

Miscellaneous information for Chemistry 152

¹Conversion

²Heating-Cooling

³Solubility

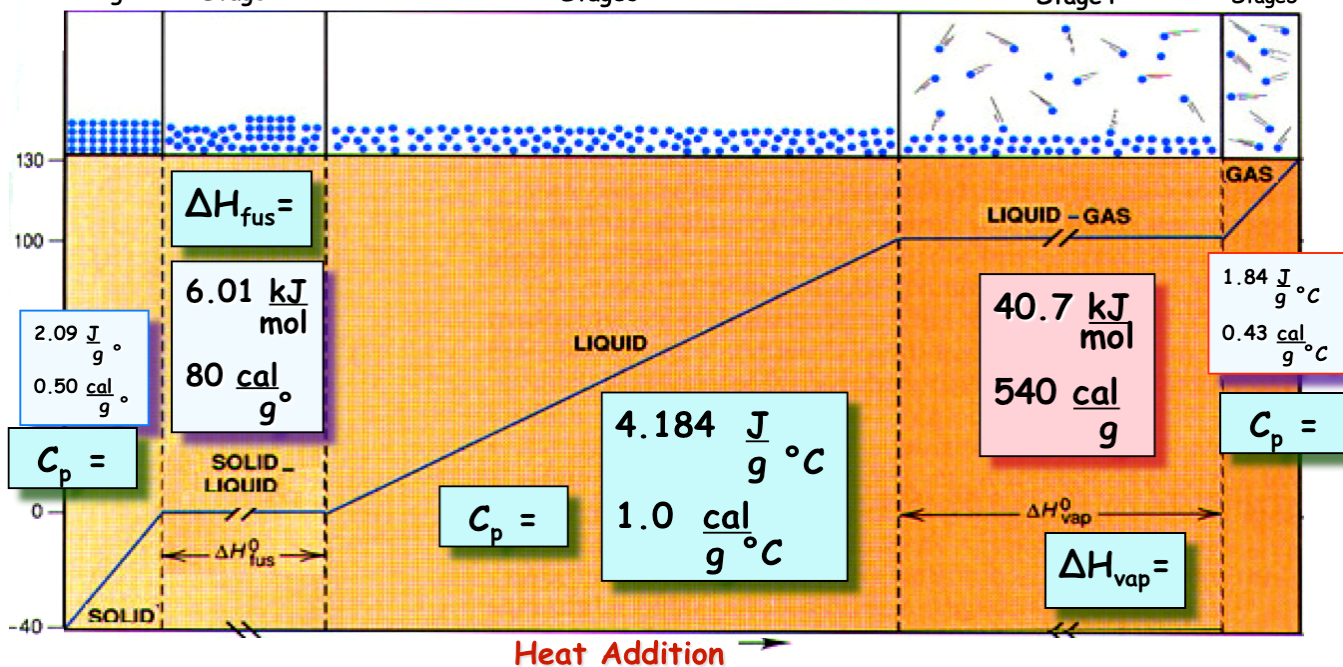
⁴Stoichiometry

⁵Periodic table

1 Conversion information:

System	LENGTH:	VOLUME	MASS	Temperature
English:	1 ft = 12 in 1 mile = 5280 ft	1 gal = 4 qt 1 qt = 2 pints 1 pt = 16 fl oz	1 lb = 16 oz 1 ton = 2000 lb	$T_{\circ F} = 1.8T_{\circ C} + 32$
SI-English:	2.54 cm = 1 in 1.609 km = 1 mi	0.946 L = 1 qt 3.785 L = 1 gal 29.57 mL = 1 fl oz.	453.6 g = 1 lb 28.35 g = 1 oz 1 kg = 2.205 lb	$T_{\circ C} = \frac{(T_{\circ F} - 32)}{1.8}$
Misc. info	1 mole = $6.02 \cdot 10^{23}$		Density H ₂ O: 1.0 g / cc	

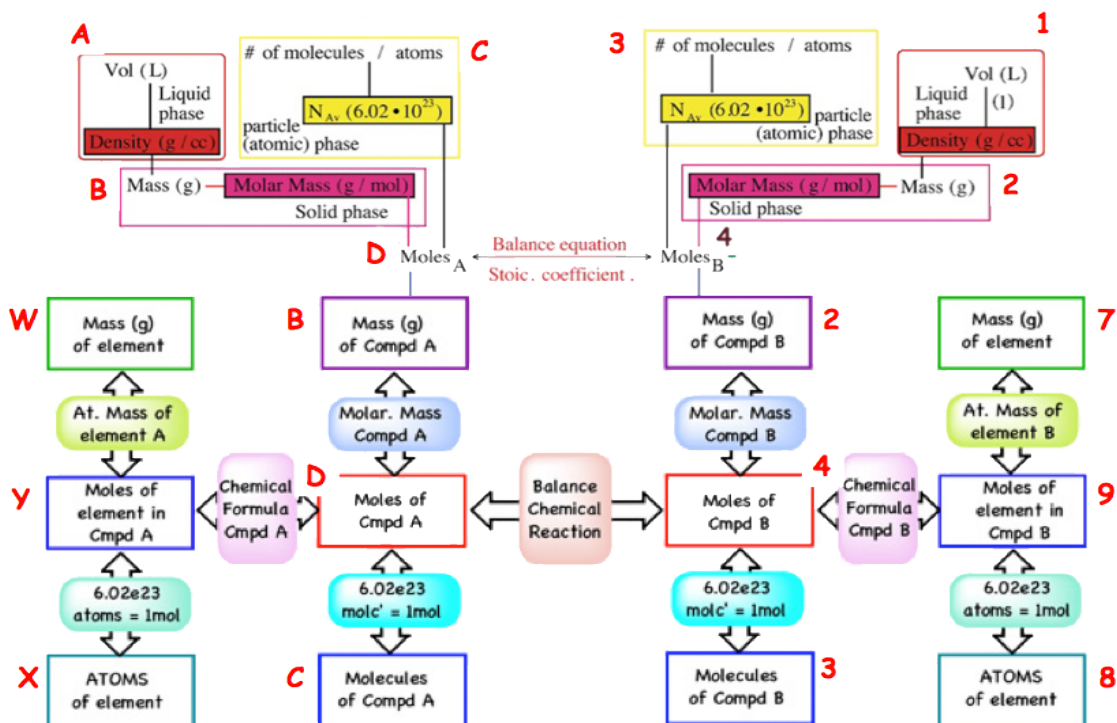
2 Heating Cooling Curve
Stage1 Stage2 Stage3 Stage4 Stage5



3 Solubility rules:

Soluble Substances		Insoluble Substances	
Containing-	Exceptions	Containing-	Exceptions
Nitrates (NO ₃ ⁻) Perchlorates (ClO ₄ ⁻) Acetates (CH ₃ CO ₂ ⁻)	None	Carbonates (CO ₃ ²⁻) Chromates (CrO ₄ ²⁻) Phosphates (PO ₄ ³⁻) Sulfides (S ²⁻)	Alkali and NH ₄ ⁺
Halogens (X-) Cl ⁻ , Br ⁻ , I ⁻	Ag, Hg & Pb.	Hydroxides (OH ⁻)	Ca, Ba, Sr, Alkali & NH ₄ ⁺
Sulfates (SO ₄ ²⁻) Alkali (Group 1A) NH ₄ ⁺	Ca, Ba, Hg and Pb None	Soluble - dissolve, no precipitate (aq -phase) insoluble (or slightly soluble) - does not dissolve, precipitate forms. (s-phase)	

Stoichiometric Map



← Table of Electronegativity

												<table border="1"> <tr> <td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td> </tr> <tr> <td>IIIA</td><td>IVA</td><td>VA</td><td>VIA</td><td>VIIA</td><td>VIIIA</td> </tr> <tr> <td>B</td><td>C</td><td>N</td><td>O</td><td>F</td><td>He</td> </tr> <tr> <td>10811</td><td>120112</td><td>140067</td><td>159994</td><td>189984</td><td>20179</td> </tr> <tr> <td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td> </tr> <tr> <td>Al</td><td>Si</td><td>P</td><td>S</td><td>Cl</td><td>Ar</td> </tr> <tr> <td>269815</td><td>28086</td><td>309738</td><td>32064</td><td>35453</td><td>39948</td> </tr> <tr> <td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td> </tr> <tr> <td>K</td><td>Ca</td><td>Sc</td><td>Ti</td><td>V</td><td>Cr</td><td>Mn</td><td>Fe</td><td>Co</td><td>Ni</td><td>Cu</td><td>Zn</td><td>Ga</td><td>Ge</td><td>As</td><td>Se</td><td>Br</td><td>Kr</td> </tr> <tr> <td>39102</td><td>4008</td><td>44956</td><td>4790</td><td>50942</td><td>51996</td><td>549380</td><td>55847</td><td>589332</td><td>5871</td><td>6354</td><td>6537</td><td>6537</td><td>7259</td><td>749216</td><td>7896</td><td>79909</td><td>8380</td> </tr> <tr> <td>37</td><td>38</td><td>39</td><td>40</td><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td><td>51</td><td>52</td><td>53</td><td>54</td> </tr> <tr> <td>Rb</td><td>Sr</td><td>Y</td><td>Zr</td><td>Nb</td><td>Mo</td><td>Tc</td><td>Ru</td><td>Rh</td><td>Pd</td><td>Ag</td><td>Cd</td><td>In</td><td>Sn</td><td>Sb</td><td>Te</td><td>I</td><td>Xe</td> </tr> <tr> <td>8547</td><td>8762</td><td>88905</td><td>9122</td><td>92906</td><td>9594</td><td>[99]</td><td>10107</td><td>102905</td><td>1064</td><td>107870</td><td>11240</td><td>11482</td><td>11869</td><td>12175</td><td>12760</td><td>126904</td><td>13130</td> </tr> <tr> <td>55</td><td>56</td><td>71*</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td> </tr> <tr> <td>Cs</td><td>Ba</td><td>Lu</td><td>Hf</td><td>Ta</td><td>W</td><td>Re</td><td>Os</td><td>Ir</td><td>Pt</td><td>Au</td><td>Hg</td><td>Tl</td><td>Pb</td><td>Bi</td><td>Po</td><td>At</td><td>Rn</td> </tr> <tr> <td>132905</td><td>13734</td><td>174967</td><td>17849</td><td>180948</td><td>18385</td><td>1862</td><td>1902</td><td>1922</td><td>19509</td><td>1970</td><td>20059</td><td>20437</td><td>20719</td><td>208980</td><td>[210]</td><td>[210]</td><td>[222]</td> </tr> <tr> <td>87</td><td>88</td><td>103†</td><td>104</td><td>105</td><td>106</td><td>107</td><td>108</td><td>109</td><td>110</td><td>111</td><td>112</td><td></td><td>114</td><td></td><td>116</td><td></td><td></td> </tr> <tr> <td>Fr</td><td>Ra</td><td>Lr</td><td>Rf</td><td>Db</td><td>Sg</td><td>Bh</td><td>Hs</td><td>Mt</td><td>Ds</td><td>Rg</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>[22302]</td><td>[22603]</td><td>[260]</td><td>[26111]</td><td>[26211]</td><td>[26612]</td><td>[26412]</td><td>[26913]</td><td>[26814]</td><td>[271]</td><td>[272]</td><td>[277]</td><td></td><td>[289]</td><td></td><td>[292]</td><td></td><td></td> </tr> </table>						13	14	15	16	17	18	IIIA	IVA	VA	VIA	VIIA	VIIIA	B	C	N	O	F	He	10811	120112	140067	159994	189984	20179	13	14	15	16	17	18	Al	Si	P	S	Cl	Ar	269815	28086	309738	32064	35453	39948	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	39102	4008	44956	4790	50942	51996	549380	55847	589332	5871	6354	6537	6537	7259	749216	7896	79909	8380	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	8547	8762	88905	9122	92906	9594	[99]	10107	102905	1064	107870	11240	11482	11869	12175	12760	126904	13130	55	56	71*	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	Cs	Ba	Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	132905	13734	174967	17849	180948	18385	1862	1902	1922	19509	1970	20059	20437	20719	208980	[210]	[210]	[222]	87	88	103†	104	105	106	107	108	109	110	111	112		114		116			Fr	Ra	Lr	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg								[22302]	[22603]	[260]	[26111]	[26211]	[26612]	[26412]	[26913]	[26814]	[271]	[272]	[277]		[289]		[292]		
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* Lanthanide Series

† Actinide Series

57	58	59	60	61	62	63	64	65	66	67	68	69	70
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
13891	140115	1409077	14424	(145)	150368	151965	15725	1589254	16250	1649303	16726	1689342	17304
89	90	91	92	93	94	95	96	97	98	99	100	101	102
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
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