



CITGO® North Star® Refrigeration Oils

OVERVIEW



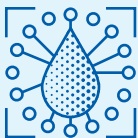
- Premium-quality naphthenic oils, blended for use in refrigeration compressors.

FEATURES & BENEFITS



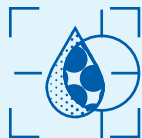
- Light color.
- Low acid number.
- Low pour and floc points.
- Excellent foam resistance.
- Good seal control.
- Control stability and compatibility with refrigerants.

APPLICATIONS



- Recommended for use in refrigeration compressors and other low-temperature applications, including air conditioning systems.
- Recommended for applications in extremely low temperatures, where low-temperature fluidity and floc points of -50F or lower are required.
- Not recommended for use with hydrofluorocarbons (HFC) such as R-134A.
- Refer to equipment owner's manual for proper lubricant recommendation.

PROPERTIES



Typical Properties for CITGO North Star Refrigeration Oils:

Grade	32	54
Material Code	643102001	643105001
Gravity, ASTM D4052, °API	26.0	25.4
Density, lb/gal at 60°F	7.48	7.51
Flash Point, ASTM D92, °F (°C), COC	370 (188)	392 (200)
Viscosity, ASTM D445		
cSt at 40°C	32.0	55
cSt at 100°C	4.7	6.7
Viscosity, ASTM D2161		
SUS at 100°F	167	287
SUS at 210°F	42	48.6
Viscosity Index, ASTM D2270	33	63
Pour Point ASTM D97, °F (°C)	-44 (-42)	-49 (-45)
Floc Point, °F (°C)	-62 (-52)	-56 (-49)
Color, ASTM D1500	L1.0	L1.5
Aniline Point, ASTM D611, °F (°C)	178 (81)	181 (83)
Neutralization No., ASTM D974	0.01	0.01
Foam Inhibitor	Yes	Yes
Foam, ASTM D892:		
Sequence I	0-0	0-0
Sequence II	10-0	10-0
Sequence III	0-0	0-0

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