SUBLIMATION PRESSURE OF SOLIDS

This table gives the sublimation (vapor) pressure of some representative solids as a function of temperature. Entries include simple inorganic and organic substances in their solid phase below room temperature, as well as polycyclic organic compounds which show measurable sublimation pressure only at elevated temperatures. Substances are listed by molecular formula in the Hill order. Values marked by * represent the solid–liquid–gas triple point. Note that some pressure values are in pascals (Pa) and others are in kilopascals (kPa). For conversion, 1 kPa = 7.506 mmHg = 0.0098692 atm.

References

1. Lide, D. R. and Kehiaian, H. V., CRC *Handbook of Thermophysical and Thermochemical Data*, CRC Press, Boca Raton, FL, 1994.
2. *TRC Thermodynamic Tables,* Thermodynamic Research Center, Texas A&M University, College Station, TX.
3. Oja, V. and Suuberg, E. M., *J. Chem. Eng. Data,* 43, 486, 1998.

Ar	*T*/K	55	60	65	70	75	80	83.81*	
Argon	*p*/kPa	0.2	0.8	2.8	7.7	18.7	40.7	68.8*	
BrH	*T*/K	135	140	150	160	170	180	185.1*	
Hydrogen bromide	*p*/kPa	0.1	0.3	1.1	3.3	8.7	20.1	27.4*	
Br_2	*T*/K	170	180	190	200	210	220	230	240*
Bromine	*p*/Pa	0.069	0.416	2.04	8.45	30.3	96.0	273	710*
ClH	*T*/K	120	130	140	150	155	159.0*		
Hydrogen chloride	*p*/kPa	0.1	0.5	1.9	5.8	9.5	13.5*		
Cl_2	*T*/K	120	130	140	150	160	170*		
Chlorine	*p*/Pa	0.144	1.52	11.2	63.1	283	1054*		
F_4Si	*T*/K	130	140	150	160	170	175	180	186.3*
Tetrafluorosilane	*p*/kPa	0.2	0.9	3.9	14.0	43.8	74.2	122.4	220.8*
F_6S	*T*/K	150	165	180	190	200	210	220	223.1*
Sulfur hexafluoride	*p*/kPa	0.4	2.6	11.3	25.9	54.5	106.1	195.1	232.7*
HI	*T*/K	160	170	180	190	200	210	220	222.4*
Hydrogen iodide	*p*/kPa	0.2	0.8	2.2	5.3	11.7	23.6	44.1	49.3*
H_2O	*T*/K	190	210	225	240	250	260	270	273.16*
Water	*p*/Pa	0.032	0.702	4.942	27.28	76.04	195.8	470.1	611.66*
H_2S	*T*/K	140	150	160	165	170	175	180	187.6*
Hydrogen sulfide	*p*/kPa	0.2	0.6	1.9	3.2	5.2	8.3	12.7	22.7*
H_3N	*T*/K	160	170	180	190	195	195.4*		
Ammonia	*p*/kPa	0.1	0.4	1.2	3.5	5.8	6.12*		
I_2	*T*/K	240	250	260	270	280	290	300	310*
Iodine	*p*/Pa	0.081	0.297	0.971	2.89	7.92	20.1	47.9	107*
Kr	*T*/K	80	90	95	100	105	110	115.8*	
Krypton	*p*/kPa	0.4	2.7	6.0	12.1	22.8	40.4	73.1*	
NO	*T*/K	85	90	95	100	105	109.5*		
Nitric oxide	*p*/kPa	0.1	0.4	1.3	3.8	10.0	21.9*		
Xe	*T*/K	110	120	130	140	150	155	160	161.4*
Xenon	*p*/kPa	0.3	1.5	4.9	14.0	34.2	51.1	74.2	81.7*
CHN	*T*/K	200	210	220	230	240	250	255	259.83*
Hydrogen cyanide	*p*/kPa	0.2	0.4	1.0	2.2	4.8	9.7	13.6	18.62*
CH_4	*T*/K	65	70	75	80	85	90.69*		
Methane	*p*/kPa	0.1	0.3	0.8	2.1	4.9	11.70*		
CO	*T*/K	50	55	60	65	68.13*			
Carbon monoxide	*p*/kPa	0.1	0.6	2.6	8.2	15.4*			
CO_2	*T*/K	130	140	155	170	185	194.7	205	216.58*
Carbon dioxide	*p*/kPa	0.032	0.187	1.674	9.987	44.02	101.3	227.1	518.0*
C_2Cl_6	*T*/K	275	300	325	350	375	400	425	459.9*
Hexachloroethane	*p*/Pa	0.004	0.056	0.383	1.62	5.30	14.8	36.4	107.4*
C_2H_2	*T*/K	130	140	150	160	170	180	190	192.4*
Acetylene	*p*/kPa	0.2	0.7	2.6	7.8	20.6	49.0	106.3	126.0*
$C_2H_4O_2$	*T*/K	250	260	270	280	289.7*			
Acetic acid	*p*/kPa	0.092	0.199	0.406	0.79	1.29*			
C_5H_{12}	*T*/K	200	210	220	230	240	250	255	256.58*
Neopentane	*p*/kPa	0.7	1.6	3.6	7.3	13.9	24.8	32.4	35.8*

$C_6H_6Cl_6$	T/K	300	320	330	340	350	360	370	380
1,2,3,4,5,6–Hexa–chlorocyclohexane (Lindane)	p/Pa	0.01	0.13	0.39	1.04	2.66	6.42	14.8	32.7
$C_6H_6O_2$	T/K	330	340	350	360	370	380		
Resorcinol	p/Pa	1.03	2.78	7.09	17.2	39.6	87.6		
$C_6H_6O_2$	T/K	350	360	370	380	390	400		
p–Hydroquinone	p/Pa	1.20	3.18	7.96	19.0	43.4	95.1		
$C_{10}H_8$	T/K	250	270	280	290	300	310	330	353.43*
Naphthalene	p/Pa	0.036	0.514	1.662	4.918	13.43	34.15	182.9	999.6*
$C_{12}H_8N_2$	T/K	290	300	310	320				
Phenazine	p/Pa	0.0013	0.0046	0.0150	0.0448				
$C_{12}H_8O$	T/K	300	310	320	330	340	350		
Dibenzofuran	p/Pa	0.408	1.21	3.35	8.71	21.4	50.0		
$C_{12}H_9N$	T/K	350	355	360					
Carbazole	p/Pa	0.086	0.140	0.245					
$C_{13}H_7NO_2$	T/K	330	340	350	360	370	380		
Benz[g]isoquinoline–5,10–dione	p/Pa	0.006	0.018	0.053	0.148	0.394	0.994		
$C_{13}H_8O$	T/K	330	340	350					
1H–Phenalen–1–one	p/Pa	0.040	0.113	0.302					
$C_{13}H_8O_2$	T/K	400	410	420	430				
3–Hydroxy–1H–phenalen–1–one	p/Pa	0.006	0.018	0.053	0.144				
$C_{13}H_9N$	T/K	290	300	310	320				
Acridine	p/Pa	0.0024	0.0085	0.0278	0.0845				
$C_{13}H_9N$	T/K	310	320	330	340				
Phenanthridine	p/Pa	0.020	0.066	0.206	0.603				
$C_{14}H_{10}$	T/K	320	330	340	350	360	370	380	390
Anthracene	p/Pa	0.014	0.043	0.125	0.342	1.01	2.38	5.35	11.5
$C_{14}H_{10}$	T/K	300	310	320	330	340	350	360	
Phenanthrene	p/Pa	0.025	0.085	0.270	0.796	2.02	4.89	11.2	
$C_{16}H_{10}$	T/K	320	330	340	350	360	370	380	390
Pyrene	p/Pa	0.008	0.024	0.073	0.208	0.556	1.32	2.86	6.30
$C_{16}H_{10}O$	T/K	360	370	380	390	400			
1–Pyrenol	p/Pa	0.005	0.016	0.047	0.135	0.364			
$C_{16}H_{12}S$	T/K	330	340	350	360	370	380	390	
Benzo[b]naphtho–(2,1–d)thiophene	p/Pa	0.001	0.004	0.012	0.036	0.098	0.255	0.631	
$C_{17}H_{12}$	T/K	340	350	360	370	380	390	400	
11*H*–Benzo[b]fluorene	p/Pa	0.003	0.009	0.029	0.085	0.235	0.619	1.55	
$C_{18}H_{10}O_4$	T/K	420	430	440	450				
6,11–Dihydroxy–5,12–naphthacenedione	p/Pa	0.008	0.022	0.055	0.131				
$C_{18}H_{12}$	T/K	390	400	410	420				
Chrysene	p/Pa	0.087	0.221	0.539	1.26				
$C_{18}H_{12}$	T/K	390	400	410	420	430	440	450	460
Naphthacene	p/Pa	0.005	0.014	0.035	0.084	0.194	0.432	0.928	1.929
$C_{20}H_{12}$	T/K	390	400	410	420	430			
Perylene	p/Pa	0.006	0.015	0.040	0.102	0.246			
$C_{22}H_{14}$	T/K	450	460	470	480	490			
Pentacene	p/Pa	0.002	0.006	0.013	0.031	0.069			
$C_{24}H_{12}$	T/K	430	440	450	460	470	480	490	500
Coronene	p/Pa	0.004	0.010	0.021	0.046	0.097	0.197	0.389	0.747