

TECHNICAL DATA SHEET

NEXT 744-PAG

CO₂ PAG Refrigeration Lubricant · 746 Series

NEXT 744-PAG is a polyalkylene glycol (PAG) refrigeration lubricant formulated specifically for CO₂ (R-744) systems. Its controlled miscibility with CO₂ ensures reliable oil return from evaporators, preventing oil accumulation that degrades heat transfer and system efficiency.

A high viscosity index (172–204) maintains stable film protection from low-temperature evaporators through to high-pressure transcritical discharge. Advanced anti-wear and anti-corrosion additives deliver clean operation in transcritical, subcritical, and cascade CO₂ systems across commercial and industrial cold chain applications.



APPLICATIONS

- Transcritical CO₂ refrigeration
- Subcritical CO₂ refrigeration
- Cascade CO₂ refrigeration systems
- Commercial and industrial cold chain
- CO₂ heat pumps

GASES

- CO₂ (R-744)

BENEFITS

- Optimized CO₂-lubricant miscibility for reliable oil return
- Excellent film strength under extreme CO₂ pressures
- Superior carbon and varnish control
- Very high viscosity index (172–204)
- Good low-temperature performance
- Extended service life
- Excellent lubricity and wear protection

TECHNICAL SPECIFICATIONS

Typical properties

ISO Viscosity Grade	46	68	100	150
Viscosity @ 40 °C / 104 °F (cSt)	44	64	98	135
Viscosity @ 100 °C / 212 °F (cSt)	8.5	11.6	17.8	23.4
Viscosity Index	172	178	200	204
Density @ 15 °C / 59 °F (g/cm³)	0.98	0.98	0.99	1.02
Pour Point (°C / °F)	-51 / -60	-45 / -49	-45 / -49	-39 / -38
Flash Point (°C / °F)	204 / 399	208 / 406	222 / 432	231 / 448
Copper Strip Corrosion (D130)	1b	1b	1b	1b
Rust Test (D665, Distilled H ₂ O)	Pass	Pass	Pass	Pass

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.