



## CalEster™

### SYNTHETIC BASE STOCKS

Calumet Specialty Products Partners, L.P. offers a complete line of high purity synthetic polyol esters for use in high performance lubricant applications. With over 50 years of experience in manufacturing synthetic polyol esters, Calumet's lubricant grade esters are engineered to deliver the highest performance under the most demanding conditions.

In addition to the products shown below, Calumet's lubricant chemists are capable of developing custom esters or blends designed to optimize performance in your specific applications. Bring us your lubrication challenges and let us work with you.

CalEster polyol ester base stocks are produced exclusively by Calumet and engineered to deliver the highest performance under the most demanding conditions. The CalEster product line offers a complete line of high purity synthetic polyol esters for Aviation, Refrigeration, Industrial, and Automotive lubrication applications.

#### PRODUCT FEATURES

- Excellent High-Temperature Stability
- Excellent Low-Temperature Fluidity
- Extremely Low Volatility
- High Viscosity Index
- High Lubricity
- Excellent Additive Solubility
- Enhanced Cleanliness
- Readily Biodegradable
- All Calumet Synthetic Polyol Esters are Phthalate-Free

#### PRODUCT BENEFITS

- Extended operating temperature range
- Longer lubricant life with less waste disposal
- Reduced maintenance and downtime

#### INDUSTRY APPLICATIONS

- Aviation Lubricants
- Refrigeration Lubricants
- Industrial Lubricants
- Automotive Lubricants

# CalEster™ TYPICAL PROPERTIES

PROPERTIES	METHOD	N	T	TS	MW	A	J	F	600	LV	DB2	68S	22 Pro	32 Pro	68 Pro	100 Pro	170 Pro	220 Pro	HT68	HT125	HT175	HV
Viscosity @ 100°C (cSt)	ASTM D445	2.5	4.3	4.0	4.1	4.3	4.9	8.9	5.0	4.9	5.0	8.5	4.3	5.4	8.9	12.7	16.4	19.0	8.9	14.0	18.0	26.0
Viscosity @ 40°C (cSt)	ASTM D445	8.2	19.4	17.5	18.7	20.0	23.9	52.0	23.0	24	25	68	19	31	68	100	173	220	66	125	175	390
Viscosity @ -40°C (cSt)	ASTM D445	670	3,950	3,340	4,000	4,400	6,870	38,000	6,200		8,000	-	-	25,800	-	-	-	-	-	-	-	-
Viscosity Index	ASTM D2270	140	138	129	127	123	141	142	139	131		90	127	129	104	123	100	95	108	115	115	89
Pour Point (°C)	ASTM D97	-51	-57	-69	-66	-65	-74	-65	-80	-65	-65	-40	-60	-57	-38	-45	-28	-26	-38	-34	-29	-18
Flash Point (°C)	ASTM D92	210	259	252	250	243	258	280	262	255	255	255	225	270	260	270	275	290	266	293	285	290
Color, ASTM	ASTM D1500	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5
Total Acid Number (mg KOH/g)	ASTM D664	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Water Content (wt %)	ASTM D1533	0.03	0.01	0.01	0.02	0.02	0.02	0.02	0.03	40	0.03	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.02	0.02	0.02	0.02
Density @ 15.6°C (lb/gal)	ASTM D4052	7.68	7.89	7.94	8.31	8.35	8.26	8.89	8.25			8.00	8.30	8.28	8.12	8.27	8.15	8.20	8.02	8.10	8.13	8.05
Noack Volatility (mass %)	ASTM D5800	-	4	5	4	5	3	3	6			3	-	4	3	3	2	2	2	2	2	2
Food Grade	NSF		HX-1																			
Biodegradability	OECD 301 B	>60%	86%	>60%	>60%	81%	91%	67%	90%													
Phthalate Free		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Application Guide																						
Aviation		√	√	√	√	√	√	√														
Automotive			√	√			√	√														
Industrial		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Refrigeration*					√							√	√	√	√	√	√				√	

## TECHNICAL ASSISTANCE

If you have questions regarding these products or their technical specifications, please contact your sales representative or Calumet Technical Services at (800) 437-3188 or [technical@clmt.com](mailto:technical@clmt.com).

Calumet's sampling and testing procedures in effect at the time of production will be used for certification testing. Results may be based on tank certification, manufacturing data, periodic testing and/or most recent product restock. Typical values only represent the values one would expect if the property were tested in our laboratories with our test methods on the specified date. Some product properties are not frequently measured, and accordingly typical values are not based on a statistically relevant number of tests. The information in this document relates only to the named product. The user is solely responsible for all determination regarding any use and any process.