



Solkane[®] 22

Refrigerant



Solvay
Fluor und Derivate



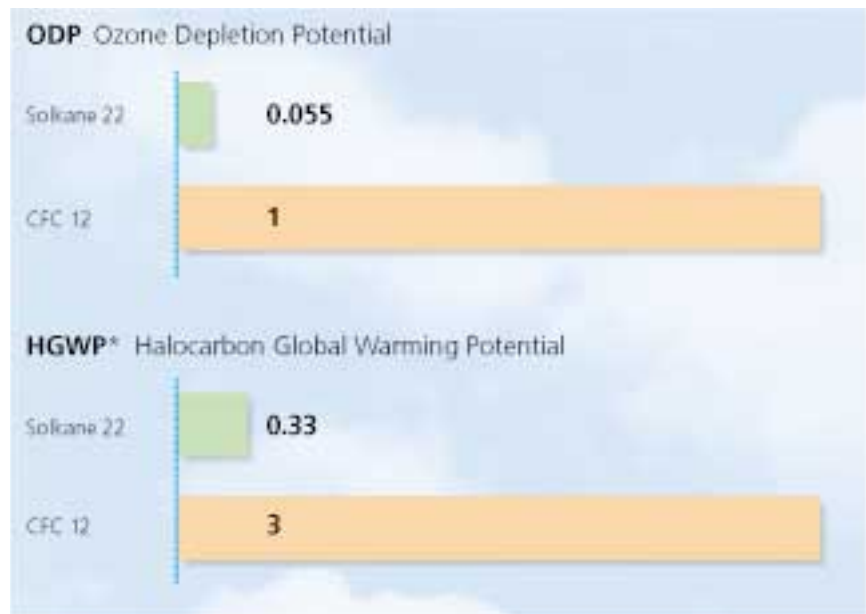
Product Description

- In comparison to CFC 12, the ODP of Solkane 22 is reduced by 94.5%
- It is used in a broad spectrum of different applications
- Mostly used refrigerant worldwide
- Possible replacement for CFC 12 and CFC 502 in low-temperature application
- Well-known and approved refrigerant

Applications

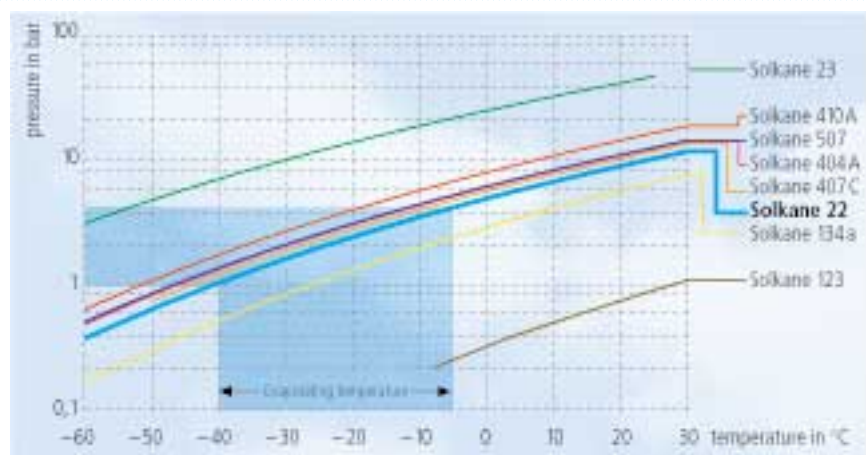
- Frozen food display case
- Chest freezer
- Air conditioner
- Cold storage room
- Heat pump
- Transport cooling system
- Commercial refrigeration
(e.g. supermarket, in medium and low temperature range)
- Industrial refrigeration

Environmental Aspects



*The HGWP is related to R11 for an infinite time horizon.

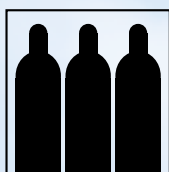
Range of Application



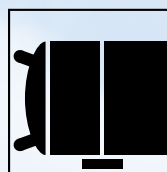
Physical Properties

Chemical Name	Chlorodifluoromethane	
Chemical Formula	CHClF ₂	
Molecular weight	kg/kmol	86.5
Boiling point at 1.013 bar	°C	- 40.8
Critical Temperature	°C	96.2
Critical Pressure	bar	49.9
Critical Density	kg/m ³	513
Critical Volume	m ³ /kg	1.95 x 10 ⁻³
Density Liquid ¹⁾	kg/m ³	1195
Density Saturated Vapour ¹⁾	kg/m ³	44.111
Heat of Vaporization ¹⁾	kJ/kg	182.0
Specific Heat ¹⁾ (Liquid)	kJ/kgK	1.227
Specific Heat ²⁾ (Vapour)	kJ/kgK	0.658
¹⁾ at 25 °C		
²⁾ at 25 °C and 1.013 bar		

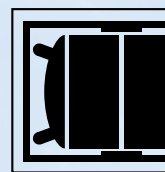
Packaging



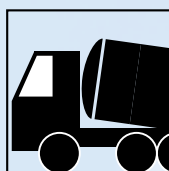
Loansteel-cylinders
(50 and 80 kg)
for sampling only



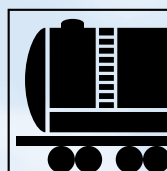
Loan steel containers
(900 kg)



ISO Tank containers
(16 900 kg)



Road tankers
(approx. 20t)



Rail tankers
(approx. 20t)

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® 22

Release 1.08

t	p	v'	v''	rho'	rho''	h'	h''	r	s'	s''	t	p	v'	v''	rho'	rho''	h'	h''	r	s'	s''
°C	bar	dm ³ /kg	dm ³ /kg	kg/dm ³	kg/m ³	kJ/kg	kJ/kg	kJ/kg	kJ/kgK	kJ/kgK	°C	bar	dm ³ /kg	dm ³ /kg	kg/dm ³	kg/m ³	kJ/kg	kJ/kg	kJ/kg	kJ/kgK	kJ/kgK
-60	0.38	0.683	537.90	1.464	1.860	132.40	378.06	245.66	0.7227	1.8752	20	9.08	0.824	26.06	1.214	38.380	224.19	411.13	186.94	1.0843	1.7220
-59	0.40	0.684	510.19	1.461	1.960	133.45	378.56	245.11	0.7276	1.8722	21	9.33	0.826	25.33	1.210	39.470	225.42	411.39	185.96	1.0884	1.7206
-58	0.42	0.686	484.18	1.458	2.070	134.51	379.06	244.56	0.7326	1.8692	22	9.59	0.829	24.63	1.206	40.590	226.65	411.64	184.99	1.0925	1.7193
-57	0.45	0.687	459.75	1.456	2.180	135.57	379.57	244.00	0.7375	1.8663	23	9.86	0.832	23.96	1.203	41.740	227.87	411.89	184.02	1.0966	1.7179
-56	0.47	0.688	436.79	1.453	2.290	136.63	380.07	243.43	0.7424	1.8634	24	10.13	0.834	23.31	1.199	42.910	229.10	412.13	183.03	1.1007	1.7166
-55	0.50	0.690	415.19	1.450	2.410	137.70	380.57	242.87	0.7473	1.8606	25	10.41	0.837	22.67	1.195	44.110	230.34	412.37	182.03	1.1047	1.7153
-54	0.52	0.691	394.87	1.447	2.530	138.77	381.07	242.29	0.7522	1.8578	26	10.69	0.840	22.06	1.191	45.330	231.56	412.60	181.04	1.1087	1.7139
-53	0.55	0.692	375.73	1.445	2.660	139.84	381.56	241.72	0.7570	1.8550	27	10.98	0.842	21.46	1.187	46.590	232.79	412.83	180.03	1.1128	1.7126
-52	0.58	0.694	357.71	1.442	2.800	140.92	382.06	241.14	0.7619	1.8523	28	11.27	0.845	20.89	1.183	47.880	234.03	413.04	179.01	1.1168	1.7112
-51	0.61	0.695	340.72	1.439	2.940	142.00	382.56	240.55	0.7668	1.8496	29	11.57	0.848	20.33	1.179	49.200	235.27	413.26	177.98	1.1208	1.7099
-50	0.65	0.696	324.69	1.436	3.080	143.08	383.05	239.97	0.7716	1.8470	30	11.88	0.851	19.79	1.175	50.540	236.50	413.47	176.97	1.1248	1.7086
-49	0.68	0.698	309.57	1.433	3.230	144.17	383.54	239.37	0.7765	1.8444	31	12.19	0.854	19.26	1.171	51.920	237.74	413.67	175.93	1.1288	1.7072
-48	0.72	0.699	295.29	1.431	3.390	145.26	384.03	238.78	0.7813	1.8418	32	12.51	0.857	18.75	1.167	53.330	238.99	413.86	174.87	1.1328	1.7059
-47	0.75	0.700	281.80	1.428	3.550	146.35	384.52	238.17	0.7861	1.8393	33	12.83	0.860	18.25	1.163	54.780	240.23	414.05	173.82	1.1368	1.7045
-46	0.79	0.702	269.05	1.425	3.720	147.44	385.01	237.57	0.7909	1.8368	34	13.16	0.863	17.77	1.159	56.260	241.48	414.23	172.75	1.1408	1.7032
-45	0.83	0.703	257.24	1.422	3.890	148.54	385.52	237.18	0.7949	1.8344	35	13.49	0.866	17.31	1.155	57.780	242.73	414.40	171.67	1.1447	1.7018
-44	0.87	0.705	245.82	1.419	4.070	149.64	386.00	236.57	0.7997	1.8320	36	13.84	0.869	16.86	1.150	59.330	243.98	414.57	170.59	1.1487	1.7005
-43	0.91	0.706	235.01	1.416	4.260	150.74	386.49	235.95	0.8044	1.8296	37	14.18	0.873	16.42	1.146	60.920	245.23	414.73	169.50	1.1526	1.6991
-42	0.96	0.707	224.78	1.414	4.450	151.85	386.97	235.32	0.8092	1.8273	38	14.54	0.876	15.99	1.142	62.540	246.49	414.88	168.39	1.1566	1.6978
-41	1.01	0.709	215.08	1.411	4.650	152.95	387.45	234.70	0.8140	1.8250	39	14.90	0.879	15.57	1.137	64.210	247.75	415.03	167.28	1.1605	1.6964
-40	1.05	0.710	205.88	1.408	4.860	153.86	387.93	234.07	0.8187	1.8227	40	15.27	0.883	15.17	1.133	65.910	249.01	415.17	166.16	1.1644	1.6951
-39	1.10	0.712	197.17	1.405	5.070	154.97	388.40	233.43	0.8235	1.8204	41	15.64	0.886	14.78	1.129	67.660	250.27	415.30	165.02	1.1683	1.6937
-38	1.15	0.713	188.89	1.402	5.290	156.09	388.88	232.79	0.8282	1.8182	42	16.02	0.890	14.40	1.124	69.450	251.55	415.42	163.87	1.1723	1.6923
-37	1.21	0.715	181.04	1.399	5.520	157.21	389.35	232.15	0.8329	1.8160	43	16.41	0.893	14.03	1.120	71.280	252.82	415.53	162.72	1.1762	1.6909
-36	1.26	0.716	173.58	1.396	5.760	158.32	389.82	231.50	0.8376	1.8138	44	16.81	0.897	13.67	1.115	73.160	254.10	415.63	161.54	1.1802	1.6895
-35	1.32	0.718	166.54	1.393	6.000	159.38	390.30	230.92	0.8421	1.8117	45	17.21	0.901	13.32	1.110	75.080	255.38	415.73	160.36	1.1841	1.6881
-34	1.38	0.719	159.80	1.390	6.260	160.50	390.76	230.26	0.8468	1.8096	46	17.62	0.904	12.98	1.106	77.060	256.66	415.82	159.16	1.1880	1.6867
-33	1.44	0.721	153.39	1.387	6.520	161.63	391.23	229.60	0.8514	1.8075	47	18.04	0.908	12.65	1.101	79.080	257.95	415.90	157.95	1.1919	1.6853
-32	1.51	0.722	147.29	1.385	6.790	162.75	391.69	228.94	0.8561	1.8054	48	18.46	0.912	12.32	1.096	81.150	259.24	416.00	156.72	1.1958	1.6838
-31	1.57	0.724	141.49	1.382	7.070	163.88	392.15	228.27	0.8607	1.8034	49	18.89	0.916	12.01	1.091	83.280	260.55	416.03	155.48	1.1997	1.6824
-30	1.64	0.725	135.96	1.379	7.360	165.01	392.61	227.59	0.8654	1.8014	50	19.33	0.920	11.70	1.087	85.460	261.85	416.08	154.22	1.2037	1.6809
-29	1.71	0.727	130.69	1.376	7.650	166.14	393.06	226.92	0.8700	1.7994	51	19.78	0.925	11.40	1.082	87.700	263.17	416.11	152.94	1.2076	1.6794
-28	1.78	0.728	125.68	1.373	7.960	167.28	393.51	226.24	0.8746	1.7975	52	20.23	0.929	11.11	1.077	90.000	264.49	416.14	151.65	1.2115	1.6780
-27	1.86	0.730	120.89	1.370	8.270	168.41	393.96	225.55	0.8792	1.7955	53	20.69	0.933	10.83	1.072	92.360	265.81	416.16	150.35	1.2155	1.6765
-26	1.94	0.732	116.33	1.367	8.600	169.55	394.41	224.86	0.8838	1.7936	54	21.16	0.938	10.55	1.066	94.770	267.13	416.17	149.03	1.2194	1.6749
-25	2.02	0.733	111.97	1.364	8.930	170.69	394.85	224.17	0.8884	1.7917	55	21.64	0.942	10.28	1.061	97.260	268.48	416.16	147.69	1.2233	1.6734
-24	2.10	0.735	107.82	1.361	9.280	171.82	395.30	223.47	0.8929	1.7899	56	22.13	0.947	10.02	1.056	99.810	269.82	416.14	146.32	1.2273	1.6718
-23	2.18	0.737	103.85	1.358	9.630	172.96	395.74	222.77	0.8975	1.7880	57	22.62	0.952	9.76	1.051	102.440	271.18	416.11	144.93	1.2313	1.6703
-22	2.27	0.738	100.06	1.355	9.990	174.11	396.17	222.07	0.9020	1.7862	58	23.12	0.957	9.51	1.045	105.140	272.54	416.07	143.53	1.2353	1.6687
-21	2.36	0.740	96.40	1.352	10.370	175.31	396.60	221.29	0.9067	1.7843	59	23.63	0.962	9.27	1.040	107.910	273.91	416.01	142.10	1.2392	1.6671
-20	2.45	0.742	92.94	1.348	10.760	176.46	397.03	220.57	0.9112	1.7826	60	24.15	0.967	9.03	1.034	110.770	275.30	415.94	140.64	1.2433	1.6654
-19	2.55	0.743	89.63	1.345	11.160	177.60	397.46	219.86	0.9157	1.7808	61	24.68	0.972	8.79	1.028	113.700	276.69	415.86	139.16	1.2473	1.6637
-18	2.65	0.745	86.46	1.342	11.570	178.75	397.88	219.13	0.9202	1.7791	62	25.22	0.978	8.57	1.022	116.730	278.10	415.75	137.65	1.2513	1.6620
-17	2.75	0.747	83.43	1.339	11.990	179.90	398.30	218.41	0.9247	1.7773	63	25.76	0.984	8.34	1.017	119.850	279.51	415.64	136.12	1.2554	1.6603
-16	2.86	0.748	80.53	1.336	12.420	181.04	398.72	217.68	0.9291	1.7756	64	26.32	0.990	8.13	1.011	123.060	280.95	415.50	134.56	1.2595	1.6586
-15	2.96	0.750	77.72	1.333	12.870	182.25	399.13	216.88	0.9338	1.7739	65	26.88	0.996	7.91	1.004	126.370	282.39	415.35	132.96	1.2636	1.6568
-14	3.07	0.752	75.06	1.330	13.320	183.40	399.54	216.14	0.9382	1.7722	66	27.46	1.002	7.70	0.998	129.790	283.84	415.18	131.34	1.2677	1.6550
-13	3.19	0.754	72.49	1.327	13.800	184.62	399.94	215.33	0.9428	1.7705	67	28.04	1.008	7.50	0.992	133.320	285.32	414.99	129.67	1.2719	1.6531
-12	3.30	0.756	70.04	1.324	14.280	185.77	400.35	214.58	0.9472	1.7689	68	28.63	1.015	7.30	0.985	136.960	286.81	414.78	127.97	1.2761	1.6512
-11	3.42	0.757	67.70	1.320	14.770	186.92	400.75	213.83	0.9516	1.7673	69	29.23	1.022	7.11	0.979	140.740	288.32	414.55	126.23	1.2803	1.6492
-10	3.55	0.759	65.43	1.317	15.280	188.13	401.14	213.01	0.9562	1.7656	70	29.84	1.029	6.91	0.972	144.650	289.84	414.29	124.45	1.2846	1.6472
-9	3.68	0.761	63.27	1.314	15.810	189.29	401.54	2													