



No question that the phase-out of ozone-depleting CFC refrigerants has been a positive step toward preserving our environment. But it left users of the new generation of alternative refrigerants—specifically, HFCs—scratching their heads: If mineral oils would not work with HFCs, what would?

From the first hint of the CFC phase-out, scientists at CPI Engineering Services recognized the potential for synthetic lubricants. They immediately began the search for a synthetic lubricant that would meet the needs of the newer refrigerants.

The result? The SOLEST line of lubricants—the first line of polyol ester lubricants developed in the United States specifically to serve compressors operating with environmentally safe HFC refrigerants.

SOLEST lubricants feature excellent chemical and thermal stability, good refrigerant miscibility, and a superior structure to improve wear resistance and operating life. Additionally, SOLEST lubricants are backed by an experienced technical sales and support staff, so you're assured of getting the right lubricant for your application.

Performance-Tested Physical Properties

SOLEST lubricants are designed for standard factory fill of air conditioning and industrial refrigeration equipment, as well as for OEM retrofitting operations. CPI's laboratory studies and OEM compressor bench tests have afforded a product line specifically designed to meet key system needs. SOLEST lubricants are not hazardous under 29 CFR 1910.1200. They provide improved properties over conventional mineral oils in all aspects, including viscosity index, flash and fire points, and pour point.

Typical Properties¹ of SOLEST Lubricants

Property	SOLEST Lubricant								
	31-HE	LT-32	46	68	70	120	170	220	370
Viscosity, cSt.									
@ 40°C	32.7	33.1	49.5	66.3	65.5	127.7	175.2	233.3	393.1
@ 100°C	5.7	5.7	6.9	8.9	9.0	12.7	16.5	18.4	26.1
@ 100°F	35.9	36.4	55.1	73.9	72.9	144.8	198.8	267.9	455.3
@ 210°F	5.8	5.8	7.1	9.1	9.2	13.1	17.0	19.0	27.0
Viscosity Index	115	112	93	108	113	90	93	86	89
Density, lb/gal	7.81	8.03	7.80	7.96	7.85	7.91	7.93	7.94	8.00
Pour Point, °C (°F)	<-51 (-60)	-52 (-62)	-45 (-49)	-43 (-45)	-42 (-44)	-33 (-27)	-30 (-22)	-27 (-17)	-21 (-6)
Flash Point, °C (°F)	240 (465)	240 (465)	235 (455)	263 (505)	240 (465)	251 (485)	265 (510)	268 (515)	296 (565)
Fire Point, °C (°F)	263 (505)	260 (500)	260 (500)	293 (560)	265 (510)	271 (520)	287 (550)	287 (550)	324 (615)
Specific Gravity,	0.939	0.965	0.937	0.957	0.944	0.951	0.953	0.955	0.961
Dielectric Strength, kV, ASTM D 877	35.1	48.2	43.6	49.4	44.9	47.0	46.6	41.8	47.7

¹These values are not intended for use in preparing specifications.

SOLEST Series Application Guide

	Residential Air Conditioning		Industrial & Commercial Refrigeration & Air Conditioning			
	Recip.	Rotary	Centr.	Recip.	Screw	Scroll
SOLEST 31-HE	✓	✓	✓	✓		
SOLEST LT-32			✓	✓	✓	
SOLEST 46	✓	✓	✓	✓		
SOLEST 68		✓	✓	✓	✓	✓
SOLEST 120			✓		✓	✓

Simplified Lubricant/Application Selection

CPI has worked with OEMs to provide products to meet all the needs of the modern refrigeration system. Through this effort, we've been able to identify lubricants that meet a compressor's specific requirements and needs.

This application guide covers only a few of the many possible lubricants for specific applications. Consult your OEM or CPI for specific information on our complete product line as well as viscosity recommendations.