

Technical Data Sheet (TDS)

Product Identification

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Country of Origin: United States



Polyalkylene glycol (PAG) Low Viscosity 46 UV DYE

HCPRO® PAG 46 UV DYE – 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. The inclusion of a UV fluorescent dye in such lubricants offers a significant advantage for maintenance and diagnostics, enabling technicians to quickly and accurately locate leaks within the sealed A/C system, thereby preventing more extensive damage and costly repairs. HCPRO® Polyalkylene glycol PAG 46 with UV DYE is a product designed to fulfill these requirements, offering a combination of lubrication performance and leak detection capability.

HCPRO® PAG 46 with UV Dye 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 with an integrated, SAE-approved UV-fluorescent dye that enables rapid, precise leak detection under UV inspection lights.

Key Features & Benefits

- Integrated UV Dye:** SAE-approved, non-reactive fluorescent tracer for quick leak location.
- Superior Thermal Stability:** Maintains film strength at elevated temperatures.
- Enhanced Oxidation Resistance:** Extends oil life and minimizes sludge formation.
- Exceptional Lubricity:** Reduces friction and wear for smoother compressor operation.
- Corrosion & Wear Protection:** Specialized inhibitors safeguard internal components.
- Moisture Resistance:** Hygroscopic-managed formulation reduces hydrolysis risk.
- Broad Compatibility:** Works with common A/C elastomers (nylon, EPDM, PTFE, etc.)

Recommended Applications

- Automotive & Light-Commercial A/C Systems:** R-134a and R-1234yf refrigerants.
- Leak-Detection Service:** Ideal when performing pressure/leak checks or compressor replacement.
- 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
Kinematic Viscosity @ 100 °C	8.6 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 / 227 °C	ASTM D92
Pour Point	–36 °F / –37 °C	ASTM D97
Boiling Point	> 500 °F / 260 °C	In-house testing
Color & Appearance	Bright, clear; red/yellow tint	Visual
Solubility	Miscible with R-134a	In-house testing
Ready-to-Use	No dilution required	—
pH (1% aqueous)	7 (neutral)	ASTM D1287
UV Dye Compatibility	Integrated, non-reactive	—
VOC Content	Low	In-house testing

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; SAE UV-dye requirements.

Equipment & Material Compatibility

- Compressors:** Sanden SD508/SD510, Nippondenso 10P/10PA, Delphi/Harrison V5, etc. (see OEM charts).
- Elastomers & Seals:** Compatible with nylon, EPDM, PTFE, polyamide, etc.
- Moisture Sensitivity:** Hygroscopic; filled under nitrogen to minimize uptake.

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.hccproproducts.com



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