



## R-227ea

(1,1,1,2,3,3,3 – HEPTAFLUOROPROPANE CF<sub>3</sub>-CHF-CF<sub>3</sub>)

### GUARANTEED COMMERCIAL SPECIFICATIONS

STANDARD SPECIFICATIONS	LIMIT VALUE
Purity	≥ 99.5 % weight
Water content	≤ 10 ppm weight
Non-condensable content (gas phase)	≤ 1.5 % volume
Chloride ion test	Negative
High-boiling residues	≤ 0.01 % volume
Total acidity (HCl)	≤ 1 ppm weight

### MAIN APPLICATIONS

R-227ea is a hydrofluorocarbon (HFC) which can in some applications replace R-114 (CFC) whose production was stopped in the European Union on 31.12.1994.

It is particularly suitable for air conditioning systems which work in high temperature environments, high temperature heat pumps, and thermal collectors.

R-227ea is also used as an extinguishing agent replacing "bromofluorocarbon" compound R-13B1 whose production was stopped in the European Union as of 31.12.1993.

### OILS

Use a polyol ester (POE) oil.

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

### PRECAUTIONS OF USE

Refer to the Safety Data Sheet\*.

### REGULATION

The use and implementation of R-227ea are governed by EU Regulation n° 517/2014.

The recovery of R-227ea is mandatory under EU Regulation n° 517/2014.

(Refer to the regulations enforced in each country)

\* Find the Safety Data Sheet (SDS) directly on our website [www.climalife.dehon.com](http://www.climalife.dehon.com)



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## R-227ea PHYSICAL PROPERTIES

Molar mass	g/mol	170.03
Melting point	°C	-127
Boiling point (at 1.013 bar)	°C	-15.61
Saturated liquid density at 25°C	kg/m <sup>3</sup>	1387
Saturated vapour density at boiling point	kg/m <sup>3</sup>	8.452
Vapour pressure at 20°C	bar	3.895
Critical temperature	°C	101.74
Critical pressure	bar	29.3
Critical density	kg/m <sup>3</sup>	584
Latent heat of vaporisation at boiling point	KJ/kg	131.9
Thermal conductivity of liquid at 25°C	W/(m.K)	0.0533
Thermal conductivity of vapour at 1.013 bar	W/(m.K)	0.01252
Surface tension at 25°C	10 <sup>-3</sup> N/m	6.980
Viscosity of liquid at 25°C	10 <sup>-3</sup> Pa-s	0.244
Viscosity of vapour at 1.013 bar	10 <sup>-3</sup> Pa-s	0.01158
Specific heat of liquid at 25°C	kJ/(kg.K)	1.176
Specific heat of vapour at 1.013 bar	kJ/(kg.K)	0.81
Cp/Cv ratio at 25°C at 1.013 bar		1.074
Flammability in air		non-flammable
Flash point		None
NF-EN 378 classification		-
Potential effect on ozone	(R-11 = 1)	0
GWP	(CO <sub>2</sub> = 1)	3220

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.

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For more information, please visit our website:  
[http://www.climalife.dehon.com/contact\\_us](http://www.climalife.dehon.com/contact_us)

