



Fluid Technologies

UCON™ refrigeration compressor lubricants

ENHANCED COMPRESSOR LUBRICANTS FROM DOW AUTOMOTIVE SYSTEMS

Dow Automotive Systems offers a broad portfolio of fluid technologies to ensure the safe and efficient operation of today's demanding motor vehicle systems. This portfolio includes performance fluids and lubricants that are supplied worldwide, including mobile air conditioner compressor lubricants and brake fluids.

The Dow Chemical Company is a leading provider of the key raw materials used to produce the Dow Automotive Systems polyalkylene glycol (PAG) compression lubricant technology, including glycol ethers, glycols, and polyglycols. This, combined with application expertise developed over the 50 years we've supplied automotive fluids, enables us to provide OEM and aftermarket customers with solutions that meet or exceed performance and cost targets.

Performance benefits

- High miscibility in the refrigerant (R-134a)
- Excellent lubricity
- High viscosity indexes
- Good oxidative, thermal and chemical stability
- Solubility can be customized for specific applications
- Outstanding long-term durability
- Compatibility with elastomers, including hydrogenated nitrile butadiene rubber and neoprene
- Low pour points
- Low toxicity, good biodegradability for low-viscosity PAGs
- PAGs are hygroscopic relative to mineral oils and can be dried to below 100 ppm
- Superior total acid number (TAN)

Applications

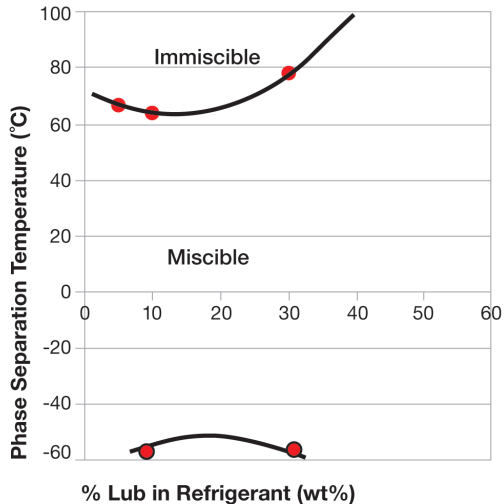
- Mobile air compressors for OEMs and the aftermarket
- Compressor lubrication
- Assembly lubricant
- Air conditioning recharges

Product advantages and ROI

- Wide range of compatibility with a variety of air compressor technologies
- Unique formulation rivals performance of double end-cap products at a lower price
- PAG lubricity provides inherent polarity and a natural affinity for metal surfaces
- High viscosity indexes maintain viscosity in hot compressor and demonstrate excellent low-temperature flow properties
- Our own raw materials resource enables improved cost efficiencies, reliable product supply, guaranteed quality standards
- More than 50 years of industry experience enables the development of products with outstanding performance properties



**Typical PAG Miscibility in Refrigerant R-134a
A Key Design Requirement for A/C Compressors**



**Typical Properties[†] – Dow Automotive Systems Compressor Lubricants
for OEM and Aftermarket R134a-based Systems**

Lubricant	Viscosity @ 40 °C cSt	Viscosity @ 100 °C cSt	Extreme Pressure (lb)	Upper Miscibility ¹ (°C)	Viscosity Index	TAN ²
RL-100	97	20	3000	45	225	1.09
RL-213	46	9	1200	75	180	< 0.05
RL-488	132	26	2700	47	235	0.57
RL-897	62	12	1200	74	185	< 0.05
RL-993	78	16	2900	51	215	1.17

[†] Typical properties are not to be construed as specifications.

¹ Separation temperature at 3% lubricant by weight

² mg KOH / g sample

ABOUT DOW AUTOMOTIVE SYSTEMS

Dow Automotive Systems, a business unit of The Dow Chemical Company, is a leading global provider of collaborative solutions and advanced materials for original equipment manufacturers, tier suppliers, aftermarket customers and commercial transportation manufacturers. Our materials focus includes structural, elastic and rubber-to-substrate adhesive solutions; PU foams and acoustical management solutions; films; fluids; and innovative composite technologies. Offices and application development centers are located around the world to ensure regionalized technical, engineering and commercial support for customers and industry groups. For additional information, visit dowautomotivesystems.com.

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Automotive Systems