

Ions That Form <i>Soluble</i> Compounds	Exceptions
Li^+ , Na^+ , K^+ , NH_4^+	
NO_3^- , ClO_4^-	
Cl^- , Br^- , I^-	

Table H
Vapor Pressure of Four Liquids

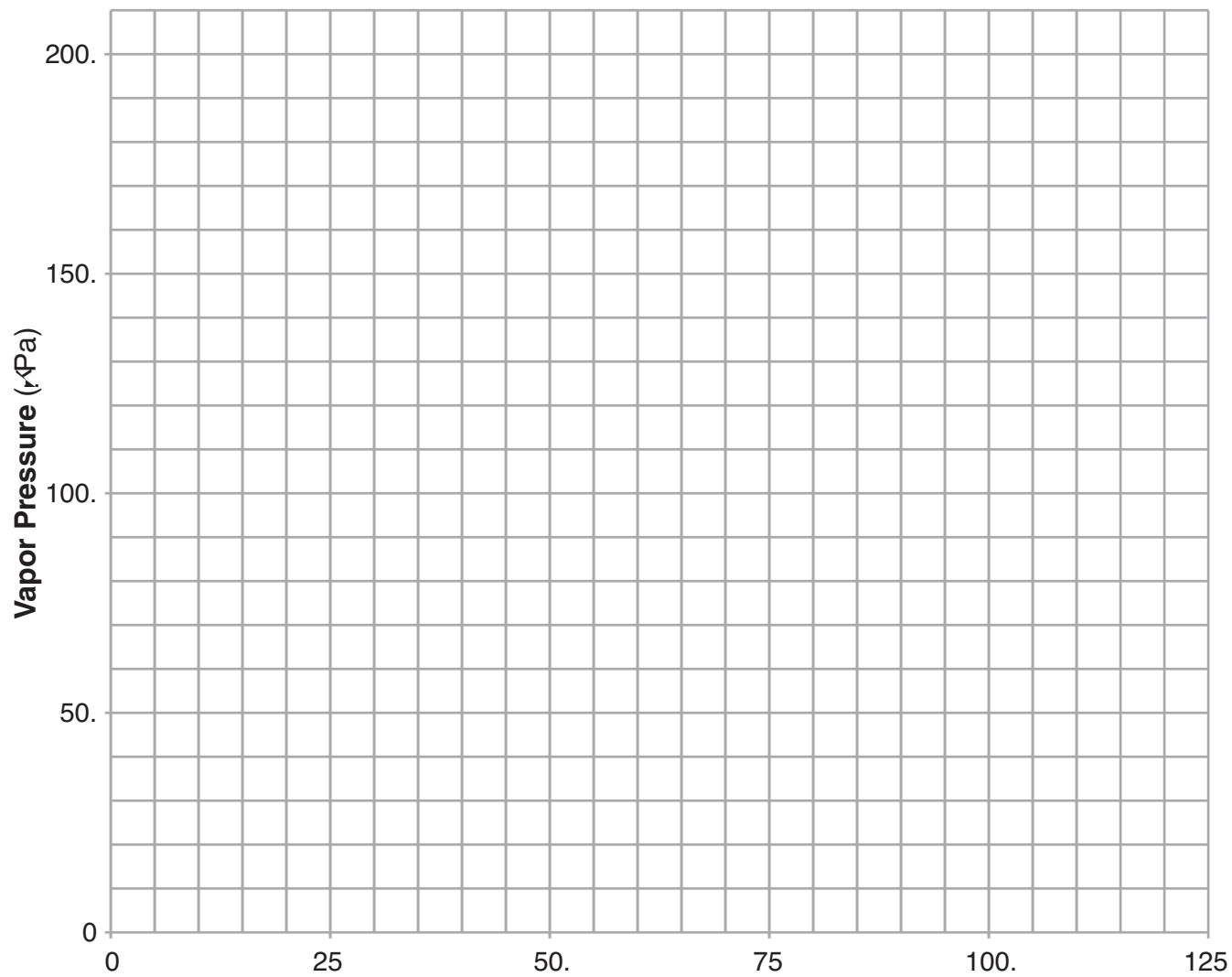


Table I
Heats of Reaction at 101.3 kPa and 298 K

Reaction	ΔH (kJ)*

Table J
Activity Series**

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Table K
Common Acids

Table N

Table L
Common Bases

Table O

Name	General Formula	Examples	
		Name	Structural Formula
/ / /		/ / /	
/ / /		/ / /	
/ / /		/ / /	

Table R
Organic Functional Groups

Class of Compound	Functional Group	General Formula	Example
		R	
		R	
		R	
		R	
		R	
		R	
		R	
		R	

Periodic Table of the Elements

Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.00794 1 H	4.00260 2 He																

KEY

A I Ma → ← S O i a i . S a
 S → R a a a i a a a a
 A I N → Note: N i a a
 E C i a i → a a

12C = 12 (a)

12.011
 -4
 +2
 +4
C

6
 2-4

2	6.941 3 2-1 Li	9.01218 4 2-2 Be																	
3	22.98977 11 2-8-1 Na	24.305 12 2-8-2 Mg																	
4	39.0983 19 2-8-8-1 K	40.08 20 2-8-8-2 Ca	44.9559 21 2-8-9-2 Sc	47.867 22 2-8-10-2 Ti	50.9415 23 2-8-11-2 V	51.996 24 2-8-13-1 Cr	54.9380 25 2-8-13-2 Mn	55.845 26 2-8-14-2 Fe	58.9332 27 2-8-15-2 Co	58.693 28 2-8-16-2 Ni	63.546 29 2-8-18-1 Cu	65.409 30 2-8-18-2 Zn	69.723 31 2-8-18-3 Ga	72.64 32 2-8-18-4 Ge	74.9216 33 2-8-18-5 As	78.96 34 2-8-18-6 Se	79.904 35 2-8-18-7 Br	83.798 36 2-8-18-8 Kr	
5	85.4678 37 2-8-18-8-1 Rb	87.62 38 2-8-18-8-2 Sr	88.9059 39 2-8-18-9-2 Y	91.224 40 2-8-18-10-2 Zr	92.9064 41 2-8-18-12-1 Nb	95.94 42 2-8-18-13-1 Mo	101.07 43 2-8-18-13-2 Ru	102.906 44 2-8-18-15-1 Rh	106.42 45 2-8-18-16-1 Pd	107.868 46 2-8-18-18 Ag	107.867 47 2-8-18-18-1 Au	112.41 48 2-8-18-18-2 Cd	114.818 49 2-8-18-18-3 In	118.71 50 2-8-18-18-4 Sn	121.760 51 2-8-18-18-5 Sb	127.60 52 2-8-18-18-6 Te	126.904 53 2-8-18-18-7 I	131.29 54 2-8-18-18-8 Xe	
6	132.905 55 2-8-18-18-8-1 Cs	137.33 56 2-8-18-18-8-2 Ba	138.9055 57 2-8-18-18-9-2 La	178.49 72 2-8-32-10-2 Hf	180.948 73 2-8-32-11-2 Ta	183.84 74 2-8-32-12-2 W	186.207 75 2-8-32-13-2 Re	190.23 76 2-8-32-14-2 Os	195.08 77 2-8-32-17-1 Pt	196.967 78 2-8-32-18-1 Au	200.59 79 2-8-32-18-2 Hg	207.2 80 2-8-32-18-3 Tl	204.383 81 2-8-32-18-3 Pb	207.2 82 2-8-32-18-4 Bi	208.980 83 2-8-32-18-5 Po	209 84 2-8-32-18-6 At	210 85 2-8-32-18-7 Rn	(222) 86 2-8-32-18-8 Fr	
7	(223) 87 2-8-32-18-8-1 Fr	(226) 88 2-8-32-18-8-2 Ra	(227) 89 2-8-32-18-9-2 Ac	(261) 104 2-8-32-10-2 Rf	(262) 105 2-8-32-11-2 Db	(266) 106 2-8-32-12-2 Sg	(272) 107 2-8-32-13-2 Bh	(277) 108 2-8-32-14-2 Hs	(281) 110 2-8-32-17-1 Ds	(280) 111 2-8-32-18-1 Rg	(285) 112 2-8-32-18-2 Cn	(289) 114 2-8-32-18-4 Uuq	(289) 114 2-8-32-18-4 Uut	(289) 114 2-8-32-18-4 Uuq	(288) 115 2-8-32-18-5 Uup	(292) 116 2-8-32-18-6 Uuh	(?) 117 2-8-32-18-7 Uus	(294) 118 2-8-32-18-8 Uuo	

140.116 58 Ce	140.908 59 Pr	144.24 60 Nd	150.36 61 Pm	151.964 62 Sm	157.25 63 Eu	158.925 64 Gd	162.500 65 Tb	164.930 66 Dy	167.259 67 Ho	168.934 68 Er	173.04 69 Tm	174.9668 70 Yb	175.04 71 Lu
232.038 90 Th	231.036 91 Pa	238.029 92 U	(237) 93 Np	(241) 94 Pu	(243) 95 Am	(247) 96 Cm	(247) 97 Bk	(251) 98 Cf	(252) 99 Es	(257) 100 Fm	(258) 101 Md	(259) 102 No	(262) 103 Lr

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S : C H N O P S Cl Br I Xe ...

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Table S
Properties of Selected Elements

Atomic Number	Symbol	Name	First Ionization Energy	Electro-negativity	Melting Point	Boiling Point	Density**	Atomic Radius
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								

Atomic Number	Symbol	Name	First Ionization Energy	Electro-negativity	Melting Point	Boiling* Point	Density**	Atomic Radius
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
Elements 58-71 have been omitted.								
72								
73								
74								
75								
76								
77								
78								
79								
80								
81								
82								
83								
84								
85								
86								
87								
88								
89								
Elements 90 and above have been omitted.								

* ...
 ** ...
 S ... C m ... P ... , 91 ... , 2010 2011, CRC P

Table T
Important Formulas and Equations

Density	$\rho = \frac{m}{V}$
Mole Calculations	$n = \frac{m}{M}$
Percent Error	$\% \text{ Error} = \frac{ \text{Experimental} - \text{Theoretical} }{\text{Theoretical}} \times 100$
Percent Composition	$\% \text{ Composition} = \frac{\text{mass of element}}{\text{total mass}} \times 100$
Concentration	$M = \frac{n}{V}$
	$m\% = \frac{m_{\text{solute}}}{m_{\text{solution}}} \times 100$
Combined Gas Law	$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$
Titration	$M_A V_A = M_B V_B$
Heat	$Q = C \Delta T$ $H = C \Delta T$ $H = m C \Delta T$
Temperature	$T(^{\circ}\text{C}) = T(^{\circ}\text{F}) - 32$