

EMERY[®] Synthetic Lubricant Basestocks

Technical Data Sheet #2033A – 7/2000

EMERY[®] 3004, EMERY[®] 3006, EMERY[®] 3008 PAO Synthetic Lubricant Basestocks

EMERY[®] 3004, 3006, and 3008 polyalphaolefin (PAO) fluids are versatile, synthetic, hydrocarbon lubricant basestocks that can be used neat and are easily blended with petroleum oils or with other synthetic lubricant basestocks to produce lubricants for today's high performance needs.

Linear alpha olefins are polymerized and hydrogenated by state-of-the-art chemical technology to manufacture PAO's designed for use over a broad range of performance conditions, offering improved performance at both high and low operating temperatures.

Compared to conventional mineral oils and many synthetic lubricants, PAO-based lubricants exhibit low volatility and pour points, high flash and fire points, excellent thermal and oxidation stability, as well as compatibility with conventional mineral oils. Their high viscosity indices ensure minimal viscosity changes with fluctuations in temperature and permit the formulation of full synthetic motor oils without viscosity index improvers. This results in fewer engine deposits, less sludge formation and varnish build-up, and eliminates viscosity changes due to shear down.

Applications

EMERY[®] PAO fluids are recommended for use in the following applications:

- Partial and full synthetic engine oils, gear oils and power train lubricants to meet all SAE viscosity grades
- U. S. Military specifications, such as MIL-H-83282, MIL-H-46170, MIL-L- 46167, MIL-G-81322 and MIL-L-63460B
- Hydraulic fluids
- Electrical insulating fluids
- Compressor oils
- Stationary and marine turbine lubricants
- Greases
- Diluent for lubricant additives such as viscosity index improvers

See the following table for typical characteristics of EMERY[®] PAO synthetic lubricant basestocks.



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Typical Characteristics

	EMERY® 3004 (4 cSt)	EMERY® 3006 (6 cSt)	EMERY® 3008 (8 cSt)	Test Methods
Viscosity, cSt.				ASTM D-445
149°C	1.9	2.6	3.3	
100°C	3.9	5.9	7.8	
40°C	16.9	30.5	46	
0°C	94.5	214.0	430	
-40°C	2,520	7,600	18,000	
Brookfield viscosity, 25°C, cP	34.5	62.5	107	
Viscosity index	123	135	138	ASTM D-2270
Moisture, ppm	25	25	25	ASTM D-1744
Pour point, °C	-69	-68	-57	ASTM D-97
Flash point, °C	219	238	257	ASTM D-92
Fire point, °C	249	271	290	ASTM D-92
Evaporation loss, wt %, 6.5 hr @ 204.4°C (400°F)	11	4.0	3.0	ASTM D-972
Color, Saybolt	+30	+30	+30	ASTM D-156
Total acid number	<0.03	<0.03	<0.03	ASTM D-974
Auto ignition temperature, °C	343	354	369	ASTM D-2155
Specific gravity, 15.6/15.6 °C	0.819	0.827	0.832	ASTM D-4052
Density, lbs/gal., 60 °F	6.82	6.89	6.93	By Conversion

We are dedicated to the safe operation of our manufacturing plants and facilities, the health and safety of our employees, and to protection of the environment. As a member of the Chemical Manufacturers Association in the United States, Cognis to the implementation of the Responsible Care® initiative. Cognis also follows the guidelines of other leading industry organizations in other parts of the world in safety, health and the environment.

Effective January 1, 2000, the Henkel Corporation Chemicals Group became Cognis Corporation.

