Product Information

RENISO S/SP

Fully synthetic, alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH_3 applications)

Description

The RENISO S/SP series are fully synthetic, alkylbenzene-based refrigeration 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:

Four ball scar diameter (1h at 150 N)	RENISO SP 46: Mineral oil:	0,3 mm 0,6 mm
Almen-Wieland test	RENISO SP 46 Mineral oil:	9000 N 1000 N

General Information

Because of its additivation the RENISO SP-series is not suitable for the use with ammonia. For NH_3 applications we recommend RENISO S 68 which is free of additives.

Advantages

- **Very high thermal stability**
- **Excellent ageing and oxidation resistance**
- **Excellent low-temperature behaviour (R22 flocculation point < -60°C)**
- **Excellent oil-refrigerant solubility (miscibility gap with R22 < -70°C)**
- **Excellent wear protection**
- **Good extreme-pressure (EP/AW) properties**

FUCHS EUROPE SCHMIERSTOFFE GMBH
Friesenheimer Str. 15
D – 68169 Mannheim

Tel. ++49-621-3701 0
Fax. ++49-621-3701 570
E-Mail zentrale@fuchs-europe.de

Product Information

RENISO S/SP

Fully synthetic, alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH_3 applications)

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_3) systems and for R22 applications.

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

- RENISO SP 220 – for screw compressors
- RENISO S 68 – for NH_3 and R22
- RENISO SP 32 / SP 46 / SP 100 – for reciprocating piston compressors

FUCHS EUROPE SCHMIERSTOFFE GMBH
Friesenheimer Str. 15
D – 68169 Mannheim

Tel. ++49-621-3701 0
Fax. ++49-621-3701 570
E-Mail zentrale@fuchs-europe.de

Product Information

RENISO S/SP

Fully synthetic, alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH_3 applications)

Typical technical data:

Product name		**SP 32**	**SP 46**	**S 68**	**SP 100**	**SP 220**	
Refrigeration oil type acc. to DIN 51 503 acc. to DIN 51 503		- 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 at 40°C at 100°C	 mm^2/s mm^2/s mm^2/s	 102 32 4.6	 170 46 5.1	 285 68 6.2	 -- 100 8.1	 -- 220 13.4	DIN 51 550 with DIN 51 562-1
Density at 15 °C	kg/m^3	882	872	869	870	870	DIN 51 757
Flash point, Cleveland open cup	°C	172	175	188	206	210	DIN ISO 2592
Pour point	°C	-39	-42	-36	-30	-27	DIN ISO 3016
U-tube flow test	°C	-32	-30	-24	-21	-18	DIN 51 568
Aniline point	°C	65	65	70	75	--	DIN 51 775
R 12 flocculation	°C	-70	-70	-70	-70	-70	DIN 51 351
R 12 insolubles	%	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	DIN 51 590-1
Refrigerant stability	h	> 96	> 96	> 96	> 96	> 96	DIN 51 593
Neutralization number	mgKOH/g	0.03	0.03	0.03	0.03	0.03	DIN 51 558-3
Saponification number	mgKOH/g	1.1	1.1	0.03	1.1	--	DIN 51 559-2
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 51 777-2

FUCHS EUROPE SCHMIERSTOFFE GMBH
Friesenheimer Str. 15
D – 68169 Mannheim

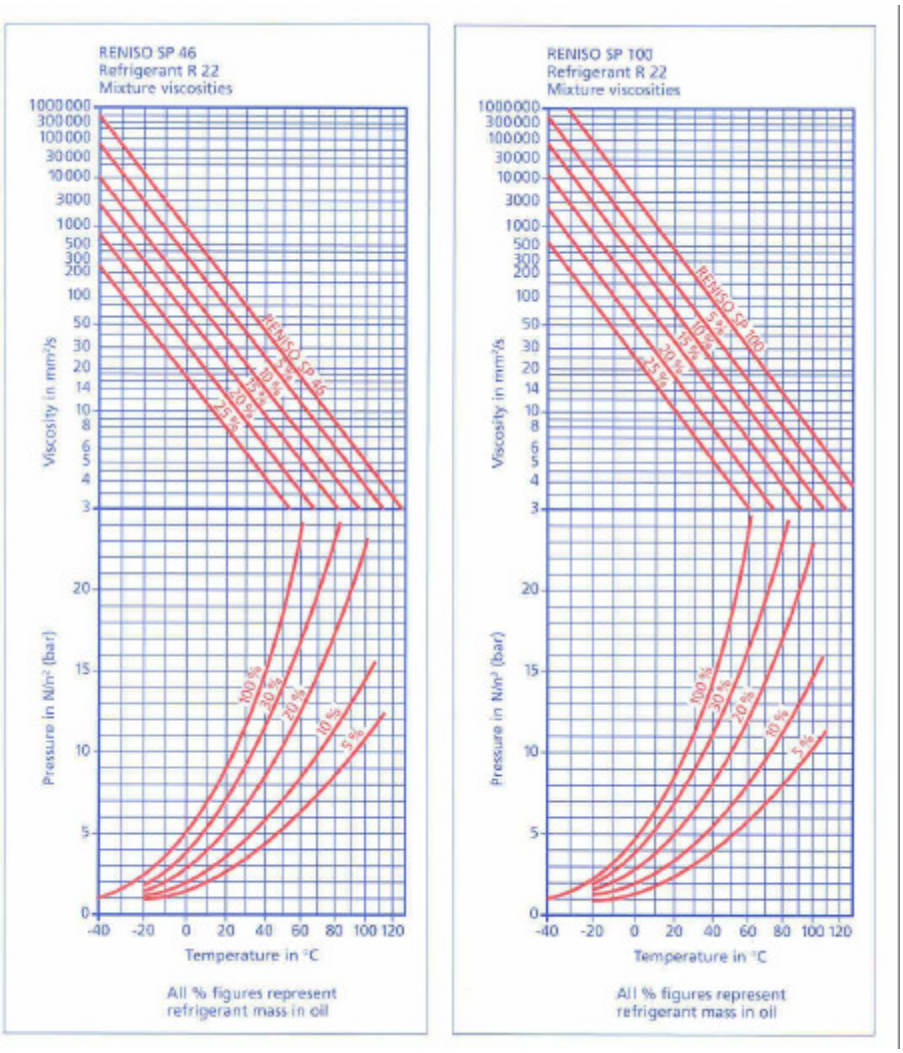
Tel. ++49-621-3701 0
Fax. ++49-621-3701 570
E-Mail zentrale@fuchs-europe.de

Product Information

RENISO S/SP

Fully synthetic, alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH_3 applications)

Kinematic viscosity and vapour pressure of RENISO SP and R22



FUCHS EUROPE SCHMIERSTOFFE GMBH
Friesenheimer Str. 15
D – 68169 Mannheim

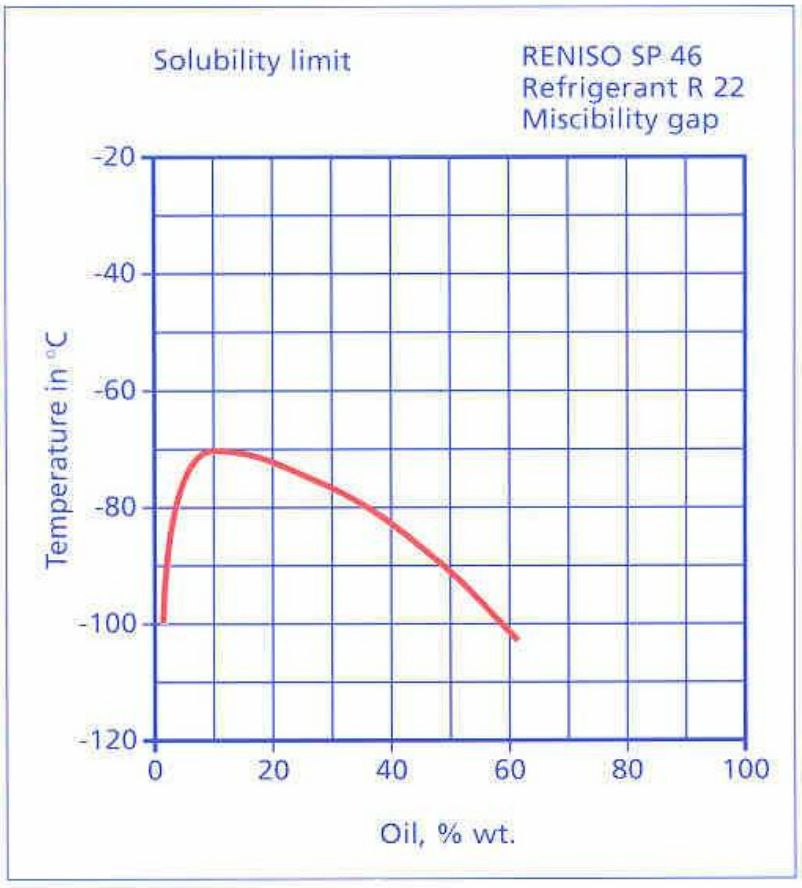
Tel. ++49-621-3701 0
Fax. ++49-621-3701 570
E-Mail zentrale@fuchs-europe.de

Product Information

RENISO S/SP

Fully synthetic, alkylbenzene-based (AB) refrigeration oils for chlorine-containing refrigerants (RENISO S 68 also for NH_3 applications)

Miscibility gap of RENISO SP 46 and R22



FUCHS EUROPE SCHMIERSTOFFE GMBH
Friesenheimer Str. 15
D – 68169 Mannheim

Tel. ++49-621-3701 0
Fax. ++49-621-3701 570
E-Mail zentrale@fuchs-europe.de