



VIN-FP-532/008

**climalife®**

# R-134a

1,1,1,2 – TETRAFLUOROETHANE  $\text{CF}_3\text{-CH}_2\text{F}$

## GUARANTEED COMMERCIAL SPECIFICATIONS

STANDARD SPECIFICATIONS	LIMIT VALUE
Purity	$\geq 99.5\%$ weight
Water content	$\leq 10$ ppm weight
Non-condensable content (gas phase)	$\leq 1,5\%$ volume
High boiling residues	$\leq 0.01\%$ volume
Acidity (HCl)	$\leq 1$ ppm weight

## MAIN APPLICATIONS

R-134a is a hydrofluorocarbon (HFC) which can be used for domestic, commercial and industrial refrigerated applications, as well as for air conditioning, fluid cooling and heat pump applications.

R-134a was the fluid of choice of automotive and agricultural air-conditioning system manufacturers. The fluid used in new automotive and agricultural air conditioning installations is now R-1234yf.

R-134a can also replace R-12 in existing systems by following the correct conversion procedure.

## OILS

Use a polyol ester (POE).

Check with **Climalife** regarding the viscosity of the oil selected for your application and the miscibility with the fluid under consideration.

For automotive air conditioning, please refer to the constructor's advice: PAG oils are generally the recommended type.

## PRECAUTIONS OF USE

Refer to the Safety Data Sheet\*.

## REGULATION

The use and implementation of R-134a are governed by EU Regulation n° 517/2014.

The recovery of R-134a is mandatory under EU Regulation n° 517/2014.

(Refer to regulations enforced in each country.)



R-134a

**climalife®****R-134a PHYSICAL PROPERTIES**

Molar mass	g/mol	102,03
Melting point	°C	- 103,3
Boiling point (at 1.013 bar)	°C	- 26,08
Temperature glide at 1.013 bar	K	0
Saturated liquid density at 25°C	kg/m <sup>3</sup>	1207
Saturated vapour density at boiling point	kg/m <sup>3</sup>	5,257
Vapour pressure at : 25°C	bar	6,654
50°C	bar	13,18
Critical temperature	°C	101,1
Critical pressure	bar	40,59
Critical density	kg/m <sup>3</sup>	512
Latent heat of vapourisation at boiling point	kJ/kg	217
Thermal conductivity of liquid at 25°C	W/(m.K)	0,081
Thermal conductivity of vapour at 1.013 bar	W/(m.K)	0,013
Surface tension at 25°C	10 <sup>-3</sup> N/m	8,03
Viscosity of liquid at 25°C	10 <sup>-3</sup> Pa-s	0,195
Viscosity of vapour at 1.013 bar	10 <sup>-3</sup> Pa-s	0,012
Specific heat of liquid at 25°C	kJ/(kg.K)	1,425
Specific heat of vapour at 1.013 bar	kJ/(kg.K)	0,8512
Cp/Cv ratio at 25°C at 1.013 bar		1,120
Flammability in air		Non-flammable
Flash point	°C	None
Classification NF-EN 378 ASHRAE		A1 A1
Ozone Depletion Potential	(R11 = 1)	0
GWP According to IPCC-AR4/IPCC-AR5	(CO <sub>2</sub> = 1)	1430/1300

Please contact your distributor or our **Climalife** sales department for more information. In addition, if the refrigeration system you want to install, or are working on, does not appear to be a typical installation, please do not hesitate to contact us for advice and information.