Solstice® Refrigerants

Solstice® ze (R-1234ze)

Solstice

Solstice® ze: Ultra-low GWP alternative to R-134a

R-1234ze(E) is an ultra-low-GWP A2L pure HFO refrigerant with a cooling capacity and energy efficiency similar to R-134a. Despite being an A2L refrigerant, from the perspective of chemical classification and labeling regulations (CLP), and also the pressure equipment directive, the R-1234ze is considered a non-flammable product. As a result, the certification of the systems parts used with R-1234ze is easier, and the refrigerant is supplied in a cylinder for non-flammable gases.

On the other hand, due to its high critical temperature, it may be used for condensation above 80ºC and in heat pump systems, aerothermal systems or district heating systems.

Components / Chemical Name:	ASHRAE Code:
Trans-1,3,3,3-tetrafluoropropene	R-1234ze

Technical specifications:

0	7	A2L	POE
ODP	GWP	Safety classification	Compatible lubricants

Temperature Range: High and Medium

Replacement:
R-134a in New Equipment

Type of replacement:
Drop-in

Applications:

- Commercial Refrigeration (Preservation)
- Industrial Refrigeration
- Chillers
- District Heating
- Heat Pump and Aerothermal Systems

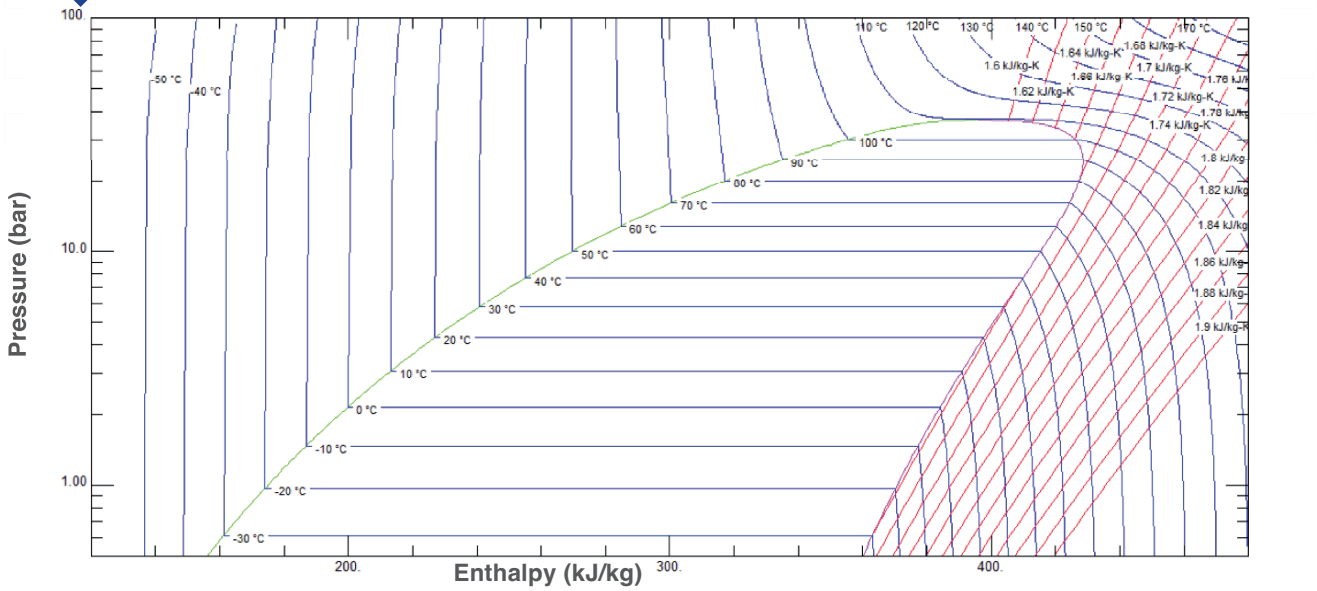
Packaging sizes for Solstice® ze:

- Cylinders
- Roll Drums
- ISO Tanks

Thermodinamic properties chart:

Temperature (°C)	Absolute Pressure (bar)	Liquid Density (kg/l)	Gas Density (kg/m³)	Liquid Enthalpy (kJ/kg)	Gas Enthalpy (kJ/kg)
-20	-0,03128	1296,4	5,4699	173,99	370,2
-15	0,2008	1282,7	6,6961	180,42	373,74
-10	0,4744	1268,7	8,1289	186,9	377,25
-5	0,7942	1254,6	9,7928	193,42	380,73
0	1,1655	1240,1	11,714	200	384,18
5	1,5934	1225,4	13,923	206,63	387,59
10	2,0836	1210,4	16,45	213,32	390,96
15	2,6416	1195	19,332	220,08	394,27
20	3,2734	1179,3	22,607	226,9	397,53
25	3,9852	1163,1	26,321	233,8	400,72
30	4,7833	1146,4	30,523	240,78	403,83
35	5,6741	1129,3	35,272	247,84	406,87
40	6,6645	1111,5	40,636	255	409,8
45	7,7615	1093,1	46,693	262,27	412,63
50	8,9722	1073,8	53,538	269,64	415,33
55	10,304	1053,7	61,286	277,14	417,88
60	11,766	1032,5	70,078	284,78	420,26
65	13,365	1010,1	80,093	292,58	422,45
70	15,11	986,22	91,563	300,56	424,4
75	17,01	960,56	104,8	308,74	426,06
80	19,077	932,66	120,23	317,19	427,38
85	21,321	901,89	138,48	325,95	428,25
90	23,755	867,22	160,57	335,12	428,52
95	26,395	826,88	188,22	344,89	427,93
100	29,26	777,25	225,01	355,59	425,95

Pressure diagram chart:



Instructions:

Charge the system in liquid phase. When using an automotive gas charging unit, refill the unit's reservoir when it reaches 50% of its capacity.

Normative:

GRIT (Gases Research Innovation & Technology) is committed to the continuous improvement of our inbuilt Quality Control, Environment and Major Accident Prevention Systems as well as close collaboration with our product and service providers. The scope of the system includes the packaging, commercialisation, storage and innovation of technical gases and the management of residual fluorinated gas and halogenated solvents.

All this work is reflected in our certificates ISO 9001 & ISO 14001. GRIT also meets AHRI 700 standard for new and recycled refrigerants.

More information:

If you want more information about our products, contact us.

EUROPE — GRIT, Gases Research Innovation & Technology

BARCELONA

Our plant:
P. I. "El Punsic", parcela 8.3,
08279 Avinyó, Barcelona. Spain.

Our office:
Avda. Diagonal 403, 6º 3ª
08008 Barcelona. Spain.

Phone: (+34) 932 721 400
E-mail: grit@grit.es
Website: www.gasesgrit.com

USA — Summit Refrigerants

HOUSTON

8541 East North Belt
Humble, Texas 77396

Phone: (+1) 281-540-2653
Toll-Free: (+1) 866-971-2653
Fax: (+1) 281-540-0385

DALLAS

2080 McDaniel Drive
Suite 200
Carrollton, Texas 75006

Phone: (+1) 469-458-3195
Fax: (+1) 469-458-3085

BATON ROUGE

10080 Industriplex Avenue
Gonzales, LA 70737

Phone: (+1) 225-744-2653
Fax: (+1) 225-677-6106