091 (110)			3953, 3952 (360), (380)	3955 (420)	3961 (474)			

<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
	10	15	22	32	46	68	100	150		220	320	460	1000	
PAG, Water Soluble Polyglykol					B11/30 (43-48)	B11/50 (74)	B11/70 (100)	B11/100 (140)		B11/150K (220)				
PAG, Water Soluble Polyglykol								D21/100 (145)		D21/150 (225)	D21/220 (325)	D21/300 (450)	D21/700 (1075)	
<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>										
		32	46	68	100	150	220	320	460	1000	2000	4500	19000	
PAG, Water Soluble Polyglykol P41/									300 (450)	12000M60 (1150)	12000M65 (2000)	12000M80 (4500)	3000 (5000)	12000 (19000)



Port Arthur, TX

<i>Base Stock</i>					<i>Nominal Viscosity at 100C, cSt</i>							
	2	3	4	5	6	8	10	12	14	28	40	100
Star	2 (2.56)											

Note: Star 2 is similar to Motiva's Group II base oils but does not meet all requirements for such.

Naphthenic Oils



Princeton, LA

<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>									
	40	60	100	150	200	300	500	600	1,000	1,200	2,500		
Hydrocal	38 (37.9)	60 (61.5)	100 (107)				500 (510)			1200 (1226)	2400 (2400)		
Hydrocal	3146 (36)	3147 (52.5)											low pour point
Hydrosol		60 (53.4)	100 (111)			300 (309)	500 (505)			1200 (1260)	2000 (2092)		produced by Houston Refining
HR Tufflo		60-T (53.4)	100 (111)			300 (309)	500 (505)			1200 (1260)	2000 (2092)		



Three Rivers, TX

Base Stock

			<i>Nominal Viscosity at 40C, cSt</i>									
5	10	22	32	46	68	100	150	220	460	680	1000	4,000
T4	T9	T22							T400			T 4000
(4.5)	(9.1)	(22)							(376)			(4445)

The above base oils are made at the Valero Three Rivers, TX refinery and presently marketed under agreement by Nynas.



Nynashamn, Sweden

Base Stock

			<i>Nominal Viscosity at 40C, cSt</i>									
5	10	22	32	46	68	100	150	220	460	680	1000	
BS 8.5	BS 14	S 25B				S 100B	SR130		SR400			
(8.5)	(14)	(25)				(102)	(137)		(450)			
NS 3	NS 8					NS 100	Base Stock 130					
(2.88)	(7.7)					(103)	(140)					
T3	T9	T22				T110		T400		BBT 28		
(3.6)	(9.1)	(22)				(114)		(376)		(700)		



Vicksburg, MS

Base Stock

			<i>Nominal Viscosity at 100F, SUS</i>									
60	100	150	200	300	500	600	1,000	1,200	2000	3,500	5,000	
Hyprene	60	100	L150	L200	L300	L500	L750		L1200	L2000		V175BS
	(59.5)	(112)	(157)	(209)	(310)	(533)	(772)		(1236)	(2093)		(5091)
Hyprene							MVI750	MVI1200	MVI2000	MVI150BS		
							(769)	(1247)	(2143)	(3528)		
Hygold	60	100	L150	L200	L300	L500	L750	L1200	L2000			V175BS
	(59.5)	(112)	(157)	(209)	(310)	(533)	(772)	(1236)	(2093)			(5091)
Hygold							MVI750	MVI1200	MVI2000	MVI150BS		
							(769)	(1247)	(2143)	(3528)		



Smackover, Ark

<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>								
	40	60	100	150	200	300	500	600	1,000	1,200	2000	2,500
L-series	40	60	100	150	200	300	500	750		1200	2000	2400
	(43)	(61.2)	(104.6)	(154.8)	(201.8)	(315)	(525)	(772)		(1281)	(2031)	(2421)
B-series		60	100	150	180, 200		550	750				
		(60.2)	(104.9)	(154)	(197) (218)		(550)	(780)				



Bakersfield, CA

<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>								
	40	60	100	150	200	300	500	1,000	2,000	4,000		
HYNAP	N40HT	N60HT	N100HTS			300	500		2000	4000		
	(40.8)	(60.2)	(109)			(304)	(500)		(1953)	(4140)		
<i>Base Stock</i>				<i>Nominal Viscosity at 100F, SUS</i>								
	40	60	100	150	200	300	500	1,200	2,000	4,000		
RAFFENE					200L		750L	1200L	2000L			
					(199)		(876)	(1445)	(2034)			



Petrobras, Fortaleza, Brazil

<i>Base Stock</i>				<i>Nominal Viscosity at 40C, cSt</i>					
		10	20	32	46	68	100	150	500
		NH 10	NH 20					NH 140	
		(10)	(20)					(140)	