

R-1234ze (Solstice® ze)

Trans-1,3,3,3-tetrafluoroprop-1-ène (CF₃-CH=CHF)

Masse molaire en g/mol	114,04
Température de fusion en °C	-104,53
Point d'ébullition (sous 1,013 bar)	-18,98
Glissement de température sous 1,013 bar en K	0
Température critique en °C	109,4
Pression critique en bar absolu	36,35
Chaleur massique du liquide à + 25°C en kJ/kg.K	1,386
Chaleur massique de la vapeur (sous 1,013 bar) à + 25°C en kJ/kg.K	0,889
Rapport des capacités thermiques massiques (Cp/Cv) à + 25°C et sous 1,013 bar	1,101
Viscosité du liquide à + 25°C en centipoise (10 ⁻³ Pa.s)	0,199
Tension de surface à + 25°C en dyne par centimètre (10 ⁻³ N/m)	8,85
Classification NF-EN 378	A2L
GWP (IPCC 4)	7

◆ Principales applications

Le Solstice® ze est un corps pur fluoré de la famille des hydrofluoro-oléfine (HFO) à très faible GWP, destiné aux applications frigorifiques et de conditionnement d'air. Il sera utilisé dans les installations de réfrigération commerciale et industrielle, ainsi que dans les chillers, pompes à chaleurs y compris PAC haute température.

◆ Spécifications commerciales

Pureté garantie : ≥ 99.5 % poids.

Teneur en eau : ≤ 10 ppm poids.

Test ion chlorure : négatif.

Acidité totale (HCL) : ≤ 1 ppm poids.

Teneur en incondensables (phase gazeuse) : ≤ 1,5 % volume.

◆ Huiles

Utiliser une huile polyolester (POE). Vérifier auprès de **Climalife** la viscosité de l'huile retenue en fonction de l'application et la miscibilité avec le fluide considéré.

◆ Réglementation

L'usage et la mise en œuvre du R-1234ze sont régis par le règlement Européen n° 517/2014.

La récupération du R-1234ze est obligatoire au titre du règlement Européen n° 517/2014.

(Se reporter à la réglementation en vigueur dans chaque pays).

Caractéristiques thermodynamiques du R-1234ze - État saturé

Pression absolue	LIQUIDE					VAPEUR					Chaleur latente
	Temp. bulle	Vol. mass	Masse vol.	Enthalpie	Entropie	Temp. rosée	Vol. mass	Masse vol.	Enthalpie	Entropie	
P	t'	v'	p'	h'	s'	t"	v"	p"	h"	s"	Lv
(Bar)	(°C)	(dm³/kg)	(kg/dm³)	(kJ/kg)	(kJ/kg-K)	(°C)	(m³/kg)	(kg/m³)	(kJ/kg)	(kJ/kg-K)	(kJ/kg)
0,010	-90	0,678	1,476	87,169	0,501	-90,0	13,092	0,076	321,201	1,779	234,032
0,016	-85	0,683	1,463	93,255	0,534	-85,0	8,454	0,118	324,516	1,763	231,261
0,025	-80	0,689	1,451	99,348	0,566	-80,0	5,614	0,178	327,879	1,749	228,531
0,038	-75	0,695	1,438	105,450	0,597	-75,0	3,825	0,261	331,287	1,737	225,836
0,055	-70	0,701	1,426	111,564	0,627	-70,0	2,668	0,375	334,733	1,726	223,169
0,079	-65	0,708	1,413	117,694	0,657	-65,0	1,900	0,526	338,213	1,717	220,519
0,112	-60	0,714	1,401	123,841	0,686	-60,0	1,381	0,724	341,722	1,708	217,881
0,154	-55	0,720	1,388	130,009	0,715	-55,0	1,021	0,979	345,254	1,702	215,246
0,209	-50	0,727	1,375	136,200	0,743	-50,0	0,768	1,303	348,805	1,696	212,605
0,279	-45	0,734	1,362	142,418	0,770	-45,0	0,586	1,707	352,369	1,691	209,951
0,367	-40	0,741	1,350	148,664	0,797	-40,0	0,453	2,206	355,941	1,687	207,277
0,477	-35	0,748	1,336	154,942	0,824	-35,0	0,355	2,814	359,515	1,683	204,573
0,611	-30	0,756	1,323	161,253	0,850	-30,0	0,282	3,549	363,086	1,680	201,833
0,774	-25	0,763	1,310	167,602	0,876	-25,0	0,226	4,428	366,651	1,678	199,048
0,969	-20	0,771	1,296	173,991	0,901	-20,0	0,183	5,470	370,202	1,677	196,211
1,013	-18,98	0,773	1,294	175,301	0,907	-18,98	0,175	5,705	370,926	1,676	195,624
1,201	-15	0,780	1,283	180,422	0,927	-15,0	0,149	6,696	373,736	1,675	193,314
1,474	-10	0,788	1,269	186,898	0,951	-10,0	0,123	8,129	377,247	1,675	190,349
1,794	-5	0,797	1,255	193,423	0,976	-5,0	0,102	9,793	380,730	1,674	187,307
2,166	0	0,806	1,240	200,000	1,000	0	0,085	11,714	384,180	1,674	184,180
2,593	5	0,816	1,225	206,632	1,024	5,0	0,072	13,923	387,591	1,675	180,959
3,084	10	0,826	1,210	213,323	1,048	10,0	0,061	16,450	390,957	1,675	177,634
3,642	15	0,837	1,195	220,078	1,071	15,0	0,052	19,332	394,271	1,676	174,193
4,273	20	0,848	1,179	226,902	1,094	20,0	0,044	22,607	397,528	1,676	170,626
4,985	25	0,860	1,163	233,799	1,118	25,0	0,038	26,321	400,719	1,677	166,919
5,783	30	0,872	1,146	240,778	1,141	30,0	0,033	30,523	403,835	1,678	163,057
6,674	35	0,886	1,129	247,843	1,163	35,0	0,028	35,272	406,867	1,679	159,024
7,665	40	0,900	1,112	255,003	1,186	40,0	0,025	40,636	409,803	1,680	154,800
8,761	45	0,915	1,093	262,266	1,209	45,0	0,021	46,693	412,629	1,681	150,363
9,972	50	0,931	1,074	269,642	1,231	50,0	0,019	53,538	415,328	1,682	145,686
11,304	55	0,949	1,054	277,143	1,254	55,0	0,016	61,286	417,881	1,683	140,739
12,766	60	0,969	1,033	284,783	1,277	60,0	0,014	70,078	420,265	1,683	135,482
14,365	65	0,990	1,010	292,579	1,300	65,0	0,012	80,093	422,449	1,684	129,870
16,110	70	1,014	0,986	300,556	1,322	70,0	0,011	91,563	424,399	1,683	123,843
18,011	75	1,041	0,961	308,744	1,346	75,0	0,010	104,797	426,065	1,683	117,321
20,077	80	1,072	0,933	317,186	1,369	80,0	0,008	120,226	427,382	1,681	110,196
22,321	85	1,109	0,902	325,946	1,393	85,0	0,007	138,484	428,252	1,679	102,307
24,755	90	1,153	0,867	335,123	1,418	90,0	0,006	160,570	428,523	1,675	93,401
27,395	95	1,209	0,827	344,889	1,444	95,0	0,005	188,222	427,933	1,669	83,045
30,260	100	1,287	0,777	355,594	1,471	100,0	0,004	225,006	425,953	1,660	70,358
33,378	105	1,412	0,708	368,232	1,504	105,0	0,004	281,016	421,116	1,644	52,884

Caractéristiques thermodynamiques du R-1234ze - État vapeur surchauffé - Volume massique (dm³/kg)

Tempér., à satur., °C	Pression rosée bar	Surchauffe (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-90	0,010	13092,016	13450,735	13809,396	14168,002	14526,558	14885,068	15243,533	15601,957	15960,344	16318,694	16677,011	17035,298	17393,555	17751,786	18109,991	18468,174	18826,335	19184,476	19542,598	19900,703	20258,792
-85	0,016	8454,191	8680,072	8905,899	9131,676	9357,405	9583,091	9808,735	10034,341	10259,912	10485,449	10710,955	10936,432	11161,882	11387,307	11612,709	11838,090	12063,450	12288,792	12514,117	12739,426	12964,720
-80	0,025	5614,443	5760,914	5907,333	6053,705	6200,034	6346,320	6492,569	6638,782	6784,961	6931,109	7077,228	7223,307	7369,387	7515,431	7661,454	7807,456	7953,440	8099,406	8245,357	8391,292	8537,214
-75	0,038	3825,063	3922,637	4020,164	4117,646	4215,086	4312,488	4409,854	4507,186	4604,488	4701,760	4799,005	4896,225	4993,421	5090,596	5187,751	5284,888	5382,007	5479,110	5576,198	5673,270	5770,334
-70	0,055	2667,501	2734,138	2800,731	2867,282	2933,794	3000,270	3066,712	3133,123	3199,505	3265,899	3332,188	3398,494	3464,778	3531,042	3597,288	3663,516	3729,727	3795,925	3862,108	3928,278	3994,437
-65	0,079	1909,362	1946,390	1993,455	2039,942	2086,392	2132,808	2179,193	2225,548	2271,876	2318,178	2364,457	2410,714	2456,951	2503,170	2549,370	2595,555	2641,725	2687,881	2734,024	2780,155	2826,275
-60	0,112	1380,541	1413,785	1446,989	1480,156	1513,289	1546,390	1579,461	1612,505	1645,523	1678,518	1711,491	1744,443	1777,376	1810,292	1843,192	1876,077	1908,947	1941,805	1974,651	2007,486	2040,310
-55	0,154	1021,018	1045,225	1069,394	1093,528	1117,631	1141,703	1165,747	1189,765	1213,760	1237,732	1261,684	1285,617	1309,532	1333,431	1357,315	1381,185	1405,042	1428,887	1452,721	1476,544	1500,358
-50	0,209	767,616	785,571	803,490	821,376	839,231	857,059	874,860	892,637	910,392	928,126	945,841	963,538	981,218	998,884	1016,535	1034,173	1051,799	1069,414	1087,018	1104,613	1122,199
-45	0,279	585,862	599,411	612,925	626,409	639,864	653,293	666,696	680,077	693,438	706,778	720,101	733,407	746,698	759,974	773,237	786,488	799,728	812,957	826,177	839,387	852,589
-40	0,367	453,371	463,761	474,119	484,447	494,748	505,024	515,277	525,509	535,721	545,915	556,091	566,253	576,400	586,533	596,654	606,764	616,863	626,952	637,032	647,104	657,168
-35	0,477	355,330	363,419	371,478	379,508	387,513	395,494	403,453	411,392	419,313	427,217	435,104	442,977	450,836	458,683	466,519	474,343	482,158	489,964	497,760	505,549	513,331
-30	0,611	281,764	288,152	294,510	300,842	307,150	313,435	319,700	325,945	332,173	338,385	344,582	350,765	356,936	363,095	369,243	375,380	381,509	387,629	393,740	399,845	405,942
-25	0,774	225,843	230,955	236,039	241,098	246,134	251,149	256,144	261,121	266,081	271,026	275,958	280,876	285,782	290,677	295,562	300,437	305,304	310,162	315,013	319,857	324,694
-20	0,969	182,818	186,961	191,078	195,170	199,241	203,291	207,323	211,337	215,336	219,320	223,292	227,250	231,198	235,135	239,062	242,980	246,891	250,793	254,688	258,577	262,459
-18,98	1,013	175,290	179,265	183,214	187,139	191,042	194,924	198,789	202,636	206,468	210,286	214,090	217,883	221,664	225,435	229,196	232,949	236,693	240,429	244,159	247,882	251,599
-15	1,201	149,341	152,740	156,113	159,462	162,791	166,100	169,392	172,667	175,928	179,174	182,408	185,631	188,842	192,044	195,237	198,421	201,597	204,766	207,929	211,085	214,235
-10	1,474	123,018	125,838	128,632	131,405	134,157	136,891	139,607	142,309	145,005	147,699	150,391	152,982	155,623	158,254	160,876	163,491	166,098	168,698	171,292	173,880	176,462
-5	1,794	102,116	104,481	106,821	109,140	111,440	113,721	115,987	118,237	120,474	122,698	124,911	127,113	129,306	131,490	133,665	135,833	137,994	140,148	142,296	144,438	146,575
0	2,166	86,365	87,369	89,349	91,308	93,248	95,172	97,079	98,972	100,852	102,720	104,577	106,424	108,262	110,091	111,912	113,726	115,534	117,335	119,130	120,920	122,705
5	2,593	71,825	73,539	75,231	76,902	78,555	80,191	81,812	83,419	85,013	86,596	88,169	89,732	91,286	92,831	94,370	95,901	97,426	98,945	100,458	101,966	103,469
10	3,084	60,790	62,271	63,730	65,169	66,589	67,994	69,383	70,760	72,124	73,477	74,819	76,153	77,478	78,795	80,105	81,408	82,705	83,997	85,283	86,564	87,840
15	3,642	51,729	53,020	54,289	55,539	56,771	57,986	59,188	60,376	61,553	62,718	63,874	65,021	66,160	67,291	68,416	69,533	70,645	71,752	72,853	73,949	75,042
20	4,273	44,234	45,370	46,484	47,579	48,655	49,717	50,764	51,798	52,821	53,833	54,836	55,830	56,816	57,795	58,768	59,733	60,693	61,648	62,598	63,543	64,484
25	4,985	37,993	39,001	39,987	40,954	41,903	42,836	43,756	44,663	45,559	46,444	47,320	48,188	49,048	49,901	50,748	51,588	52,423	53,253	54,078	54,898	55,715
30	5,783	32,762	33,665	34,545	35,405	36,248	37,076	37,889	38,690	39,481	40,261	41,032	41,797	42,550	43,298	44,040	44,776	45,507	46,232	46,954	47,671	48,384
35	6,674	28,351	29,166	29,958	30,730	31,484	32,223	32,948	33,661	34,363	35,054	35,737	36,412	37,080	37,740	38,395	39,044	39,687	40,326	40,961	41,591	42,217
40	7,665	24,609	25,351	26,070	26,768	27,448	28,112	28,763	29,401	30,029	30,646	31,255	31,856	32,449	33,036	33,617	34,192	34,763	35,328	35,890	36,447	37,001
45	8,761	21,417	22,099	22,756	23,392	24,010	24,612	25,199	25,775	26,339	26,894	27,440	27,978	28,509	29,033	29,552	30,065	30,573	31,076	31,576	32,071	32,563
50	9,972	18,678	19,312	19,918	20,502	21,067	21,615	22,149	22,671	23,182	23,683	24,176	24,660	25,138	25,609	26,074	26,534	26,990	27,440	27,887	28,330	28,769
55	11,304	16,317	16,910	17,474	18,014	18,535	19,038	19,527	20,003	20,468	20,923	21,370	21,809	22,241	22,666	23,086	23,501	23,911	24,316	24,718	25,115	25,510
60	12,766	14,270	14,831	15,361	15,864	16,346	16,811	17,261	17,698	18,124	18,540	18,947	19,347	19,739	20,126	20,506	20,882	21,253	21,619	21,982	22,341	22,696
65	14,365	12,485	13,023	13,524	13,997	14,447	14,879	15,296	15,699	16,091	16,473	16,846	17,212	17,570	17,923	18,270	18,611	18,948	19,281	19,610	19,935	20,257
70	16,110	10,921	11,422	11,921	12,369	12,792	13,196	13,584	13,959	14,321	14,674	15,017	15,353	15,682	16,005	16,322	16,634	16,942	17,245	17,545	17,841	18,134
75	18,011	9,542	10,054	10,516	10,944	11,344	11,725	12,088	12,437	12,774	13,101	13,419	13,729	14,032	14,329	14,620	14,907	15,188	15,466	15,740	16,011	16,278
80	20,077	8,318	8,829	9,280	9,691	10,073	10,433	10,775	11,102	11,417	11,721	12,016	12,304	12,584	12,858	13,127	13,391	13,650	13,905	14,156	14,405	14,650
85	22,321	7,221	7,741	8,187	8,586	8,952	9,295	9,618	9,926	10,222	10,506	10,782	11,049	11,309	11,563	11,812	12,056	12,295	12,530	12,762	12,990	13,217
90	24,755	6,228	6,771	7,217	7,607	7,961	8,289	8,597	8,888	9,166	9,433	9,691	9,940	10,183	10,419	10,650	10,876	11,097	11,315	11,529	11,739	11,945
95	27,395	5,313	5,901	6,352	6,738	7,082	7,397	7,691	7,967	8,230	8,481	8,723	8,957	9,183	9,404	9,618	9,828	10,034	10,236	10,434	10,629	10,821
100	30,260	4,444	5,114	5,579	5,963	6,299	6,603	6,884	7,147	7,396	7,634	7,861	8,081	8,293	8,499	8,699	8,895	9,086	9,274	9,458	9,639	9,817
105	33,378	3,559	4,400	4,885	5,269	5,598	5,893	6,163	6,414	6,650	6,875	7,089	7,296	7,495	7,688	7,875	8,058	8,236	8,411	8,582	8,750	8,915

Caractéristiques thermodynamiques du R-1234ze - État vapeur surchauffée - Enthpie (kJ/kg)

Tempér., à satur., °C	Pression rosée bar	Surchauffe (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-90	0,010	321,201	324,544	327,946	331,404	334,917	338,483	342,100	345,767	349,483	353,246	357,056	360,911	364,810	368,753	372,739	376,767	380,836	384,947	389,098	393,290	397,522
-85	0,016	324,516	327,919	331,378	334,892	338,459	342,078	345,746	349,463	353,227	357,038	360,893	364,793	368,737	372,723	376,752	380,822	384,934	389,086	393,278	397,510	401,782
-80	0,025	327,879	331,341	334,856	338,425	342,045	345,715	349,433	353,199	357,011	360,866	364,769	368,713	372,701	376,731	380,802	384,914	389,067	393,260	397,493	401,766	406,078
-75	0,038	331,287	334,805	338,376	341,998	345,670	349,391	353,158	356,972	360,831	364,734	368,680	372,669	376,700	380,773	384,886	389,040	393,235	397,469	401,743	406,056	410,408
-70	0,055	334,733	338,307	341,933	345,608	349,331	353,101	356,918	360,779	364,684	368,633	372,624	376,657	380,732	384,847	389,003	393,199	397,435	401,710	406,024	410,378	414,770
-65	0,079	338,213	341,843	345,522	349,249	353,024	356,844	360,708	364,617	368,569	372,563	376,599	380,676	384,794	388,952	393,150	397,388	401,665	405,981	410,336	414,730	419,163
-60	0,112	341,722	345,407	349,140	352,919	356,744	360,613	364,526	368,482	372,480	376,520	380,610	384,722	388,883	393,084	397,325	401,605	405,924	410,281	414,677	419,112	423,584
-55	0,154	345,254	348,994	352,781	356,612	360,488	364,406	368,368	372,371	376,416	380,501	384,627	388,793	392,998	397,242	401,525	405,848	410,208	414,610	419,044	423,520	428,033
-50	0,209	348,805	352,600	356,440	360,324	364,251	368,219	372,230	376,281	380,372	384,504	388,675	392,885	397,134	401,422	405,749	410,114	414,516	418,957	423,436	427,953	432,507
-45	0,279	352,369	356,220	360,114	364,051	368,029	372,048	376,108	380,207	384,346	388,524	392,741	396,997	401,291	405,623	409,993	414,400	418,846	423,329	427,850	432,406	437,003
-40	0,367	355,941	359,848	363,798	367,788	371,819	375,889	379,999	384,147	388,334	392,560	396,823	401,124	405,463	409,840	414,254	418,705	423,194	427,720	432,283	436,883	441,521
-35	0,477	359,515	363,481	367,486	371,531	375,615	379,738	383,898	388,097	392,333	396,606	400,917	405,265	409,650	414,072	418,530	423,026	427,559	432,128	436,734	441,377	446,056
-30	0,611	363,086	367,112	371,175	375,276	379,415	383,590	387,803	392,052	396,338	400,661	405,020	409,415	413,847	418,315	422,819	427,360	431,937	436,550	441,200	445,886	450,608
-25	0,774	366,651	370,737	374,859	379,018	383,213	387,443	391,709	396,011	400,348	404,720	409,129	413,572	418,052	422,567	427,118	431,704	436,326	440,984	445,678	450,407	455,173
-20	0,969	370,202	374,352	378,535	382,754	387,006	391,292	395,613	399,968	404,358	408,782	413,240	417,734	422,262	426,825	431,423	436,056	440,724	445,427	450,166	454,940	459,749
-18,98	1,013	370,926	375,089	379,285	383,516	387,780	392,078	396,410	400,777	405,177	409,612	414,081	418,584	423,122	427,695	432,303	436,946	441,623	446,336	451,084	455,867	460,686
-15	1,201	373,736	377,951	382,198	386,478	390,790	395,134	399,511	403,921	408,365	412,841	417,352	421,896	426,474	431,086	435,732	440,412	445,127	449,877	454,661	459,480	464,334
-10	1,474	377,247	381,531	385,844	390,187	394,560	398,965	403,400	407,867	412,366	418,897	424,460	429,056	433,685	438,347	443,042	447,771	452,534	457,331	462,162	467,026	471,926
-5	1,794	380,730	385,085	389,467	393,876	398,314	402,780	407,276	411,801	416,357	420,944	425,561	430,211	434,892	439,605	444,351	449,130	453,943	458,786	463,661	468,576	473,522
0	2,166	384,180	388,610	393,064	397,542	402,046	406,577	411,135	415,721	420,332	424,980	429,654	433,358	438,093	443,858	448,656	453,485	458,347	463,241	468,167	473,127	478,119
5	2,593	387,591	392,100	396,629	401,180	405,753	410,351	414,974	419,623	424,298	429,002	433,733	438,494	443,284	448,104	452,954	457,835	462,746	467,689	472,663	477,676	482,716
10	3,084	390,957	395,549	400,158	404,784	409,431	414,098	418,788	423,502	428,241	433,006	437,797	442,616	447,462	452,338	457,243	462,177	467,142	472,137	477,162	482,210	487,310
15	3,642	394,271	398,953	403,645	408,351	413,074	417,815	422,575	427,357	432,161	436,989	441,842	446,721	451,626	456,558	461,519	466,508	471,526	476,574	481,651	486,759	491,898
20	4,273	397,528	402,304	407,085	411,876	416,679	421,496	426,330	431,182	436,055	440,948	445,862	450,806	455,771	460,763	465,780	470,825	475,898	481,000	486,130	491,289	496,478
25	4,985	400,719	405,596	410,472	415,352	420,240	425,138	430,048	434,975	439,918	444,880	449,863	454,868	459,896	464,947	470,024	475,127	480,256	485,412	490,596	495,808	501,049
30	5,783	403,835	408,821	413,800	418,775	423,752	428,735	433,727	438,730	443,748	448,781	453,833	458,904	463,996	469,110	474,248	479,410	484,596	489,809	495,048	500,314	505,608
35	6,674	406,867	411,972	417,060	422,137	427,210	432,283	437,360	442,445	447,540	452,648	457,771	462,911	468,070	473,248	478,445	483,671	488,927	494,184	499,483	504,808	510,152
40	7,665	409,803	415,038	420,245	425,433	430,608	435,777	440,944	446,114	451,291	456,477	461,674	466,886	472,113	477,359	482,624	487,909	493,216	498,546	503,899	509,277	514,680
45	8,761	412,629	418,009	423,346	428,653	433,939	439,210	444,474	449,735	454,997	460,264	465,539	470,825	476,124	481,439	486,771	492,121	497,491	502,881	508,294	513,730	519,189
50	9,972	415,328	420,871	426,354	431,792	437,197	442,578	447,944	453,300	458,653	464,005	469,362	474,726	480,100	485,486	490,887	496,304	501,738	507,192	512,665	518,160	523,677
55	11,304	417,881	423,611	429,257	434,839	440,374	445,874	451,349	456,807	462,255	467,697	473,139	478,584	484,036	489,497	494,969	500,455	505,956	511,475	517,011	522,562	528,133
60	12,766	420,265	426,212	432,042	437,785	443,463	449,091	454,683	460,250	465,799	471,336	476,868	482,398	487,931	493,469	499,015	504,573	510,143	515,728	521,329	526,947	532,584
65	14,365	422,449	428,544	434,696	440,619	446,453	452,221	457,941	463,623	469,280	474,918	480,544	486,163	491,780	497,399	503,023	508,654	514,296	519,949	525,616	531,299	536,999
70	16,110	424,399	430,615	436,792	442,832	448,736	454,557	461,114	466,922	472,693	478,437	484,163	489,876	495,582	501,285	506,989	512,697	518,412	524,136	529,872	535,621	541,384
75	18,011	426,065	432,966	439,541	445,897	452,100	458,190	464,196	470,139	476,033	481,891	487,722	493,533	499,332	505,123	510,910	516,698	522,489	528,287	534,093	539,909	545,739
80	20,077	427,382	434,770	441,688	448,311	454,733	461,011	467,180	473,269	479,295	485,271	491,216	497,131	503,027	508,910	514,784	520,654	526,525	532,398	538,277	544,163	550,060
85	22,321	428,252	436,280	443,616	450,551	457,223	463,709	470,058	476,305	482,473	488,580	494,641	500,666	506,664	512,642	518,607	524,564	530,516	536,467	542,421	548,380	554,346
90	24,755	428,523	437,436	445,293	452,996	459,553	466,079	472,620	479,239	485,860	491,805	497,992	504,132	510,238	516,317	522,376	528,422	534,459	540,491	546,522	552,555	558,593
95	27,395	427,933	438,158	446,678	454,421	461,708	468,990	476,575	482,064	488,549	494,942	501,261	507,524	513,743	519,927	526,085	532,224	538,349	544,465	550,577	556,686	562,798
100	30,280	425,953	438,342	447,725	456,900	463,667	470,945	477,954	484,766	491,430	497,960	504,442	510,834	517,171	523,466	529,727	535,963	542,180	548,383	554,577	560,766	566,954
105	33,378	421,116	437,853	448,378	457,294	465,402	473,014	480,291	487,327	494,184	500,904	507,517	514,046	520,510	526,921	533,290	539,627	545,940	552,234	558,514	564,785	571,051

Caractéristiques thermodynamiques du R-1234ze - État vapeur surchauffée - Entropie (kJ/kg.K)

Tempér., à satur., °C	Pression rosée bar	Surchauffe (°C)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
-90	0,010	1,779	1,797	1,815	1,832	1,850	1,867	1,884	1,901	1,918	1,935	1,951	1,968	1,984	2,000	2,016	2,032	2,047	2,063	2,078	2,093	2,108
-85	0,016	1,763	1,781	1,798	1,816	1,833	1,850	1,867	1,884	1,901	1,917	1,934	1,950	1,966	1,982	1,998	2,013	2,029	2,044	2,059	2,074	2,089
-80	0,025	1,749	1,767	1,784	1,801	1,819	1,836	1,852	1,869	1,886	1,902	1,918	1,934	1,950	1,966	1,982	1,997	2,012	2,028	2,043	2,058	2,072
-75	0,038	1,737	1,754	1,771	1,789	1,806	1,823	1,839	1,856	1,872	1,888	1,904	1,920	1,936	1,952	1,967	1,983	1,998	2,013	2,028	2,043	2,057
-70	0,055	1,726	1,743	1,760	1,777	1,794	1,811	1,828	1,844	1,860	1,876	1,892	1,908	1,924	1,939	1,954	1,970	1,985	2,000	2,015	2,029	2,044
-65	0,079	1,717	1,734	1,751	1,768	1,784	1,801	1,817	1,834	1,850	1,866	1,881	1,897	1,913	1,928	1,943	1,958	1,973	1,988	2,003	2,017	2,032
-60	0,112	1,708	1,726	1,742	1,759	1,776	1,792	1,808	1,825	1,841	1,856	1,872	1,887	1,903	1,918	1,933	1,948	1,963	1,978	1,992	2,007	2,021
-55	0,154	1,702	1,718	1,735	1,752	1,768	1,785	1,801	1,817	1,833	1,848	1,864	1,879	1,894	1,909	1,924	1,939	1,954	1,969	1,983	1,998	2,012
-50	0,209	1,696	1,712	1,729	1,746	1,762	1,778	1,794	1,810	1,826	1,841	1,857	1,872	1,887	1,902	1,917	1,932	1,946	1,961	1,975	1,990	2,004
-45	0,279	1,691	1,707	1,724	1,740	1,756	1,772	1,788	1,804	1,820	1,835	1,850	1,866	1,881	1,895	1,910	1,925	1,939	1,954	1,968	1,982	1,997
-40	0,367	1,687	1,703	1,719	1,736	1,752	1,768	1,784	1,799	1,815	1,830	1,845	1,860	1,875	1,890	1,905	1,919	1,934	1,948	1,962	1,976	1,990
-35	0,477	1,683	1,700	1,716	1,732	1,748	1,764	1,779	1,795	1,810	1,826	1,841	1,856	1,870	1,885	1,900	1,914	1,929	1,943	1,957	1,971	1,985
-30	0,611	1,680	1,697	1,713	1,729	1,745	1,761	1,776	1,792	1,807	1,822	1,837	1,852	1,867	1,881	1,896	1,910	1,924	1,939	1,953	1,967	1,980
-25	0,774	1,678	1,694	1,711	1,727	1,742	1,758	1,773	1,789	1,804	1,819	1,834	1,849	1,863	1,878	1,892	1,907	1,921	1,935	1,949	1,963	1,977
-20	0,969	1,677	1,693	1,709	1,725	1,740	1,756	1,771	1,787	1,802	1,817	1,832	1,846	1,861	1,875	1,890	1,904	1,918	1,932	1,946	1,960	1,973
-18,98	1,013	1,676	1,693	1,709	1,724	1,740	1,756	1,771	1,786	1,801	1,816	1,831	1,846	1,860	1,875	1,889	1,903	1,917	1,931	1,945	1,959	1,973
-15	1,201	1,675	1,692	1,708	1,723	1,739	1,755	1,770	1,785	1,800	1,815	1,830	1,844	1,859	1,873	1,887	1,902	1,916	1,930	1,943	1,957	1,971
-10	1,474	1,675	1,691	1,707	1,723	1,738	1,754	1,769	1,784	1,799	1,814	1,828	1,843	1,857	1,872	1,886	1,900	1,914	1,928	1,942	1,955	1,969
-5	1,794	1,674	1,690	1,706	1,722	1,738	1,753	1,768	1,783	1,798	1,813	1,827	1,842	1,856	1,871	1,885	1,899	1,913	1,927	1,940	1,954	1,967
0	2,166	1,674	1,690	1,706	1,722	1,737	1,753	1,768	1,783	1,798	1,812	1,827	1,841	1,856	1,870	1,884	1,898	1,912	1,926	1,939	1,953	1,966
5	2,593	1,675	1,691	1,706	1,722	1,738	1,753	1,768	1,783	1,798	1,812	1,827	1,841	1,856	1,870	1,884	1,898	1,912	1,925	1,939	1,952	1,966
10	3,084	1,675	1,691	1,707	1,723	1,738	1,753	1,768	1,783	1,798	1,813	1,827	1,842	1,856	1,870	1,884	1,898	1,912	1,925	1,939	1,952	1,966
15	3,642	1,676	1,692	1,708	1,723	1,739	1,754	1,769	1,784	1,799	1,813	1,828	1,842	1,856	1,870	1,884	1,898	1,912	1,925	1,939	1,952	1,966
20	4,273	1,676	1,693	1,709	1,724	1,740	1,755	1,770	1,785	1,800	1,814	1,829	1,843	1,857	1,871	1,885	1,899	1,913	1,926	1,940	1,953	1,966
25	4,985	1,677	1,694	1,710	1,725	1,741	1,756	1,771	1,786	1,801	1,815	1,830	1,844	1,858	1,872	1,886	1,900	1,913	1,927	1,940	1,954	1,967
30	5,783	1,678	1,695	1,711	1,726	1,742	1,757	1,772	1,787	1,802	1,817	1,831	1,845	1,859	1,873	1,887	1,901	1,915	1,928	1,942	1,955	1,968
35	6,674	1,679	1,696	1,712	1,728	1,743	1,759	1,774	1,789	1,804	1,818	1,833	1,847	1,861	1,875	1,889	1,902	1,916	1,930	1,943	1,956	1,969
40	7,665	1,680	1,697	1,713	1,729	1,745	1,760	1,775	1,790	1,805	1,820	1,834	1,848	1,863	1,876	1,890	1,904	1,918	1,931	1,944	1,958	1,971
45	8,761	1,681	1,698	1,715	1,731	1,746	1,762	1,777	1,792	1,807	1,822	1,836	1,850	1,864	1,878	1,892	1,906	1,919	1,933	1,946	1,959	1,973
50	9,972	1,682	1,699	1,716	1,732	1,748	1,764	1,779	1,794	1,809	1,823	1,838	1,852	1,866	1,880	1,894	1,908	1,921	1,935	1,948	1,961	1,974
55	11,304	1,683	1,700	1,717	1,734	1,750	1,765	1,781	1,796	1,811	1,825	1,840	1,854	1,868	1,882	1,896	1,910	1,923	1,937	1,950	1,963	1,976
60	12,766	1,683	1,701	1,718	1,735	1,751	1,767	1,782	1,798	1,813	1,827	1,842	1,856	1,870	1,884	1,898	1,912	1,926	1,939	1,952	1,965	1,979
65	14,365	1,684	1,702	1,719	1,736	1,753	1,769	1,784	1,800	1,815	1,829	1,844	1,858	1,873	1,887	1,901	1,914	1,928	1,941	1,955	1,968	1,981
70	16,110	1,683	1,702	1,720	1,737	1,754	1,770	1,786	1,802	1,817	1,832	1,846	1,861	1,875	1,889	1,903	1,917	1,930	1,944	1,957	1,970	1,983
75	18,011	1,683	1,702	1,721	1,738	1,755	1,772	1,788	1,803	1,819	1,834	1,848	1,863	1,877	1,891	1,905	1,919	1,933	1,946	1,959	1,973	1,986
80	20,077	1,681	1,702	1,721	1,739	1,757	1,773	1,789	1,805	1,821	1,836	1,851	1,865	1,880	1,894	1,908	1,921	1,935	1,949	1,962	1,975	1,988
85	22,321	1,679	1,701	1,721	1,740	1,757	1,774	1,791	1,807	1,823	1,838	1,853	1,867	1,882	1,896	1,910	1,924	1,938	1,951	1,964	1,978	1,991
90	24,755	1,675	1,699	1,720	1,740	1,758	1,776	1,792	1,809	1,824	1,840	1,855	1,870	1,884	1,898	1,912	1,926	1,940	1,954	1,967	1,980	1,993
95	27,395	1,669	1,697	1,719	1,740	1,759	1,777	1,794	1,810	1,826	1,842	1,857	1,872	1,886	1,901	1,915	1,929	1,943	1,956	1,970	1,983	1,996
100	30,260	1,660	1,693	1,718	1,739	1,759	1,777	1,795	1,811	1,828	1,843	1,859	1,874	1,889	1,903	1,917	1,931	1,945	1,959	1,972	1,985	1,998
105	33,378	1,644	1,688	1,715	1,738	1,758	1,777	1,795	1,813	1,829	1,845	1,861	1,876	1,891	1,905	1,919	1,933	1,947	1,961	1,974	1,988	2,001