

Technical Data Sheet (TDS)

Product Identification

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Polyalkylene glycol (PAG) Low Viscosity 46

HCPRO® PAG 46 – The Versatile Lubricant for Ultimate Performance and Protection!

Introduction

Polyalkylene Glycol (PAG) lubricants are critical components in modern automotive air conditioning (A/C) systems, especially those utilizing R134a refrigerant. These synthetic oils are specifically formulated to provide the necessary lubrication for the compressor, ensuring smooth operation, efficient heat transfer, and protection against wear under demanding conditions. HCPRO® Polyalkylene glycol PAG 46 is a product designed to fulfill these requirements offering the best lubrication performance.

HCPRO® PAG 46 is a high-performance synthetic polyalkylene glycol lubricant specifically formulated for R-134a (and R-1234yf) automotive A/C compressors. It combines all the lubrication, thermal stability, and anti-wear benefits of PAG 46.

Thanks to its low-viscosity design, HCPRO® PAG 46 ensures superb lubricity that minimizes wear on critical components—prolonging equipment life and maximizing operational efficiency.

Key Features & Benefits

- **OEM-Level Performance:** Meets or exceeds all major OEM specifications for R-134a compressor oils.
- **Excellent Moisture Resistance:** Advanced PAG base resists hydrolysis and maintains performance in humid environments.
- **Anti-Wear & Corrosion Protection:** Contains specialized inhibitors and conditioners to minimize metal wear and prevent internal corrosion.
- **High Flash Point:** Enhances safety during handling and operation.
- **Wide-Range Thermal Stability:** Stable viscosity profile across -42 °F to 442 °F operational window.
- **Non-Hazardous:** Not classified as hazardous under OSHA HCS (29 CFR 1910.1200)

Recommended Applications

- **Automotive & Light-Commercial A/C Systems:** R-134a and R-1234yf refrigerants.
- **Not for use with mineral-oil or POE (polyol ester)-based systems.**

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	TYPICAL VALUE	TEST METHOD / STANDARD
ISO Viscosity Grade	46	ISO 3448
Kinematic Viscosity @ 40 °C	46 cSt (typical)	ASTM D445
Viscosity (SUS @ 100 °F)	59 SUS	ASTM D2161
Viscosity Index	180–280 (base PAG range)	ASTM D2270
Specific Gravity @ 20 °C	0.93	ASTM D4052
Flash Point (COC)	442 °F / 228 °C	ASTM D92
Pour Point	-42 °F / -41 °C	ASTM D97
Boiling Point	> 500 °F / 260 °C	In-house testing
Color & Appearance	Bright, clear liquid; yellow-amber	Visual
Solubility	Miscible with R-134a	In-house testing
pH (1% aqueous)	7 (neutral)	ASTM D1287
VOC Content	Low	In-house testing

Note: Slight variations in pour point (-36 °F to -42 °F) may occur due to batch-to-batch differences or test method variations.

Performance Standards & Compliance

- **Meets or exceeds:** ASTM D445, D2270, D92, D97, D974, D2783, E203, D4052, D1401; ANSI-ASHRAE 97-1989; ATM D972; Modified IP48; FZG gear test.

Equipment & Material Compatibility

- **Compressors:** Suitable for Sanden SD508/SD510, Nippondenso 10P/10PA, Delphi/Harrison V5, and most R-134a compressors (see OEM compatibility charts).
- **Elastomers & Seals:** Compatible with most nylon, polyamide, PTFE, EPDM, and other common A/C system materials.
- **Hygroscopic Behavior:** Absorbs moisture if exposed; containers are nitrogen-blanketed at fill to minimize moisture pickup.

Contact Information

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Storage & Handling

- **Storage:** 15 °C–30 °C (59 °F–86 °F), dry, away from direct sunlight.
- **Container:** Keep sealed to prevent contamination/moisture ingress.
- **Shelf Life:** Up to 5 years unopened; use promptly once opened.

Packaging & Availability

Package Type	Net Volume	Case Pack
Plastic Bottle	8 oz / 237 mL	12 per case
Steel Drum	5 L, 20 L, 200 L	—
Bulk	Customer-specified	—

All packaging is made in the USA

Safety & First Aid

- **OSHA Status:** Not classified as hazardous (29 CFR 1910.1200).
- **Eye Contact:** Flush with water for 15 min; seek medical attention if irritation persists.
- **Skin Contact:** Wash with soap and water; wear protective gloves.
- **Ingestion:** Do not induce vomiting; seek immediate medical care.
- **Ventilation:** Use in well-ventilated areas; refer to SDS for full guidance.

Environmental & Disposal

- **Disposal:** Per local, state, federal regulations—do not release to drains or waterways.
- **Avoid Release:** Do not discharge into drains, sewers or waterways.
- **Recycling:** Collect and recycle used oil through authorized programs where available.

Made in USA

For Safety Data Sheet (SDS), scan the QR code or visit:
www.hcpproducts.com



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