

**Carlyle 06D/E POE Oil Recommendations**

Carlyle Compressor has continued to evaluate alternate POE oils for use in our 06D/E semi hermetic reciprocating compressors. We have recently added another lubricant to the oil options announced in Carlyle Technical OEM Bulletin 95T-4, dated May 24, 1995. Below is a matrix of recommended oils for the refrigerants and applications shown.

POE Oil Type	R404A & R507		R134a	R22		R-407C
	Low Temp	Med. Temp	Med. Temp & A/C	Low Temp	Med. Temp & A/C	Med. Temp & A/C
Mobil Artic EAL 68	NO	YES	YES	NO	YES	YES
Castrol SW68	NO	YES	YES	NO	YES	YES
Castrol E68	YES	YES	YES	YES	YES	YES
ICI Emkarate RL68H	YES	YES	YES	YES	YES	YES
Lubrizol 2916S (See Note)	YES	YES	YES	YES	YES	YES
CPI Solest 68	YES	YES	YES	YES	YES	YES

**Note:** Also available as Texaco HFC Capella 68NA

Based on laboratory testing and field experience, Carlyle is giving approval to Castrol Icematic E68 POE oil for use in low, medium and air conditioning applications. Present low temperature systems using Castrol SW68 or Mobil Artic EAL 68 and not experiencing any excessive suction line pressure drops do not need to change the oil.

Finally, Carlyle has approved the use of POE oils with Refrigerant 22 under certain application limitations. Some system owners are interested in using POE lubricants with CFC and HCFC refrigerants such as R-22 and R-502 to make the transition over to HFC refrigerants quicker. Our field experience indicates that this may not be advisable because of the problems we have seen.

- While Carlyle recommends a 225°F discharge temperature limit with R-22, customers have not always held this limit. When our compressors have overheated, more internal compressor wear results.
- Moisture control is much more difficult with POE lubricants. Keeping moisture levels below 50 PPM requires much more stringent start-up and servicing practices.
- Finally, the POE oils act as excellent solvents. They return all contaminants left in systems back to the compressor. This includes dirt, metal chips, and any residual material left from prior system problems. In retrofits, this includes overheating or motor burnout residue. This causes oil discoloration and, in some cases, plugging of suction or oil filters.

Because of these potential problems and the POE's much higher cost, Carlyle recommends delaying the use of POE oils until the system is ready to be applied with the HFC refrigerants.