VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K

This table gives vapor pressures of 67 important fluids in the temperature range 2 to 300 K. Helium (^{4}He), hydrogen (H_2), and neon (Ne) are covered on this page. The remaining fluids are listed on subsequent pages by molecular formula in the Hill order (see Introduction). The data have been taken from evaluated sources; references are listed at the end of the table.

Pressures are given in kilopascals (kPa). Note that:

1 kPa = 7.50062 Torr
100 kPa = 1 bar
101.325 kPa = 1 atmos

s following an entry indicates that the compound is solid at that temperature.

Helium		Hydrogen		Neon	
***T*/K**	***P*/kPa**	***T*/K**	***P*/kPa**	***T*/K**	***P*/kPa**
2.2	5.3	14.0	7.90	25.0	51.3
2.3	6.7	14.5	10.38	26.0	71.8
2.4	8.3	15.0	13.43	27.0	98.5
2.5	10.2	15.5	17.12	28.0	132.1
2.6	12.4	16.0	21.53	29.0	173.5
2.7	14.8	16.5	26.74	30.0	223.8
2.8	17.5	17.0	32.84	31.0	284.0
2.9	20.6	17.5	39.92	32.0	355.2
3.0	24.0	18.0	48.08	33.0	438.6
3.1	27.8	18.5	57.39	34.0	535.2
3.2	32.0	19.0	67.96	35.0	646.2
3.3	36.5	19.5	79.89	36.0	772.8
3.4	41.5	20.0	93.26	37.0	916.4
3.5	47.0	20.5	108.2	38.0	1078
3.6	52.9	21.0	124.7	39.0	1260
3.7	59.3	21.5	143.1	40.0	1462
3.8	66.1	22.0	163.2	41.0	1688
3.9	73.5	22.5	185.3	42.0	1939
4.0	81.5	23.0	209.4	43.0	2216
4.1	90.0	23.5	235.7	44.0	2522
4.2	99.0	24.0	264.2		
4.3	108.7	24.5	295.1		
4.4	119.0	25.0	328.5		
4.5	129.9	25.5	364.3		
4.6	141.6	26.0	402.9		
4.7	153.9	26.5	444.3		
4.8	167.0	27.0	488.5		
4.9	180.8	27.5	535.7		
5.0	195.4	28.0	586.1		
5.1	210.9	28.5	639.7		
		29.0	696.7		
		29.5	757.3		
		30.0	821.4		
		30.5	889.5		
		31.0	961.5		
		31.5	1038.0		
		32.0	1119.0		
		32.5	1204.0		
Ref.	17,18		1		13

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	Ar Argon		BCl_3 Boron trichloride	BF_3 Boron trifluoride	BrH Hydrogen bromide		Br_2 Bromine		ClF Chlorine fluoride	ClH Hydrogen chloride	
50	0.1	s									
55	0.2	s									
60	0.8	s									
65	2.8	s									
70	7.7	s									
75	18.7	s									
80	40.7	s									
85	79.0										
90	134										
95	213										
100	324										
105	473										
110	666										
115	910								0.1		
120	1214								0.3	0.1	s
125	1584								0.6	0.3	s
130	2027								1.2	0.5	s
135	2553				0.1	s			2.1	1.0	s
140	3170				0.3	s			3.6	1.9	s
145	3892			7.7	0.6	s			6.0	3.4	s
150	4736			13.4	1.1	s			9.5	5.8	s
155				22.3	1.9	s			14.6	9.5	s
160				35.2	3.3	s			21.8	14.7	
165				53.7	5.4	s			31.7	22.0	
170				79.1	8.7	s			44.8	31.9	
175				113	13.4	s			62.0	45.1	
180			0.1	157	20.1	s			84.2	62.5	
185			0.2	214	29.5	s			112	84.7	
190			0.3	285	37.9				147	113	
195			0.5	372	51.8				190	148	
200			0.8	479	69.5				242	190	
205			1.2	608	91.8				304	242	
210			1.8	762	119				378	304	
215			2.6	944	153				464	377	
220			3.8	1160	194		0.1	s	564	463	
225			5.2	1413	242		0.2	s	680	563	
230			7.2	1709	299		0.3	s	812	678	
235			9.7	2056	366		0.4	s	961	811	
240			12.9	2460	443		0.7	s	1130	961	
245			17.0	2913	532		1.1	s	1319	1132	
250			22.0	3481	633		1.7	s	1529	1325	
255			28.1	4123	748		2.6	s	1762	1542	
260			35.6	4874	878		3.8	s	2019	1784	
265			44.5		1023		5.5	s	2301	2054	
270			55.1		1185		7.3		2608	2354	
275			67.6		1364		9.5		2941	2686	
280			82.2		1562		12.3		3303	3053	
285			99.1		1780		15.6		3693	3457	
290			119		2018		19.7		4111	3901	
295			141		2278		24.6		4560	4388	
300			166		2561		30.5		5039	4921	
Ref.	8,15		12	12	12		12		12	12	

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	ClO_2 Chlorine dioxide	Cl_2 Chlorine	Cl_4Si Silicon tetrachloride	FH Hydrogen fluoride	F_2 Fluorine	F_2O Difluorine oxide	F_3N Nitrogen trifluoride
50							
55					0.4		
60					1.5		
65					4.8		
70					12.3		
75					27.6	0.1	
80					55.3	0.2	
85					101	0.5	0.1
90					172	1.2	0.2
95					276	2.6	0.4
100					420	5.3	0.9
105					615	10.1	2.0
110					870	18.0	4.0
115					1196	30.5	7.3
120					1605	49.3	12.8
125					2108	76.7	21.1
130					2721	115	33.5
135					3458	168	51.1
140					4339	237	75.4
145						328	108
150						444	150
155						588	205
160						766	273
165						981	357
170						1238	459
175		1.8				1541	581
180		2.8				1895	726
185		4.2				2303	896
190		6.1		0.3		2771	1092
195	0.1	8.7		0.5		3302	1319
200	0.3	12.3		0.8		3899	1578
205	0.5	16.9		1.2		4567	1871
210	0.9	22.9	0.1	1.7		5308	2203
215	1.4	30.5	0.2	2.3			2577
220	2.3	40.1	0.3	3.2			2995
225	3.5	51.9	0.5	4.4			3464
230	5.3	66.4	0.7	5.9			3991
235	7.6	84.0	1.0	7.9			
240	10.8	105	1.5	10.3			
245	14.9	130	2.0	13.4			
250	20.1	160	2.8	17.2			
255	26.6	194	3.8	21.8			
260	34.6	234	5.0	27.4			
265	44.4	280	6.6	34.2			
270	56.1	332	8.6	42.2			
275	69.9	392	11.1	51.8			
280	86.2	459	14.2	63.1			
285	105	535	17.9	76.3			
290	127	619	22.3	91.7			
295	151	714	27.7	110			
300	179	818	34.0	130			
Ref.	12	5	12	12	12	12	1

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	F_3P Phosphorous trifluoride	F_4Si Silicon tetrafluoride	F_6S Sulfur hexafluoride	HI Hydrogen iodide	H_2S Hydrogen sulfide	H_3N Ammonia	H_3P Phosphine
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							
100							
105	0.1						
110	0.2						0.1
115	0.5						0.2
120	1.0						0.4
125	1.9	0.1 s					0.7
130	3.5	0.2 s					1.3
135	5.9	0.4 s			0.1 s		2.3
140	9.5	0.9 s	0.1 s		0.2 s		3.9
145	14.9	1.9 s	0.2 s		0.3 s		6.2
150	22.5	3.8 s	0.4 s		0.6 s		9.6
155	33.1	7.5 s	0.8 s	0.1 s	1.1 s		14.5
160	47.3	14.0 s	1.5 s	0.2 s	1.9 s	0.1 s	21.1
165	66.0	25.2 s	2.6 s	0.4 s	3.2 s	0.2 s	30.0
170	90.1	43.8 s	4.4 s	0.8 s	5.2 s	0.3 s	41.6
175	121	74.2 s	7.1 s	1.3 s	8.3 s	0.6 s	56.6
180	159	122 s	11.3 s	2.2 s	12.7 s	1.2 s	75.6
185	206	197 s	17.3 s	3.4 s	18.9 s	2.1 s	99.2
190	262	280	25.9 s	5.3 s	26.6	3.5 s	128
195	330	376	38.0 s	8.0 s	36.7	5.8 s	163
200	410	488	54.4 s	11.7 s	49.8	8.7	205
205	503	618	76.6 s	16.8 s	66.4	12.6	254
210	611	766	106 s	23.6 s	87.1	17.9	312
215	736	932	145 s	32.5 s	113	24.9	379
220	877	1117	195 s	44.0 s	144	34.1	456
225	1037	1324	249	56.2	182	45.9	544
230	1217	1555	305	71.4	227	60.8	644
235	1418	1816	371	89.7	281	79.6	756
240	1640	2111	448	112	344	103	881
245	1885	2449	536	137	416	131	1019
250	2154	2841	636	168	500	165	1172
255	2448	3301	750	203	597	207	1341
260	2767		878	244	706	256	1525
265	3112		1021	290	830	313	1725
270			1181	343	969	381	1942
275			1358	404	1124	460	2176
280			1554	472	1297	552	2428
285			1768	548	1488	655	2699
290			2003	633	1698	774	2987
295			2258	727	1929	909	3295
300			2534	831	2181	1062	3621
Ref.	12	12	12,15	12	12,15	11	12

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	H_4Si Silane	Kr Krypton	NO Nitric oxide	N_2 Nitrogen	N_2O Nitrous oxide	O_2 Oxygen	O_2S Sulfur dioxide
50				0.4 s			
55				1.8 s		0.2	
60				6.3 s		0.7	
65				17.4		2.3	
70				38.6		6.3	
75		0.1 s		76.1		14.5	
80		0.4 s		137		30.1	
85		1.1 s	0.1 s	229		56.8	
90		2.7 s	0.4 s	361		99.3	
95	0.1	6.0 s	1.3 s	541		163	
100	0.2	12.1 s	3.8 s	779		254	
105	0.4	22.8 s	10.0 s	1084		379	
110	1.0	40.4 s	23.5	1467		543	
115	1.9	68.0 s	46.8	1939	0.1	756	
120	3.5	103	86.5	2513	0.1	1022	
125	6.1	150	151	3209	0.3	1351	
130	10.0	211	248		0.7	1749	
135	15.8	290	391		1.3	2225	
140	24.1	388	592		2.5	2788	
145	35.3	509	867		4.3	3448	
150	50.3	655	1231		7.1	4219	
155	69.8	830	1703		11.4		
160	94.6	1037	2302		17.6		
165	126	1278	3050		26.4		
170	164	1557	3971		38.5		0.1
175	210	1877	5089		54.7		0.2
180	265	2241	6433		75.9		0.3
185	331	2655			103		0.5
190	408	3120			138		0.8
195	498	3641			181		1.3
200	602	4223			234		2.0
205	722	4870			298		3.0
210	859				374		4.4
215	1017				465		6.3
220	1196				571		9.0
225	1398				694		12.6
230	1628				835		17.3
235	1888				996		23.3
240	2180				1179		31.1
245	2509				1385		40.9
250	2880				1615		53.2
255	3296				1870		68.3
260	3763				2152		86.7
265	4288				2462		109
270					2802		136
275					3172		168
280					3573		205
285					4006		249
290					4473		300
295					4973		359
300					5508		426
Ref.	12	13, 15	12, 15	1	12	3	12

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	O_3 Ozone	Rn Radon	Xe Xenon		$CBrF_3$ Bromotri-fluoromethane	$CClF_3$ Chlorotri-fluoromethane	CCl_2F_2 Dichlorodi-fluoromethane	CCl_3F Trichloro-fluoromethane
50								
55								
60								
65								
70								
75								
80								
85								
90								
95								
100	0.1		0.1	s				
105	0.2		0.1	s				
110	0.4		0.3	s				
115	1.0		0.7	s		0.1		
120	2.0		1.5	s		0.2		
125	3.8		2.7	s		0.3		
130	6.8	0.1	4.9	s		0.6		
135	11.5	0.3	8.5	s	0.1	1.1		
140	18.7	0.5	14.0	s	0.3	2.0		
145	29.1	0.9	22.2	s	0.5	3.3		
150	43.7	1.5	34.2	s	0.9	5.3		
155	63.6	2.4	51.1	s	1.5	8.3	0.1	
160	89.9	3.8	74.2	s	2.5	12.6	0.3	
165	124	5.8	101		3.9	18.6	0.5	
170	168	8.6	134		5.9	26.8	0.8	
175	222	12.5	173		8.8	37.6	1.3	
180	289	17.7	222		12.8	51.7	2.1	
185	367	24.5	280		18.1	69.7	3.2	
190	468	33.2	348		25.1	92.3	4.8	0.2
195	584	44.4	428		34.1	120	6.9	0.3
200	721	58.2	521		45.6	155	9.9	0.4
205	881	75.3	628		60.0	196	13.7	0.6
210	1068	96	750		77.8	246	18.8	1.0
215	1285	121	889		99.5	304	25.2	1.4
220	1536	151	1045		126	372	33.3	2.0
225	1824	185	1220		157	451	43.3	2.9
230	2155		1416		194	542	55.5	4.1
235	2534		1633		237	646	70.4	5.6
240	2968		1872		287	763	88.1	7.6
245	3464		2136		344	896	109	10.1
250	4031		2425		410	1044	134	13.3
255	4678		2742		485	1210	163	17.2
260	5417		3087		570	1394	196	22.1
265			3462		665	1598	234	28.0
270			3869		771	1823	278	35.1
275			4310		889	2071	327	43.7
280			4786		1021	2343	383	53.8
285			5299		1166	2641	445	65.7
290					1325	2968	515	79.6
295					1501	3325	593	95.6
300					1692	3716	679	114.1
Ref.	12	15	12,13		12	12	12	12

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	CCl_4 Tetrachloro-methane	CF_4 Tetrafluoro-methane	CO Carbon monoxide	COS Carbon oxysulfide	CO_2 Carbon dioxide	$CHClF_2$ Chlorodifluo-methane	$CHCl_3$ Trichloro-methane
50			0.1 s				
55			0.6 s				
60			2.6 s				
65			8.2 s				
70			21.0				
75			44.4				
80			83.7				
85			147				
90		0.1	239				
95		0.3	371				
100		0.8	545				
105		1.7	771				
110		3.4	1067				
115		6.5	1428				
120		11.5	1877				
125		19.3	2400				
130		30.8	3064				
135		47.4			0.1 s		
140		70.2		0.1	0.2 s		
145		101		0.2	0.4 s		
150		141		0.4	0.8 s	0.1	
155		191		0.8	1.7 s	0.3	
160		254		1.3	3.1 s	0.5	
165		332		2.2	5.7 s	0.8	
170		425		3.4	9.9 s	1.4	
175		537		5.2	16.8 s	2.3	
180		669		7.8	27.6 s	3.6	
185		824		11.3	44.0 s	5.5	
190		1005		15.9	68.4 s	8.1	
195		1216		22.1	104 s	11.8	
200		1460		30.0	155 s	16.7	
205		1743		40.1	227 s	23.1	
210		2073		52.7	327 s	31.5	
215		2457		68.2	465 s	42.1	0.1
220		2907		87.2	600	55.3	0.2
225		3438		110	735	71.7	0.3
230				137	894	91.6	0.4
235				169	1075	116	0.7
240				207	1283	144	1.0
245				250	1519	178	1.4
250				301	1786	218	2.0
255	1.5			358	2085	264	2.7
260	2.1			423	2419	317	3.7
265	2.8			497	2790	377	5.0
270	3.7			580	3203	446	6.6
275	4.9			673	3658	525	8.7
280	6.4			777	4160	613	11.3
285	8.2			892	4712	711	14.4
290	10.5			1019	5315	821	18.3
295	13.2			1159	5984	944	22.9
300	16.5			1313	6710	1080	28.5
Ref.	12	12	9	12	6	12	12

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	CHF_3 Trifluoro-methane	CHN Hydrogen cyanide		CH_2Cl_2 Dichloro-methane	CH_2F_2 Difluoro methane	CH_2O Formaldehyde	CH_3Cl Chloromethane	CH_3F Fluoromethane
50								
55								
60								
65								
70								
75								
80								
85								
90								
95								
100								
105								
110								
115								
120	0.1							
125	0.2							
130	0.4							
135	0.7							0.6
140	1.4				0.1			1.2
145	2.5				0.2			2.1
150	4.3				0.3			3.6
155	7.1				0.6			5.9
160	11.1				1.0			9.3
165	17.0				1.7			14.1
170	25.3				2.8			20.9
175	36.5				4.4			29.9
180	51.4				6.8			42.0
185	70.9				10.2	1.3	2.1	57.6
190	95.8				14.8	2.0	3.1	77.4
195	127				21.2	3.0	4.6	102
200	166	0.1	s	0.1	29.5	4.4	6.7	133
205	214	0.2	s	0.2	40.5	6.4	9.5	171
210	271	0.4	s	0.3	54.5	9.1	13.1	216
215	340	0.6	s	0.4	72.1	12.7	17.9	270
220	421	1	s	0.6	94.1	17.4	24.0	333
225	516	1.5	s	0.9	121	23.4	31.8	408
230	626	2.2	s	1.4	154	31.0	41.4	495
235	754	3.3	s	2.0	193	40.6	53.3	595
240	900	4.7	s	2.8	240	52.5	67.7	711
245	1067	6.8	s	3.8	295	67.0	85.1	843
250	1257	9.7	s	5.3	360	84.6	106	993
255	1472	13.6	s	7.1	434	106	131	1163
260	1713	18.8		9.5	521	131	159	1355
265	1984	24.1		12.4	620	161	193	1571
270	2287	30.5		16.1	732	196	232	1813
275	2624	38.3		20.7	860	236	277	2084
280	3000	47.7		26.3	1004	283	327	2387
285	3418	58.8		33.0	1165	337	385	2724
290	3881	72.1		41.1	1346	399	450	3099
295	4393	87.6		50.8	1547	470	524	3516
300		105.9		62.1	1770	549	606	3978
Ref.	12	12,16		12	12	12	12	12

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	CH_4 Methane	CH_4O Methanol	C_2H_2 Acetylene	C_2H_4 Ethylene	C_2H_6 Ethane	C_2H_6O Dimethyl ether	C_3H_4 Propadiene
50							
55							
60							
65	0.1						
70	0.3						
75	0.8						
80	2.1						
85	4.9						
90	10.6						
95	20.0						
100	34.5						
105	57.0						
110	88.4			0.3			
115	133			0.8	0.1		
120	192			1.4	0.4		
125	269			2.7	0.7		
130	368		0.1 s	4.5	1.3		
135	491		0.3 s	7.7	2.2		
140	642		0.7 s	11.9	3.8		
145	824		1.3 s	18.3	6.0		
150	1041		2.6 s	27.5	9.7		0.1
155	1297		4.6 s	39.9	15.0	0.1	0.2
160	1594		7.8 s	56.4	21.5	0.2	0.3
165	1937		12.8 s	77.9	31.0	0.3	0.6
170	2331		20.6 s	105	42.9	0.5	1.0
175	2779		32.2 s	140	59.0	0.9	1.7
180	3288		49.0 s	182	78.7	1.4	2.7
185	3865		72.9 s	234	104	2.1	4.1
190	4520		106 s	296	135	3.2	6.1
195			146	369	172	4.7	8.9
200			190	456	217	6.8	12.5
205			244	557	271	9.6	17.4
210			309	673	334	13.3	23.7
215			385	806	407	18.1	31.6
220			475	958	492	24.3	41.4
225			579	1128	590	32.1	53.5
230		0.1	699	1321	700	41.9	68.2
235		0.2	837	1535	826	53.9	85.8
240		0.4	993	1774	967	68.6	107
245		0.5	1170	2039	1125	86.3	131
250		0.8	1370	2331	1301	108	160
255		1.2	1593	2652	1496	133	193
260		1.7	1843	3005	1712	162	230
265		2.4	2121	3391	1949	197	273
270		3.3	2429	3813	2210	237	322
275		4.5	2771	4275	2495	283	376
280		6.2	3150		2806	335	438
285		8.3	3567		3146	395	506
290		11	4028		3515	463	582
295		14.4	4535		3917	538	666
300		18.7	5093		4355	623	759
Ref.	2,16	12	12,16	4	2	12	12

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

T/K	C_3H_6 Propylene	C_3H_8 Propane	C_4H_6 Buta-1,3-diene	C_4H_{10} *n*-Butane	C_4H_{10} Isobutane	C_5H_{12} *n*-Pentane	C_5H_{12} Neopentane	
50								
55								
60								
65								
70								
75								
80								
85								
90								
95								
100								
105								
110								
115								
120								
125								
130								
135								
140	0.1							
145	0.2							
150	0.4							
155	0.7							
160	1.2	0.8			0.1			
165	2.0	1.4			0.1			
170	3.1	2.2	0.1	0.1	0.3			
175	4.7	3.3	0.2	0.2	0.4			
180	7.0	5.0	0.4	0.3	0.7			
185	10.1	7.3	0.6	0.5	1.1		0.1	s
190	14.2	10.5	1.0	0.8	1.7		0.2	s
195	19.7	15.0	1.5	1.3	2.5		0.4	s
200	26.9	20.1	2.3	1.9	3.7		0.7	s
205	35.9	27.0	3.4	2.8	5.3		1.1	s
210	47.3	36.0	4.8	4.0	7.4		1.6	s
215	61.3	47.0	6.7	5.7	10.2		2.4	s
220	78.5	60.0	9.2	7.8	13.8	1.0	3.6	s
225	99.2	77.0	12.5	10.6	18.3	1.5	5.2	s
230	124	97.0	16.7	14.1	24.0	2.1	7.3	s
235	153	120	21.9	18.5	31.1	3.0	10.2	s
240	188	148	28.4	24.1	39.8	4.2	13.9	s
245	228	180	36.3	30.9	50.3	5.7	18.7	s
250	274	218	46.0	39.1	62.9	7.6	24.8	s
255	327	261	57.6	49.1	77.8	10.0	32.4	s
260	387	311	71.3	61.0	95.4	13.0	41.6	
265	456	367	87.6	75.0	116	16.6	51.4	
270	533	431	107	91.5	140	21.1	63.0	
275	619	502	129	111	167	26.6	76.6	
280	715	582	154	133	198	33.1	92.3	
285	822	671	184	159	234	40.8	111	
290	940	769	217	188	274	50.0	131	
295	1069	878	255	221	319	60.7	155	
300	1212	998	297	258	370	73.2	182	
Ref.	7	2	12	2	2	14	12,16	

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VAPOR PRESSURE OF FLUIDS AT TEMPERATURES BELOW 300 K (continued)

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