RENISO PAG 46 and RENISO PAG 100

Fully synthetic refrigeration oils based on special polyglycols (PAG) for R134a A/C systems

Description

Because of their Cl content, CFC refrigerants like R12 destroy the earth's ozone layer. This led all manufacturers to cease production of fully halogenized CFC's and introduce alternative products. This move is a reaction to the ban on CFC's and halons which established a timetable for the progressive ending of CFC production and use. Alternative refrigerants such as R134a have found general acceptance and are currently in use.
As classic refrigeration oils based on mineral oils, polyalphaolefins and alkylbenzene oils are not miscible with R134a, new refrigeration oils had to be developed, RENISO PAG-Series.

Application

Most car and truck air conditioning systems use Japanese- or American-made compressors and R134a refrigerants. These compressors require the use of synthetic, polyglycol-based refrigeration oils such as RENISO PAG 46 or RENISO PAG 100. The RENISO PAG products have an excellent miscibility and compatibility with R134a.

RENISO PAG 46 and RENISO PAG 100 are based on polar polyglycols. The structure of polyglycols make them hygroscopic (= absorb moisture). This means that special care must be taken when handling such products (always keep containers tightly sealed, use nitrogen to cover the refrigeration oil and store drums in dry, air conditioned rooms).

Advantages

- **Very high thermal stability**
- **Excellent miscibility and compatibility with R134a refrigerants (substitute for R12 refrigerants)**
- **Excellent viscosity-temperature behaviour (high VI)**
- **Low viscosity at low temperature, good flowability**
- **Stable lubricating film at high temperatures**
- **Good compatibility with all materials commonly used in refrigeration systems**
- **RENISO PAG 46 and RENISO PAG 100 are ultra-dried**

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Typical technical data:

Product name		**PAG 46**	**PAG 100**	
Refrigeration oil type acc. to DIN 51503-1		KD	KD	
Characteristics	**Unit**			**Test method**
Colour		colourless	colourless	Visual
Kinematic viscosity at 40 °C at 100 °C	 mm^2/s mm^2/s	 55 10.6	 120 21	DIN EN ISO 3104
Viscosity index		187	202	DIN ISO 2909
Density at 15 °C	kg/m^3	992	996	DIN 51757
Flashpoint, Cleveland open cup	°C	240	240	DIN ISO 2592
Pourpoint	°C	- 45	- 45	DIN ISO 3016
Neutralisation number	mgKOH/g	0.04	0.04	DIN 51558-1
Water content	ppm	300	300	DIN 51777-2
Stability with R134a, 175 °C / 14 days	--	pass	pass	ASHRAE 97-89

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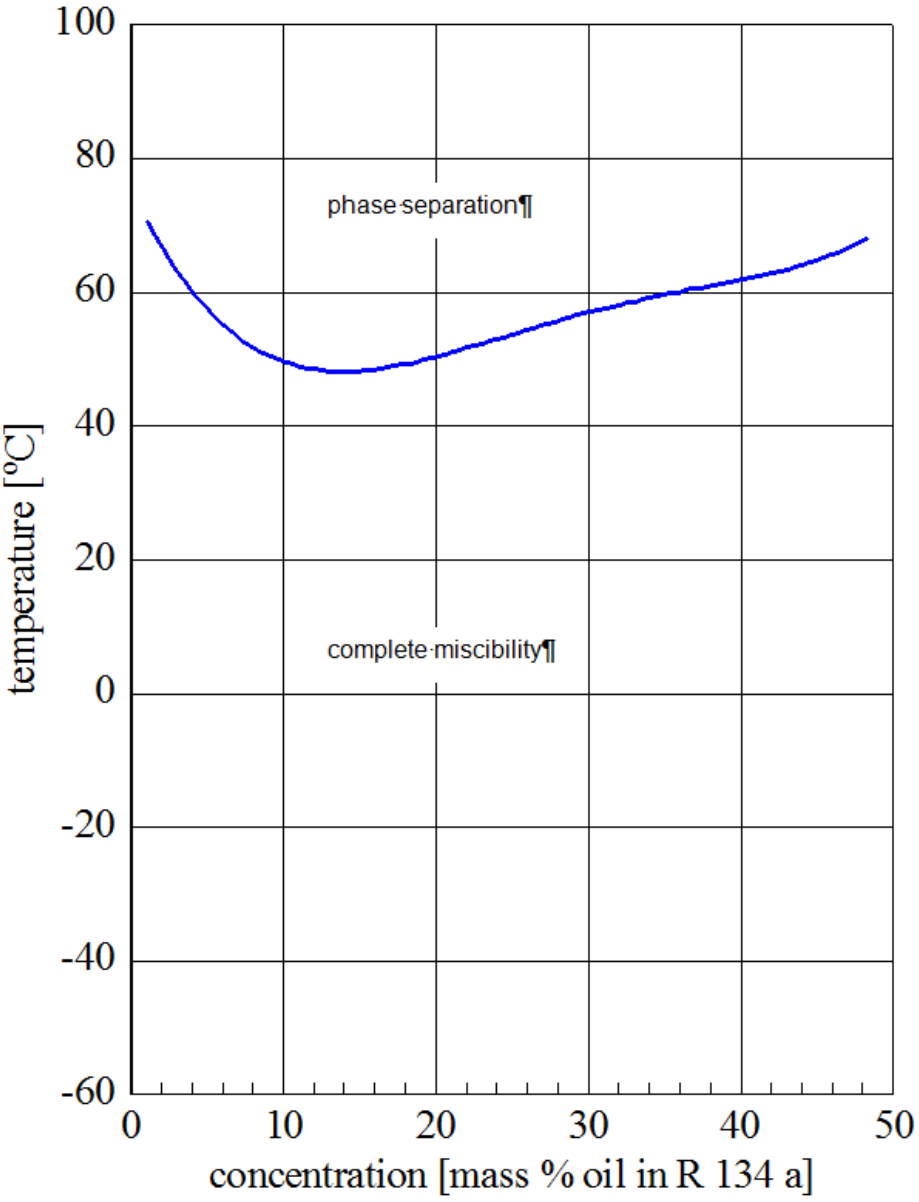
Miscibility behaviour (miscibility gap): RENISO PAG 46 and R134a



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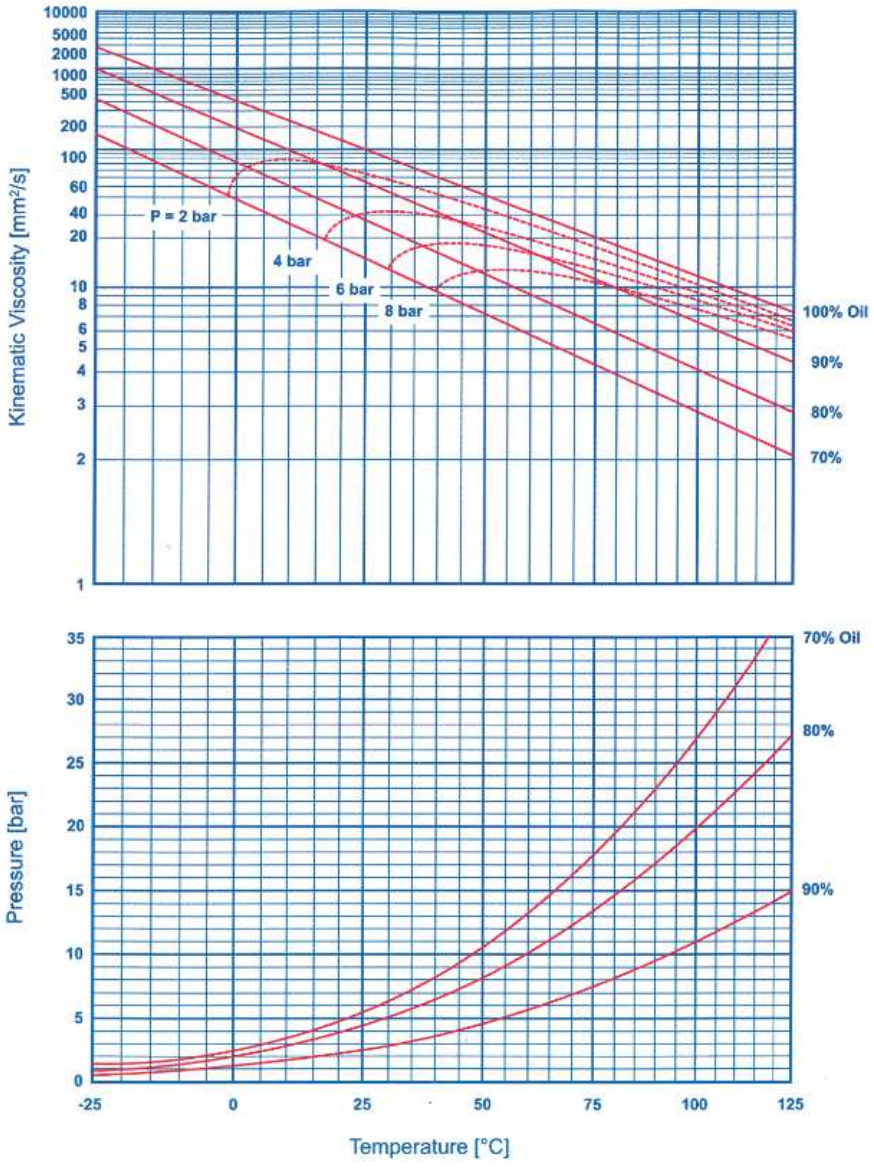
Kinematic viscosity and vapour pressure: RENISO PAG 46 and R134a



All % figures represent mass % oil in the refrigerant.

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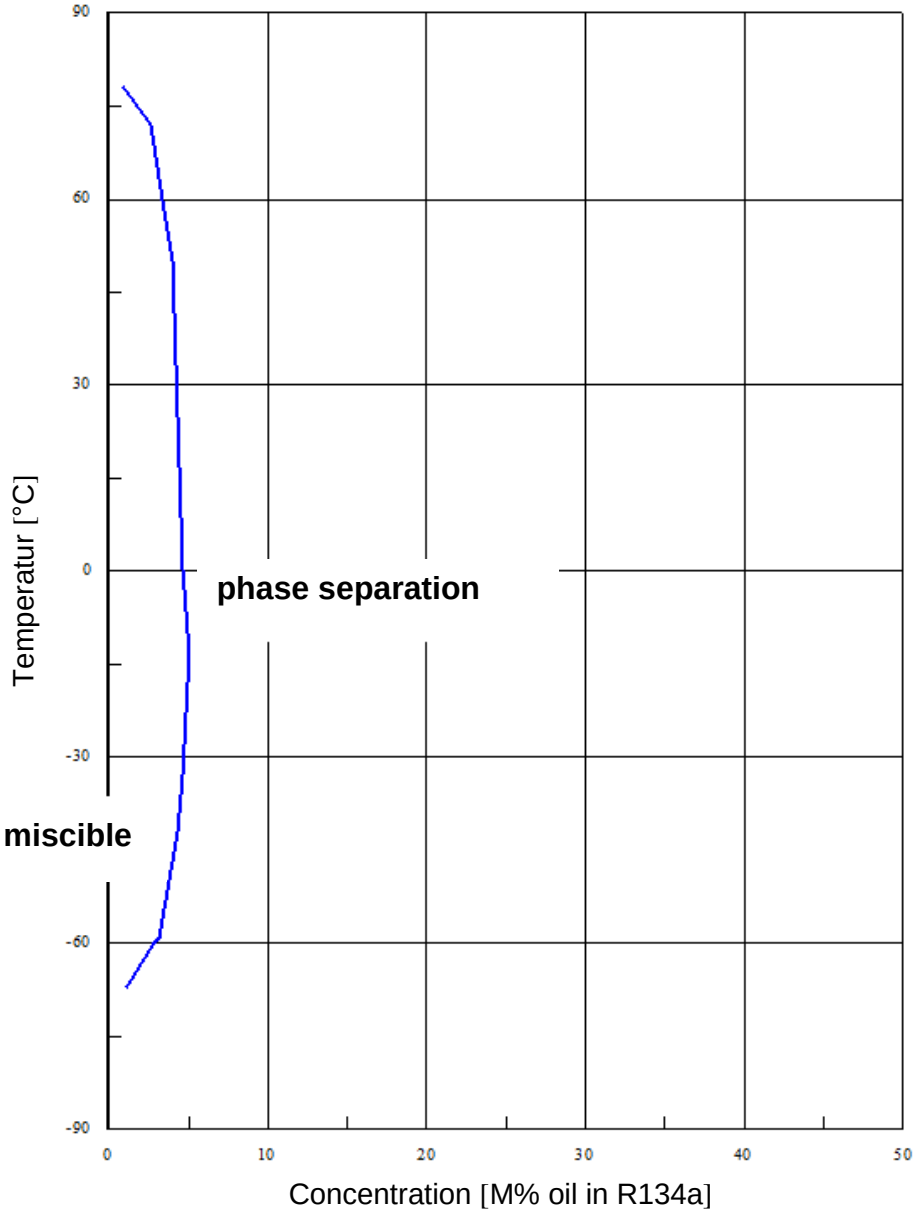
Miscibility behaviour (miscibility gap): RENISO PAG 100 and R134a



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The information contained in this product information is based on the experience and know-how of FUCHS SCHMIERSTOFFE GMBH in the development and manufacturing of lubricants and represents the current state-of-the-art. The performance of our products can be influenced by a series of factors, especially the specific use, the method of application, the operational environment, component pre-treatment, possible external contamination, etc. For this reason, universally-valid statements about the function of our products are not possible. The information given in this product information represents general, non-binding guidelines. No warranty expressed or implied is given concerning the properties of the product or its suitability for any given application.

We therefore recommend that you consult a FUCHS SCHMIERSTOFFE GMBH application engineer to discuss application conditions and the performance criteria of the products before the product is used. It is the responsibility of the user to test the functional suitability of the product and to use it with the corresponding care.

Our products undergo continuous improvement. We therefore retain the right to change our product program, the products, and their manufacturing processes as well as all details of our product information sheets at any time and without warning, unless otherwise provided in customer-specific agreements. With the publication of this product information, all previous editions ce
ase to be valid.

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