

## TECHNICAL DATA SHEET

# NEXT 744-POE

CO<sub>2</sub> POE Refrigeration Lubricant · 744 Series

NEXT 744-POE is a polyol ester (POE) refrigeration lubricant engineered for CO<sub>2</sub> (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 CO<sub>2</sub> refrigeration as well as cascade systems in supermarket, cold storage, and industrial applications.

**APPLICATIONS**

- Transcritical CO<sub>2</sub> refrigeration
- Subcritical CO<sub>2</sub> refrigeration
- Cascade CO<sub>2</sub> refrigeration systems
- Supermarket and commercial refrigeration

**GASES**

- CO<sub>2</sub> (R-744)

**BENEFITS**

- Controlled CO<sub>2</sub>-lubricant miscibility for reliable oil return
- Advanced anti-wear protection for extreme CO<sub>2</sub> pressures
- Very high flash points (276–300 °C)
- Excellent film strength under transcritical conditions
- Superior carbon and varnish control
- Extended service life

**TECHNICAL SPECIFICATIONS**

# Typical properties

ISO Viscosity Grade	55	68	85	110	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 <sup>3</sup> )	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 Corrosion (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. Minimum operating temperatures are based on low-temperature viscosity and refrigerant miscibility data; consult NEXT Lubricants for operations below the pour point. Routine oil analysis is recommended to assess the in-service condition of the lubricant. Specifications are subject to change due to formulation or raw-material updates; always verify that this TDS is the most current version.