REFRIGERANT FACT SHEET
R1234ze

CHARACTERISTICS

R1234ze is a HFO refrigerant designed as a low GWP alternative to R134a.

Care must be taken during use as R1234ze is classified as A2L (low flammability).

PERFORMANCE

- R1234ze is a suitable alternative for R134a
- Due to the flammability, it is essential to check equipment compatibility
- R1234ze is not suitable for use in retrofit applications
- R1234ze should only be used in systems specifically designed for R1234ze
- Compressors must be charged with modified polyolester oils (check OEM guidelines)

THERMODYNAMIC PERFORMANCE

- R1234ze has a similar cooling performance to R134a
- Comparable energy efficiency to R134a
- Suited to all climates
- Approximately 20% less refrigeration capacity compared to R134a but with significantly lower pressures

PRODUCT PART NUMBERS

Availability to be confirmed, contact your Kirby representative for more information.

For safety, handling and storage guidelines please refer to the MSDS (available on Chemwatch)

PHYSICAL ATTRIBUTES

ODP: 0

GWP: <1

Class/ Type: Unsaturated Organic Compound (A2L)

Refrigerant Kind: HFO

Oil Type: Polyolester oil (POE)

Glide: N/A

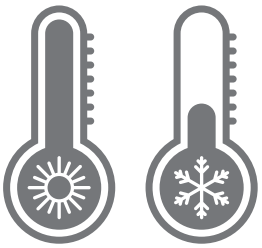
FEATURES

- With a GWP of <1 R1234ze offers a significantly reduced carbon footprint of systems over the total lifetime
- Cost effective solution
- Low flammability – may require additional safety measures during use and service
- Non-toxic
- Liquid or vapour charge

APPLICATIONS

Medium and high temperature applications including:

- Air cooled and water cooled chillers
- Heat pumps
- Refrigerators
- Vending machines
- CO^2 cascade systems in commercial refrigeration



PHYSICAL PROPERTIES

Class/ Type	Unsaturated Organic Compound
Formula	100% R1234ze
Kind	HFO
Appearance	Colourless
ODP	0
GWP	<1
ASHRAE Std. 34 Safety Class	A2L

Units	Physical Properties
Molecular Weight	114 kg/mol
Boiling Point	– 19°C
Triple Point	-104.53°C
Critical Temperature	109.4°C
Critical Pressure	36.4 bar
Critical Volume	0.00204 m^3/ kg
Critical Density	489 kg/m^3
Vapour Density at Boiling Point	5.71 kg/m^3
Liquid Density at 0°C	1293 kg/m^3
Vapour Pressure at 25°C	498.6 kPa
Liquid Viscosity at 25°C	1994.4 µPa-sec
Vapour Viscosity	12.2 µPa-sec

R1234ze PRESSURE TEMPERATURE CHART

C°	R1234ze (kPa)
-40	37
-35	48
-30	61
-25	77
-20	97
-15	120
-10	147
-5	179
0	216
5	259
10	308
15	364
20	427
25	499
30	578
35	668
40	767
45	876
50	997
55	1131
60	1277
65	1437
70	1611

RFS1234ze-030519