

TECHNICAL DATA SHEET

NEXT PAO

PAO Synthetic Compressor Lubricant · 165 Series

NEXT PAO is a full synthetic polyalphaolefin compressor lubricant formulated with neutral, non-reactive base oils and additives for industrial refrigeration, heat pump, and process gas compression service.

Its chemically inert formulation ensures reliable operation across hydrocarbon refrigerants, CO₂, inert gases, and reactive gas environments, with pour points as low as -68 °C and extremely low lubricant carryover for cryogenic and low-temperature applications.



APPLICATIONS

- CO₂ process gas and carbon capture compression
- Cryogenic and LNG liquefaction compression
- Ammonia and urea production compression
- Industrial and specialty gas compression
- Hydrocarbon refrigeration (R-170, R-290, R-600a)

GASES

- Hydrocarbon refrigerants: R-170, R-290, R-1270, R-600a
- CO₂ (R-744), nitrogen, argon, helium, hydrogen
- HFC gases (e.g. R-22)
- Reactive gases (consult NEXT Lubricants prior to use)

BENEFITS

- Superior low-temperature fluidity and oil return (pour point to -68 °C)
- Extremely low lubricant carryover
- Excellent seal compatibility
- Chemically stable in both inert and reactive gas environments
- Strong corrosion protection
- Extended service life under continuous duty

TECHNICAL SPECIFICATIONS

Typical properties

ISO Viscosity Grade	15	32	46	68	100	150	220	320
Viscosity @ 40 °C (cSt)	15	32	46	64	100	150	220	320
Viscosity @ 100 °C (cSt)	3.6	6.1	7.8	10.2	14.3	20.2	29.3	41.9
Viscosity Index	118	137	139	145	149	156	172	186
Density @ 15 °C (g/cm ³)	0.82	0.83	0.83	0.83	0.82	0.82	0.82	0.84
Pour Point (°C)	-68	-66	-60	-57	-57	-51	-45	-45
Flash Point (°C)	214	247	262	264	264	265	266	268
Copper Strip Corrosion (D130)	1a	1a	1a	1a	1a	1a	1a	1a
Rust Test (D665, Distilled H ₂ O)	Pass	Pass	Pass	Pass	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.