



Solkane[®] 507

Refrigerant



Solvay
Fluor und Derivate



Product Description

Substitute for R 502

- Azeotropic refrigerant containing R 125 and R 143 a (50/50 % by weight)
- Physical and thermodynamic properties comparable to R 502
- Same handling as R 502
- Non-flammable
- Compressors must be charged with polyolester oils

Applications

- Cold-storage cells
- Supermarket display cases
- Ice machines
- As a replacement for R 502 in refrigerated transport
- In practice Solkane 507 has proven to be the optimal replacement for R 502
- Retrofit of existing R 502-installations with Solkane 507 is possible

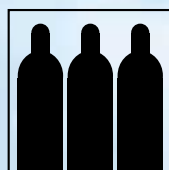
Environmental Aspects



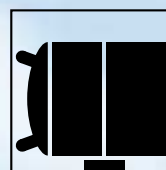
Physical Properties

Chemical Name	Pentafluoroethane/ Trifluoroethane	
Chemical Formula	CHF ₂ -CF ₃ /CH ₃ -CF ₃	
Molecular Weight	kg/kmol	98.9
Boiling Point at 1.013 bar	°C	-46.5
Critical Temperature	°C	70.8
Critical Pressure	bar	37.2
Critical Density	kg/m ³	494
Critical Volume	m ³ /kg	2.02 x 10 ⁻³
Density Liquid ¹⁾	kg/m ³	1057
Density Saturated Vapour ¹⁾	kg/m ³	68.25
Heat of Vaporization ¹⁾	kJ/kg	137.6
Specific Heat Capacity ¹⁾ (Liquid)	kJ/kgK	1.479
Specific Heat Capacity ²⁾ (Vapour)	kJ/kgK	0.880
¹⁾ at 25 °C		
²⁾ at 25 °C and 1.013 bar		

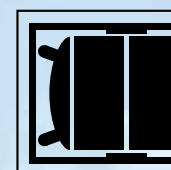
Packaging



Loansteel-cylinders
(10 and 49 kg)



Returnable tanks
(720 kg)



ISO Tank
containers
(11.7 t)

Other sizes of packaging are available from our wholesalers.

Technical Service

For further information please contact our technical specialists:

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Comments:

The recommendations for the use of Solkane-refrigerants are given to the best of our knowledge and information and are not binding.

All users are themselves responsible for the observance of the relevant legal regulations and existing copyright.

Under no circumstances do we accept liability for damages which arise from the use of Solkane-refrigerants and such products, which are manufactured with Solkane-refrigerants.

Thermodynamic properties of saturated Solkane® 507

t °C	p bar	v' dm ³ /kg	v'' dm ³ /kg	rho' kg/dm ³	rho'' kg/m ³	h' kJ/kg	h'' kJ/kg	r kJ/kg	s' kJ/kgK	s'' kJ/kgK	t °C	p bar	v' dm ³ /kg	v'' dm ³ /kg	rho' kg/dm ³	rho'' kg/m ³	h' kJ/kg	h'' kJ/kg	r kJ/kg	s' kJ/kgK	s'' kJ/kgK
-70	0.27	0.708	614.43	1.412	1.63	103.93	322.04	218.11	0.5948	1.6684	0	6.20	0.861	31.20	1.161	32.05	200.00	361.89	161.89	1.0000	1.5927
-69	0.29	0.710	578.48	1.408	1.73	105.47	322.64	217.16	0.6024	1.6661	1	6.40	0.864	30.23	1.157	33.08	201.35	362.38	161.03	1.0049	1.5923
-68	0.31	0.712	545.39	1.405	1.83	106.90	323.25	216.35	0.6093	1.6639	2	6.60	0.867	29.29	1.153	34.14	202.70	362.87	160.17	1.0098	1.5919
-67	0.33	0.714	514.56	1.401	1.94	108.31	323.86	215.54	0.6162	1.6618	3	6.81	0.870	28.39	1.149	35.22	204.06	363.35	159.29	1.0146	1.5915
-66	0.35	0.716	485.83	1.398	2.06	109.73	324.47	214.74	0.6230	1.6597	4	7.02	0.873	27.52	1.146	36.34	205.42	363.83	158.41	1.0195	1.5910
-65	0.37	0.717	459.02	1.394	2.18	111.14	325.08	213.94	0.6298	1.6576	5	7.24	0.876	26.68	1.142	37.48	206.78	364.30	157.52	1.0243	1.5906
-64	0.40	0.719	434.00	1.391	2.30	112.55	325.69	213.14	0.6366	1.6555	6	7.46	0.879	25.87	1.138	38.66	208.15	364.77	156.62	1.0292	1.5902
-63	0.42	0.721	410.44	1.387	2.44	114.04	326.29	212.25	0.6437	1.6537	7	7.68	0.882	25.08	1.134	39.87	209.52	365.24	155.72	1.0340	1.5898
-62	0.44	0.723	388.51	1.384	2.57	115.48	326.90	211.41	0.6505	1.6517	8	7.92	0.885	24.33	1.130	41.11	210.89	365.70	154.81	1.0388	1.5894
-61	0.47	0.725	368.06	1.380	2.72	116.89	327.50	210.62	0.6571	1.6499	9	8.15	0.888	23.59	1.126	42.38	212.27	366.15	153.89	1.0436	1.5890
-60	0.50	0.727	348.91	1.376	2.87	118.28	328.11	209.83	0.6637	1.6481	10	8.40	0.891	22.89	1.122	43.69	213.65	366.61	152.96	1.0484	1.5886
-59	0.53	0.728	330.96	1.373	3.02	119.68	328.72	209.04	0.6702	1.6463	11	8.65	0.895	22.21	1.118	45.04	215.03	367.05	152.02	1.0532	1.5882
-58	0.56	0.730	314.09	1.369	3.18	121.10	329.32	208.22	0.6768	1.6446	12	8.90	0.898	21.54	1.114	46.42	216.42	367.49	151.07	1.0580	1.5878
-57	0.59	0.732	298.21	1.366	3.35	122.54	329.92	207.38	0.6835	1.6429	13	9.16	0.901	20.91	1.109	47.83	217.82	367.93	150.11	1.0628	1.5874
-56	0.62	0.734	283.39	1.362	3.53	123.93	330.53	206.60	0.6899	1.6413	14	9.42	0.905	20.29	1.105	49.29	219.21	368.36	149.14	1.0676	1.5870
-55	0.66	0.736	269.45	1.359	3.71	125.31	331.13	205.82	0.6962	1.6397	15	9.69	0.908	19.69	1.101	50.79	220.62	368.78	148.16	1.0724	1.5866
-54	0.69	0.738	256.30	1.355	3.90	126.73	331.73	205.00	0.7027	1.6381	16	9.97	0.912	19.11	1.097	52.32	222.03	369.20	147.17	1.0772	1.5862
-53	0.73	0.740	243.92	1.352	4.10	128.15	332.33	204.19	0.7091	1.6366	17	10.25	0.915	18.55	1.093	53.90	223.45	369.61	146.17	1.0820	1.5858
-52	0.77	0.742	232.31	1.348	4.31	129.52	332.93	203.41	0.7153	1.6351	18	10.54	0.919	18.01	1.088	55.53	224.87	370.02	145.15	1.0868	1.5854
-51	0.81	0.744	221.32	1.345	4.52	130.94	333.53	202.59	0.7217	1.6335	19	10.84	0.922	17.48	1.084	57.20	226.30	370.42	144.12	1.0916	1.5849
-50	0.85	0.746	210.98	1.341	4.74	132.34	334.13	201.79	0.7280	1.6323	20	11.14	0.926	16.97	1.080	58.91	227.73	370.81	143.07	1.0964	1.5845
-49	0.90	0.748	201.26	1.338	4.97	133.70	334.73	201.03	0.7341	1.6309	21	11.45	0.930	16.48	1.075	60.67	229.17	371.19	142.02	1.1013	1.5841
-48	0.94	0.749	192.03	1.334	5.21	135.11	335.32	200.21	0.7404	1.6296	22	11.76	0.934	16.00	1.071	62.49	230.62	371.57	140.94	1.1061	1.5836
-47	0.99	0.751	183.34	1.331	5.45	136.50	335.91	199.42	0.7465	1.6283	23	12.08	0.938	15.54	1.066	64.35	232.08	371.94	139.86	1.1109	1.5831
-46	1.04	0.753	175.12	1.327	5.71	137.89	336.51	198.62	0.7526	1.6270	24	12.41	0.942	15.09	1.062	66.27	233.55	372.30	138.75	1.1157	1.5827
-45	1.09	0.755	167.36	1.324	5.98	139.27	337.10	197.83	0.7586	1.6257	25	12.74	0.946	14.65	1.057	68.25	235.02	372.65	137.63	1.1206	1.5822
-44	1.14	0.757	160.01	1.320	6.25	140.64	337.69	197.05	0.7646	1.6245	26	13.08	0.950	14.23	1.053	70.28	236.51	373.00	136.49	1.1254	1.5817
-43	1.20	0.759	153.06	1.317	6.53	142.02	338.28	196.27	0.7706	1.6234	27	13.43	0.954	13.82	1.048	72.37	238.00	373.33	135.33	1.1303	1.5812
-42	1.25	0.762	146.47	1.313	6.83	143.40	338.87	195.47	0.7766	1.6222	28	13.78	0.958	13.42	1.043	74.53	239.50	373.66	134.16	1.1352	1.5807
-41	1.31	0.764	140.22	1.310	7.13	144.77	339.46	194.68	0.7825	1.6211	29	14.14	0.963	13.03	1.039	76.75	241.01	373.97	132.96	1.1401	1.5801
-40	1.37	0.766	134.30	1.306	7.45	146.14	340.04	193.90	0.7883	1.6200	30	14.51	0.967	12.65	1.034	79.03	242.53	374.28	131.74	1.1450	1.5796
-39	1.44	0.768	128.67	1.303	7.77	147.52	340.63	193.10	0.7942	1.6189	31	14.89	0.972	12.29	1.029	81.39	244.07	374.57	130.51	1.1499	1.5790
-38	1.50	0.770	123.35	1.299	8.11	148.88	341.21	192.33	0.8000	1.6179	32	15.27	0.977	11.93	1.024	83.82	245.61	374.86	129.25	1.1549	1.5784
-37	1.57	0.772	118.29	1.296	8.45	150.23	341.79	191.56	0.8057	1.6169	33	15.66	0.982	11.58	1.019	86.32	247.16	375.13	127.97	1.1598	1.5778
-36	1.64	0.774	113.48	1.292	8.81	151.60	342.37	190.77	0.8115	1.6159	34	16.06	0.987	11.25	1.014	88.90	248.73	375.39	126.66	1.1648	1.5772
-35	1.71	0.776	108.90	1.288	9.18	152.97	342.95	189.98	0.8172	1.6149	35	16.46	0.992	10.92	1.008	91.57	250.31	375.64	125.32	1.1698	1.5765
-34	1.79	0.778	104.55	1.285	9.57	154.33	343.53	189.20	0.8229	1.6140	36	16.88	0.997	10.60	1.003	94.33	251.91	375.87	123.96	1.1749	1.5758
-33	1.87	0.780	100.42	1.281	9.96	155.68	344.10	188.42	0.8285	1.6131	37	17.30	1.002	10.29	0.998	97.17	253.52	376.09	122.57	1.1799	1.5751
-32	1.95	0.783	96.48	1.278	10.37	157.04	344.68	187.64	0.8341	1.6122	38	17.73	1.008	9.99	0.992	100.11	255.14	376.30	121.16	1.1850	1.5744
-31	2.03	0.785	92.73	1.274	10.79	158.39	345.25	186.86	0.8397	1.6113	39	18.16	1.013	9.69	0.987	103.16	256.78	376.49	119.71	1.1901	1.5736
-30	2.11	0.787	89.15	1.271	11.22	159.75	345.82	186.07	0.8452	1.6105	40	18.61	1.019	9.41	0.981	106.31	258.43	376.66	118.23	1.1953	1.5728
-29	2.20	0.789	85.74	1.267	11.66	161.09	346.39	185.30	0.8507	1.6097	41	19.07	1.025	9.13	0.975	109.56	260.10	376.82	116.72	1.2004	1.5720
-28	2.29	0.791	82.49	1.264	12.12	162.44	346.96	184.52	0.8562	1.6089	42	19.53	1.032	8.85	0.969	112.94	261.79	376.96	115.17	1.2057	1.5711
-27	2.39	0.794	79.39	1.260	12.60	163.79	347.52	183.73	0.8617	1.6081	43	20.00	1.038	8.59	0.963	116.44	263.50	377.08	113.58	1.2109	1.5702
-26	2.48	0.796	76.43	1.257	13.08	165.14	348.08	182.94	0.8671	1.6073	44	20.48	1.045	8.33	0.957	120.08	265.22	377.18	111.96	1.2162	1.5692
-25	2.58	0.798	73.60	1.253	13.59	166.49	348.64	182.16	0.8725	1.6066	45	20.97	1.052	8.07	0.951	123.85	266.97	377.26	110.29	1.2215	1.5682
-24	2.68	0.800	70.90	1.249	14.10	167.82	349.20	181.38	0.8779	1.6059	46	21.47	1.059	7.83	0.944	127.77	268.73	377.31	108.58	1.2269	1.5671
-23	2.79	0.803	68.32	1.246	14.64	169.17	349.76	180.59	0.8832	1.6052	47	21.97	1.067	7.58	0.938	131.85	270.52	377.34	106.82	1.2323	1.5660
-22	2.90	0.805	65.85	1.242	15.19	170.51	350.32	179.81	0.8885	1.6045	48	22.49	1.074	7.35	0.931	136.10	272.33	377.35	105.02	1.2378	1.5648
-21	3.01	0.807	63.49	1.239	15.75	171.85	350.87	179.02	0.8938	1.6038	49	23.02	1.083	7.12	0.924	140.53	274.17	377.33	103.17	1.2433	1.5636
-20	3.13	0.810	61.24	1.235	16.33	173.19	351.42	178.23	0.8991	1.6031	50	23.55	1.091	6.89	0.917	145.15	276.03	377.29	101.26	1.2489	1.5623
-19	3.24	0.812	59.07	1.231	16.93	174.53	351.97	177.44	0.9043	1.6025	51	24.10	1.100	6.67	0.909	149.98	277.92	377.21	99.29	1.2546	1.5609
-18	3.36	0.814	57.00	1.228	17.54																