REFRIGERANT FACT SHEET
R513A

CHARACTERISTICS

R513A is a non-ozone depleting, non-flammable refrigerant HFO blend designed as a low GWP replacement for R134a in medium and high temperature air conditioning and refrigeration applications.

R513A is suitable for use in new systems as well as for retrofitting existing systems.

PERFORMANCE

- As R513A closely matches the characteristics and performance of R134a, using it as a replacement results in time and cost savings during a retrofit
- R513A should only be liquid charged into a system to ensure proper refrigerant composition and system performance
- Check to see the existing expansion device would have sufficient capacity to operate with R513A as a minimum the valve would require adjustment

APPLICATIONS

Medium Temperature Refrigeration
- Commercial
- Industrial
- Cascade systems

Air Conditioning
- Industrial
- Commercial
- Automotive

Water Chillers

PHYSICAL ATTRIBUTES

- **ODP:** 0
- **GWP:** 573
- **Class/Type:** Zeotropic blend (A1)
- **Refrigerant Kind:** HFC/HFO blend
- **Oil Type:** Polyolester oil (POE)
- **Glide:** N/A

FEATURES

- GWP 56% lower than R134a
- Comparable physical characteristics and performance to R134a
- Allows for use of existing equipment
- POE must be used (contact OEM for more information)

THERMODYNAMIC PERFORMANCE

- Excellent capacity and efficiency match to R134a
- Discharge temperatures are similar or marginally lower than R134a
- Density and mass flow differs from R134a, it is recommended pipe sizing is checked

PRODUCT PART NUMBERS

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

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

PRESSURE TEMPERATURE CHART

Temp C°	Pressure (kPa)
-40	-41
-38	-34
-36	-27
-34	-20
-32	-12
-30	-3
-28	6
-26	16
-24	26
-22	37
-20	50
-18	62
-16	76
-14	91
-12	106
-10	123
-8	140
-6	159
-4	178
-2	199
0	221
2	244
4	268
6	293
8	320
10	348
12	378
14	409
16	442
18	476
20	512
22	549
24	588
26	629
28	671
30	716
32	762
34	810
36	861
38	913
40	967
42	1024
44	1083
46	1144
48	1207
50	1273

PHYSICAL PROPERTIES

Class/ Type	Azeotropic Blend
Formula	56% R1234yf/ 44% R134a
Kind	HFO
Appearance	Colourless
ODP	0
GWP	573
ASHRAE Std. 34 Safety Class	A1

Units	AHRI Specification
Molecular Weight	108.4 g/mol
Boiling Point	–29.2 °C
Critical Temperature	96.5°C
Critical Pressure	35.79 bar
Critical Density	490.89 kg/m^3
Liquid Density at 21.1°C	1185.7 kg/m^3

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2 Kirby Place, Bankstown Aerodrome NSW 2200. Tel: +61 2 9774 7013. Email: info@beijerref.com.au