

Introduction

Rodutherm 744-POE is a polyol ester (POE) refrigeration lubricant engineered for CO₂ (R-744) systems where controlled lubricant-refrigerant miscibility is essential for reliable oil return and sustained heat exchanger performance. Its advanced anti-wear additive package provides the film strength required to protect compressor components under the extreme pressures and temperatures of transcritical operation. With flash points from 276 to 300 °C and excellent carbon control, 744-POE is suited for both transcritical and subcritical CO₂ refrigeration as well as cascade systems.

Applications, Gases & Benefits

Applications	Gases	Benefits
▶ Transcritical CO₂ refrigeration ▶ Subcritical CO₂ refrigeration ▶ Cascade CO₂ refrigeration systems ▶ Supermarket and commercial refrigeration	▶ CO₂ (R-744)	▶ Controlled CO₂-lubricant miscibility for reliable oil return ▶ Advanced anti-wear protection for extreme CO₂ pressures ▶ Very high flash points (276–300 °C) ▶ Excellent film strength under transcritical conditions ▶ Superior carbon and varnish control ▶ Extended service life

Technical Specifications

Property		VG 55	VG 68	VG 85	VG 110	VG 170
Viscosity @ 40 °C	cSt	53.2	67	82.6	105	170
Viscosity @ 100 °C	cSt	8.3	9.6	10.9	12.7	16.8
Viscosity Index		128	123	119	115	105
Density @ 15 °C	g/cm ³	0.99	0.98	0.98	0.98	0.97
Pour Point	°C	-48	-44	-42	-39	-33
Flash Point	°C	276	281	286	291	300
Copper Strip (D130)		1a	1a	1a	1a	1a
Colour (ASTM 1500)		<0.5	<0.5	<0.5	<0.5	<0.5

NOTE Values in this Technical Data Sheet are typical and do not constitute a specification. Manufacturing specifications are available on request. Routine oil analysis is recommended. Specifications are subject to change due to formulation or raw-material updates; always verify that this TDS is the most current version.

Rodutherm 744-POE — Technical Data Sheet The data presented is typical and subject to normal manufacturing variation. For product safety information, please refer to the Safety Data Sheet.