TECHNICAL DATA SHEET

NEXT 744-PAG

CO_2 PAG Refrigeration Lubricant · 746 Series

NEXT 744-PAG is a polyalkylene glycol (PAG) refrigeration lubricant formulated specifically for CO_2 (R-744) systems. Its controlled miscibility with CO_2 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 CO_2 systems across commercial and industrial cold chain applications.

APPLICATIONS

- Transcritical CO_2 refrigeration
- Subcritical CO_2 refrigeration
- Cascade CO_2 refrigeration systems
- Commercial and industrial cold chain

GASES

- CO_2 (R-744)

BENEFITS

- Optimised CO_2-lubricant miscibility for reliable oil return
- Excellent film strength under extreme CO_2 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 (cSt)	44	64	98	135
Viscosity @ 100 °C (cSt)	8.5	11.6	17.8	23.4
Viscosity Index	172	178	200	204
Density @ 15 °C (g/cm³)	0.98	0.98	0.99	1.02
Pour Point (°C)	-51	-45	-45	-39
Flash Point (°C)	204	208	222	231
Copper Strip Corrosion (D130)	1b	1b	1b	1b
Rust Test (D665, Distilled H_2O)	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.