

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

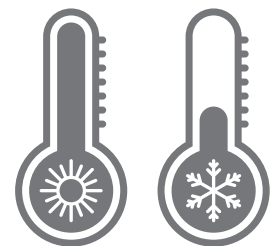
FEATURES

- 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
- CO² 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

The central part of the page features the Gas2GO logo surrounded by nine blue circular icons, each representing a service or quality standard:

- Quality control ISO9001**: Represented by a 'Certified System Quality ISO 9001' logo.
- Local manufacture and decanting**: Represented by a map of Australia.
- ARCTick Reporting**: Represented by a checkmark icon.
- Access to Kirby refrigerant technical library**: Represented by a book icon.
- Refrigerant recovery with zero emissions**: Represented by a recycling symbol.
- Distribution and delivery nationally**: Represented by a truck icon.
- Cylinder management at your fingertips through the Gas2Go app**: Represented by a smartphone icon with 'G2G' on the screen.
- Refrigerant sample analysis**: Represented by a magnifying glass over a gas cylinder.

RFS1234ze-030519