

## RENISO S/SP

**Alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH<sub>3</sub> applications).**

### Description

The RENISO S/SP series are fully synthetic, alkylbenzene-based refrigeration oils, partly completed with high-quality mineral oils with anti-wear properties for chlorine-containing refrigerants. Sophisticated production processes ensure that the RENISO S/SP products are sulphur- and wax-free. RENISO S/SP products were developed for critical applications especially when good anti-wear properties are required. Compared to equiviscous, mineral oil-based refrigeration oils, the following wear protection values were established:

### General Information

Because of its additivation the RENISO SP-series is not suitable for the use with ammonia. For NH<sub>3</sub> applications we recommend RENISO S 68 which is free of additives.

### Advantages

- **High thermal stability**
- **Excellent ageing and oxidation stability**
- **Excellent low-temperature behaviour**
- **Excellent oil-refrigerant solubility**
- **Outstanding lubricating properties under extreme stress**
- **Excellent extreme-pressure (EP/AW) properties, also at high surface pressures**

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### Application

RENISO SP products are recommended for use in

- R22 applications – low evaporating temperatures
- R22, R502 applications and with drop-in refrigerants i.e. R401A/B, R402A/B
- heat pumps used to heat tap water
- plants where very high compressor outlet temperatures are encountered.
- systems operating with R600a (iso-butane) and R290 (propane)

RENISO S 68 is particularly recommended for R717 (NH<sub>3</sub>) systems and for R22 applications.

In general, RENISO S/SP oils are recommended whenever other refrigeration oils provide insufficient protection against wear.

- RENISO S 68 – for NH<sub>3</sub> and R22
- RENISO SP 32 / SP 46 / SP 100 / SP 220 – for R22

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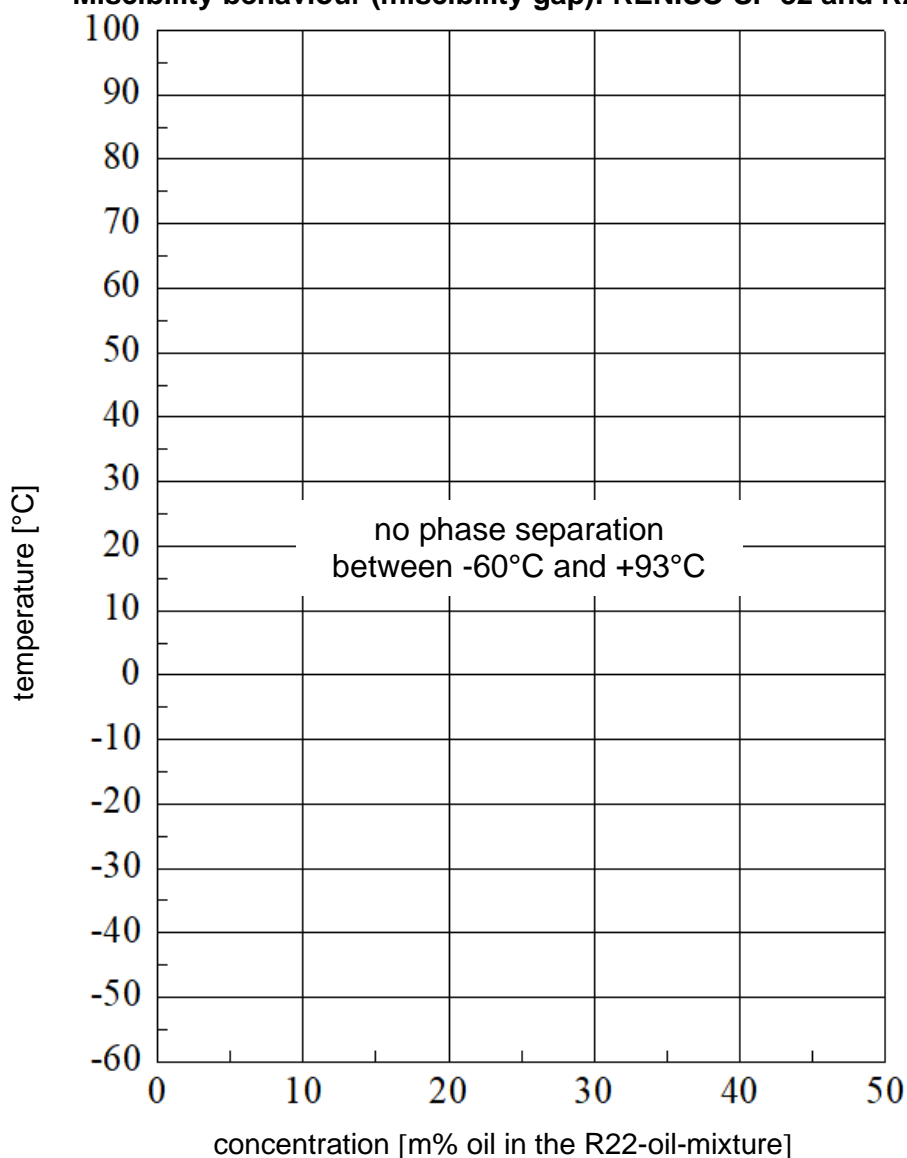
### Typical technical data:

Product name		SP 32	SP 46	S 68	SP 100	SP 220	
Refrigeration oil type acc. to DIN 51503 acc. to DIN 51503		- KC, KE	- KC, KE	KAA KC, KE	- KC, KE	- KC, KE	
Characteristics	Unit						Test method
Colour		1.0	0.5	0.5	0.5	0.5	ISO 2049
Kinematic viscosity at 20 °C	mm <sup>2</sup> /s	97	165	271	--	--	DIN EN ISO 3104
at 40 °C	mm <sup>2</sup> /s	32	46	68	95	220	
at 100 °C	mm <sup>2</sup> /s	4.64	5.30	6.62	7.97	13.70	
Density at 15 °C	kg/m <sup>3</sup>	870	869	871	869	871	DIN 51757
Flash point, Cleveland open cup	°C	186	190	192	208	210	DIN ISO 2592
Pourpoint	°C	-51	-39	-36	-33	-27	DIN ISO 3016
Neutralisation number	mgKOH/g	0.01	0.01	0.01	0.01	0.01	DIN 51558-1
Oxide ash	% mass	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	DIN ISO 6245
Water content	mg/kg	20	20	20	20	20	DIN 51777-2

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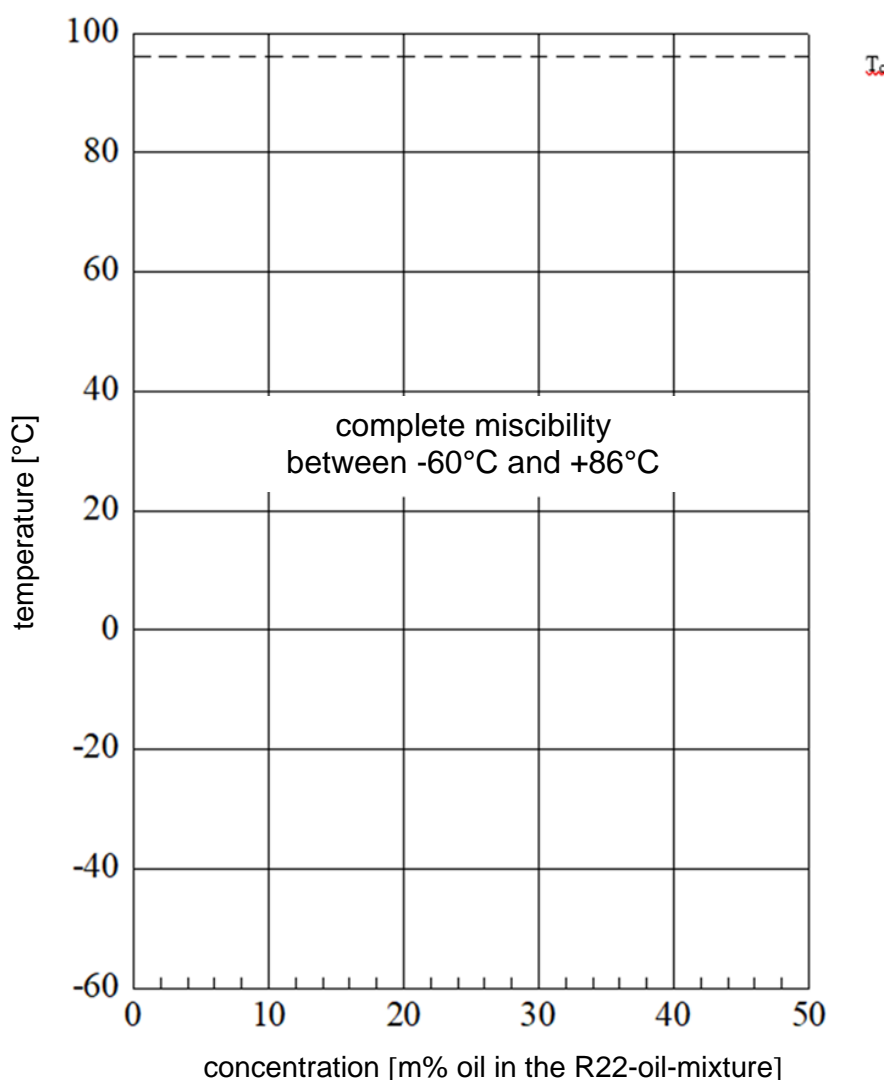
Miscibility behaviour (miscibility gap): RENISO SP 32 and R22



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Miscibility behaviour (miscibility gap): RENISO SP 46 and R22

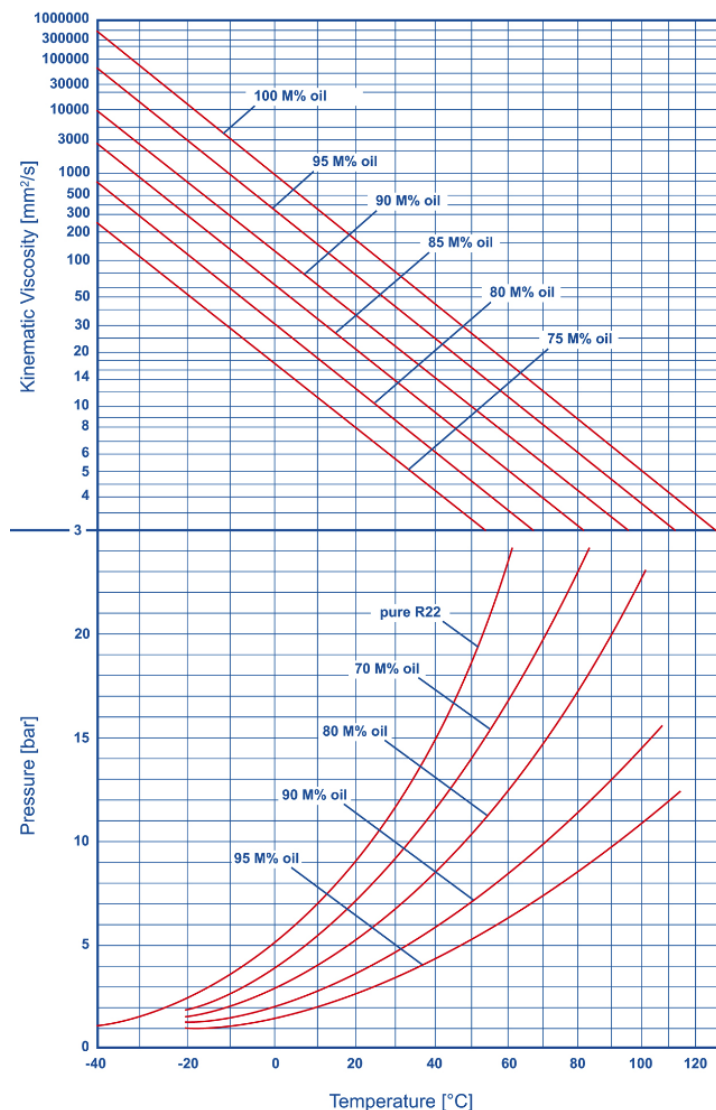




## RENISO S/SP

Alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH<sub>3</sub> applications).

### Kinematic viscosity and vapour pressure: RENISO SP 46 and R22

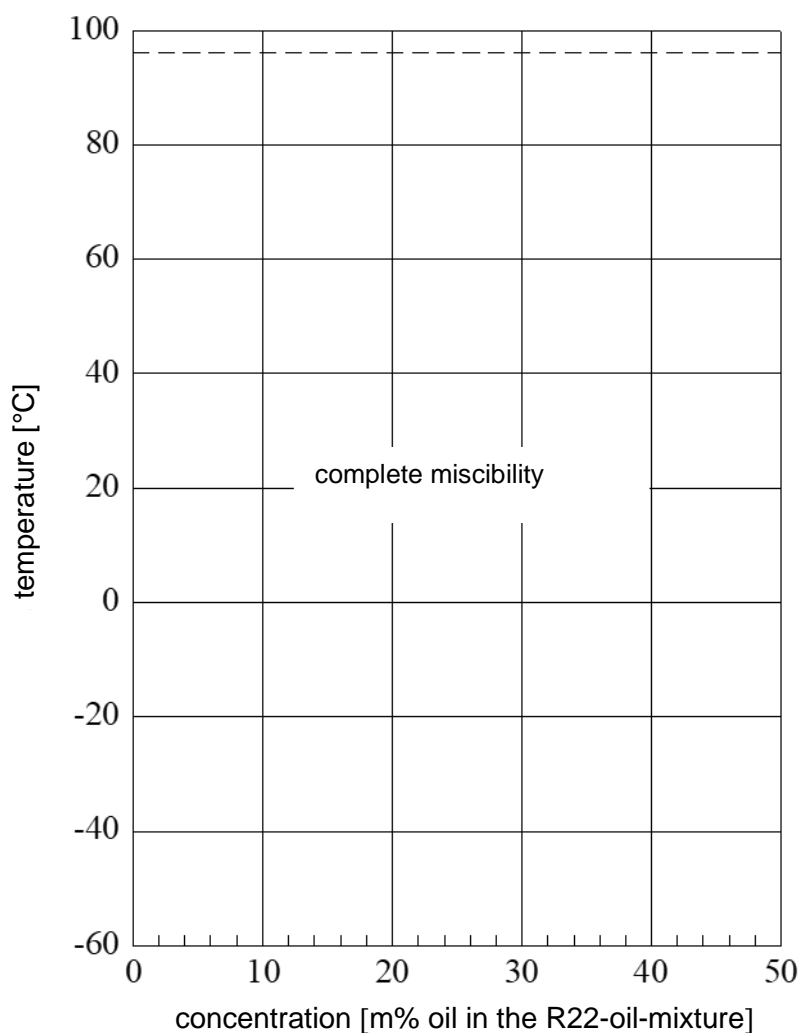


All % figures represent m% oil in the refrigerant-oil-mixture.

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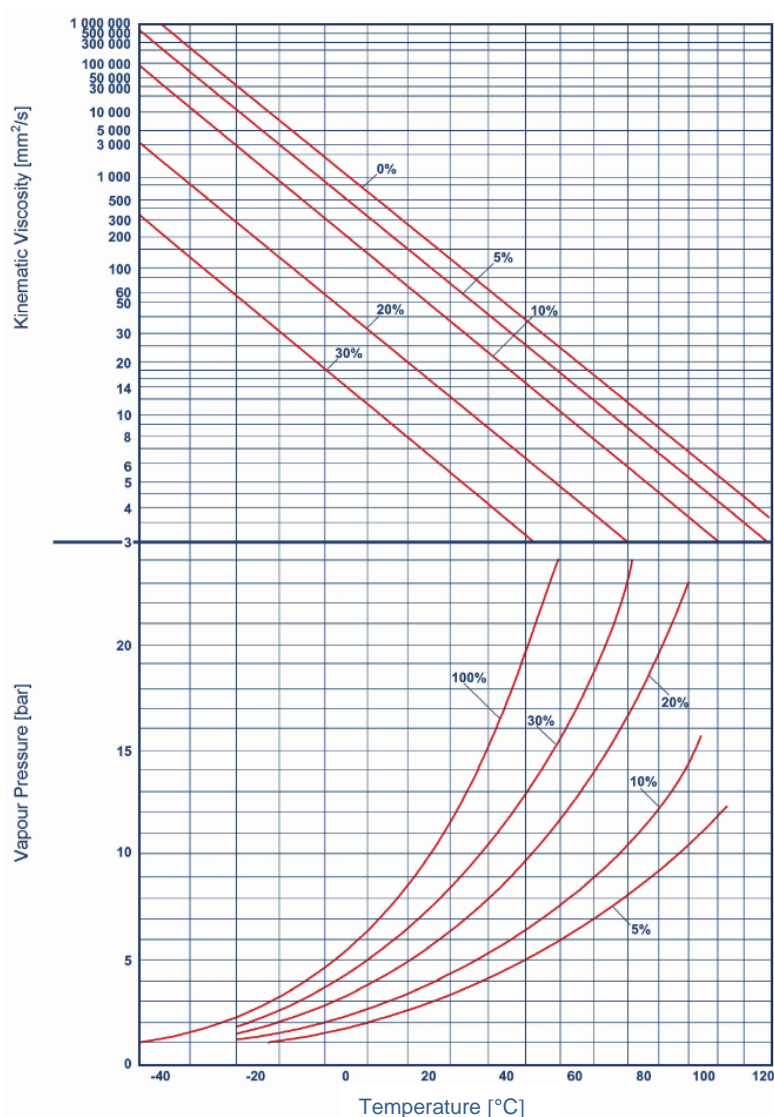
Miscibility behaviour (miscibility gap): RENISO S 68 and R22



## RENISO S/SP

Alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH<sub>3</sub> applications).

Kinematic viscosity and vapour pressure: RENISO S 68 and R22



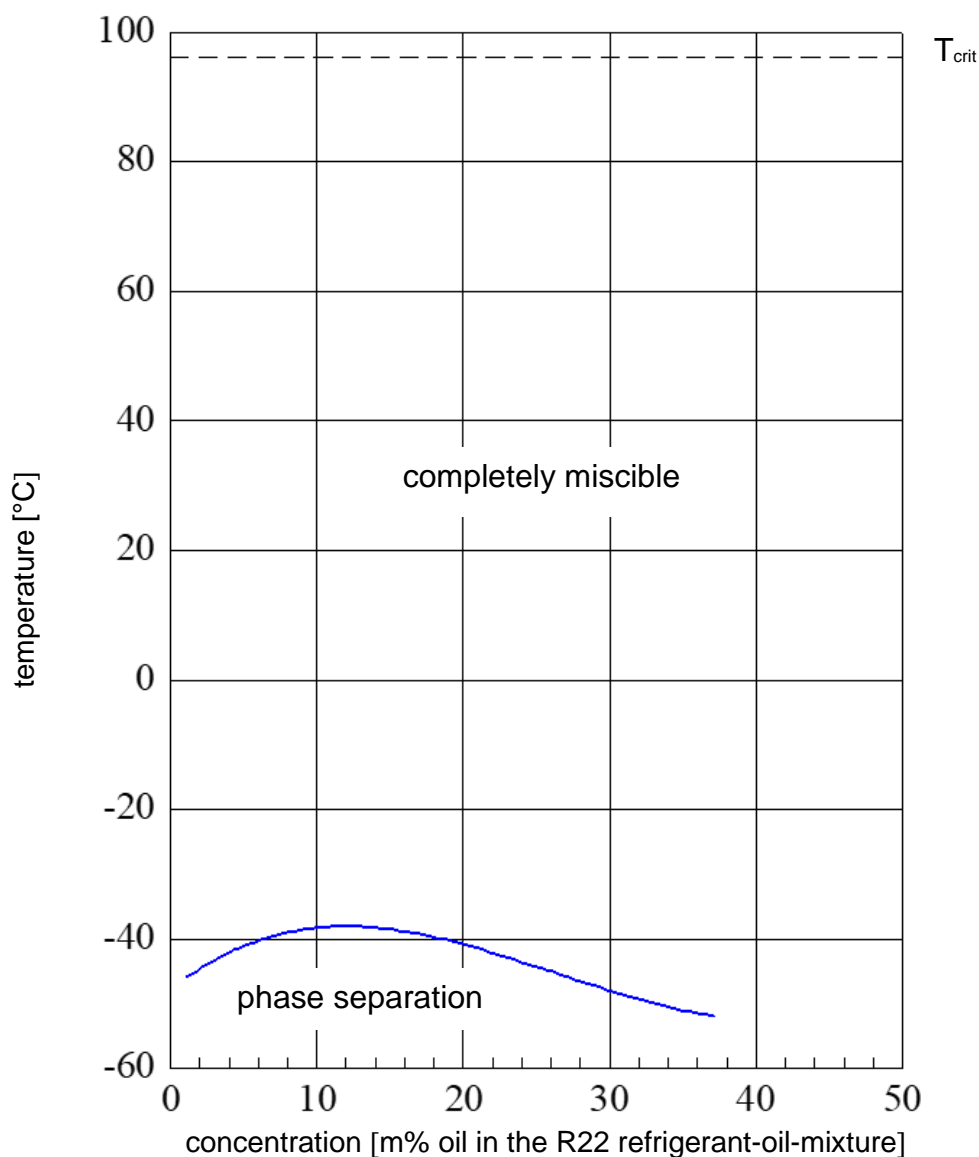
All % figures represent m% refrigerant in the refrigerant-oil-mixture.



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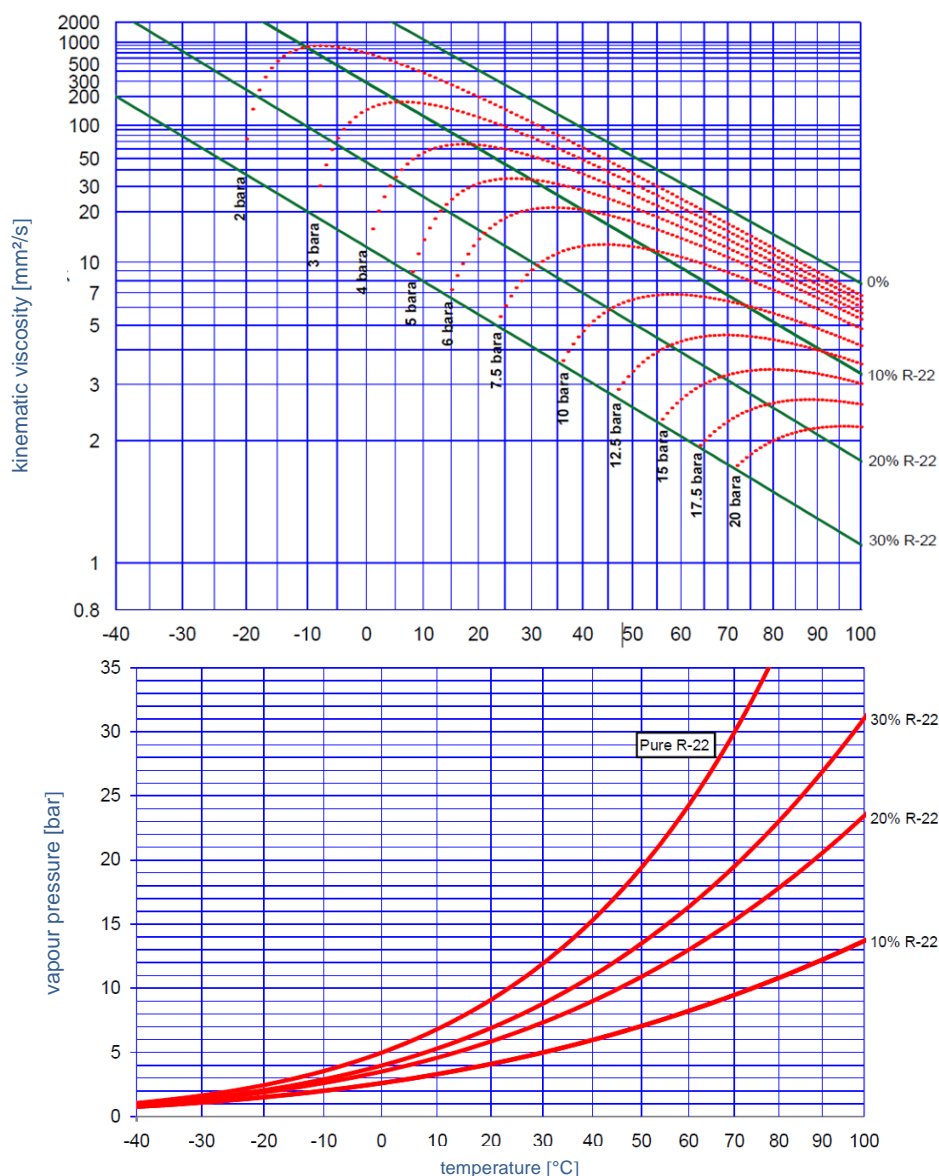
Miscibility behaviour (miscibility gap): RENISO SP 100 and R22



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Kinematic viscosity and vapour pressure: RENISO SP 100 and R22



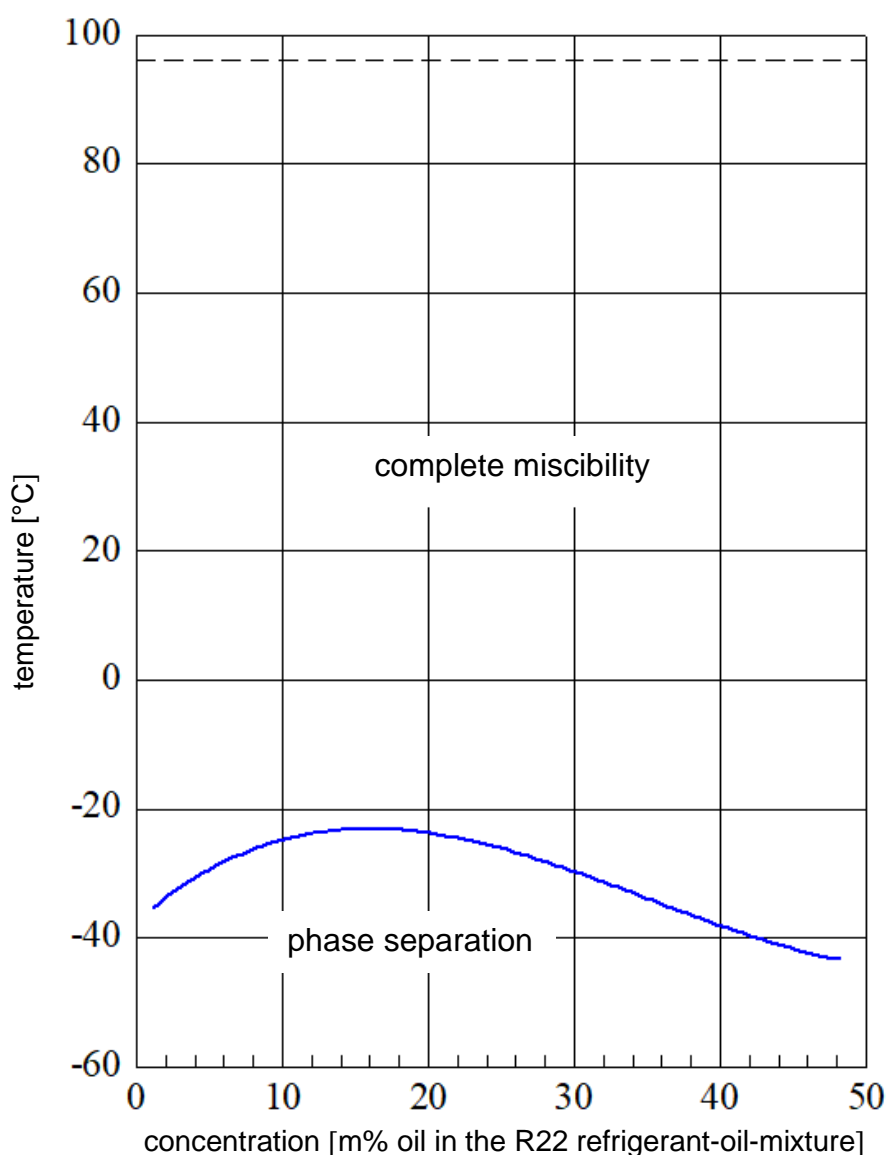
All % figures represent m% oil in the refrigerant-oil-mixture.

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## RENISO S/SP

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Miscibility behaviour (miscibility gap): RENISO SP 220 and R22



# Product Information

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## Note

The information contained in this product information is based on the experience and know-how of FUCHS LUBRICANTS GERMANY 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.

Our products must not be used in aircraft or spacecraft. Our products may be used in the manufacture of components for aircraft or spacecraft if they are removed without residue from the components prior to assembly into the aircraft or spacecraft.

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 LUBRICANTS GERMANY 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.

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