



## AS CHEMISTRY

7404

### Data Sheet

This Data Sheet is provided with AQA AS Chemistry question papers.

**Table A**

Infrared absorption data

<b>Bond</b>	<b>Wavenumber / <math>\text{cm}^{-1}</math></b>
N—H (amines)	3300–3500
O—H (alcohols)	3230–3550
C—H	2850–3300
O—H (acids)	2500–3000
$\text{C}\equiv\text{N}$	2220–2260
C=O	1680–1750
C=C	1620–1680
C—O	1000–1300
C—C	750–1100

# The Periodic Table of the Elements

1		2										3	4	5	6	7	0	
(1)		(2)										(13)	(14)	(15)	(16)	(17)	(18)	
<b>6.9</b> <b>Li</b> lithium 3		<b>9.0</b> <b>Be</b> beryllium 4										<b>1.0</b> <b>H</b> hydrogen 1	<b>10.8</b> <b>B</b> boron 5	<b>12.0</b> <b>C</b> carbon 6	<b>14.0</b> <b>N</b> nitrogen 7	<b>16.0</b> <b>O</b> oxygen 8	<b>19.0</b> <b>F</b> fluorine 9	<b>20.2</b> <b>Ne</b> neon 10
<b>23.0</b> <b>Na</b> sodium 11		<b>24.3</b> <b>Mg</b> magnesium 12										<b>27.0</b> <b>Al</b> aluminium 13	<b>28.1</b> <b>Si</b> silicon 14	<b>31.0</b> <b>P</b> phosphorus 15	<b>32.1</b> <b>S</b> sulfur 16	<b>35.5</b> <b>Cl</b> chlorine 17	<b>39.9</b> <b>Ar</b> argon 18	
<b>39.1</b> <b>K</b> potassium 19		<b>40.1</b> <b>Ca</b> calcium 20	<b>45.0</b> <b>Sc</b> scandium 21	<b>47.9</b> <b>Ti</b> titanium 22	<b>50.9</b> <b>V</b> vanadium 23	<b>52.0</b> <b>Cr</b> chromium 24	<b>54.9</b> <b>Mn</b> manganese 25	<b>55.8</b> <b>Fe</b> iron 26	<b>58.9</b> <b>Co</b> cobalt 27	<b>58.7</b> <b>Ni</b> nickel 28	<b>63.5</b> <b>Cu</b> copper 29	<b>65.4</b> <b>Zn</b> zinc 30	<b>69.7</b> <b>Ga</b> gallium 31	<b>72.6</b> <b>Ge</b> germanium 32	<b>74.9</b> <b>As</b> arsenic 33	<b>79.0</b> <b>Se</b> selenium 34	<b>79.9</b> <b>Br</b> bromine 35	<b>83.8</b> <b>Kr</b> krypton 36
<b>85.5</b> <b>Rb</b> rubidium 37		<b>87.6</b> <b>Sr</b> strontium 38	<b>88.9</b> <b>Y</b> yttrium 39	<b>91.2</b> <b>Zr</b> zirconium 40	<b>92.9</b> <b>Nb</b> niobium 41	<b>96.0</b> <b>Mo</b> molybdenum 42	<b>[97]</b> <b>Tc</b> technetium 43	<b>101.1</b> <b>Ru</b> ruthenium 44	<b>102.9</b> <b>Rh</b> rhodium 45	<b>106.4</b> <b>Pd</b> palladium 46	<b>107.9</b> <b>Ag</b> silver 47	<b>112.4</b> <b>Cd</b> cadmium 48	<b>114.8</b> <b>In</b> indium 49	<b>118.7</b> <b>Sn</b> tin 50	<b>121.8</b> <b>Sb</b> antimony 51	<b>127.6</b> <b>Te</b> tellurium 52	<b>126.9</b> <b>I</b> iodine 53	<b>131.3</b> <b>Xe</b> xenon 54
<b>132.9</b> <b>Cs</b> caesium 55		<b>137.3</b> <b>Ba</b> barium 56	<b>138.9</b> <b>La *</b> lanthanum 57	<b>178.5</b> <b>Hf</b> hafnium 72	<b>180.9</b> <b>Ta</b> tantalum 73	<b>183.8</b> <b>W</b> tungsten 74	<b>186.2</b> <b>Re</b> rhenium 75	<b>190.2</b> <b>Os</b> osmium 76	<b>192.2</b> <b>Ir</b> iridium 77	<b>195.1</b> <b>Pt</b> platinum 78	<b>197.0</b> <b>Au</b> gold 79	<b>200.6</b> <b>Hg</b> mercury 80	<b>204.4</b> <b>Tl</b> thallium 81	<b>207.2</b> <b>Pb</b> lead 82	<b>209.0</b> <b>Bi</b> bismuth 83	<b>[209]</b> <b>Po</b> polonium 84	<b>[210]</b> <b>At</b> astatine 85	<b>[222]</b> <b>Rn</b> radon 86
<b>[223]</b> <b>Fr</b> francium 87		<b>[226]</b> <b>Ra</b> radium 88	<b>[227]</b> <b>Ac †</b> actinium 89	<b>[267]</b> <b>Rf</b> rutherfordium 104	<b>[270]</b> <b>Db</b> dubnium 105	<b>[269]</b> <b>Sg</b> seaborgium 106	<b>[270]</b> <b>Bh</b> bohrium 107	<b>[270]</b> <b>Hs</b> hassium 108	<b>[278]</b> <b>Mt</b> meitnerium 109	<b>[281]</b> <b>Ds</b> darmstadtium 110	<b>[281]</b> <b>Rg</b> roentgenium 111	<b>[285]</b> <b>Cn</b> copernicium 112	<b>[286]</b> <b>Nh</b> nihonium 113	<b>[289]</b> <b>Fl</b> flerovium 114	<b>[289]</b> <b>Mc</b> moscovium 115	<b>[293]</b> <b>Lv</b> livermorium 116	<b>[294]</b> <b>Ts</b> tennessine 117	<b>[294]</b> <b>Og</b> oganeson 118

**Key**  
relative atomic mass  
**symbol**  
name  
atomic (proton) number

1.0  
**H**  
hydrogen  
1

\* 58 – 71 Lanthanides

† 90 – 103 Actinides

<b>140.1</b> <b>Ce</b> cerium 58	<b>140.9</b> <b>Pr</b> praseodymium 59	<b>144.2</b> <b>Nd</b> neodymium 60	<b>[145]</b> <b>Pm</b> promethium 61	<b>150.4</b> <b>Sm</b> samarium 62	<b>152.0</b> <b>Eu</b> europium 63	<b>157.3</b> <b>Gd</b> gadolinium 64	<b>158.9</b> <b>Tb</b> terbium 65	<b>162.5</b> <b>Dy</b> dysprosium 66	<b>164.9</b> <b>Ho</b> holmium 67	<b>167.3</b> <b>Er</b> erbium 68	<b>168.9</b> <b>Tm</b> thulium 69	<b>173.0</b> <b>Yb</b> ytterbium 70	<b>175.0</b> <b>Lu</b> lutetium 71
<b>232.0</b> <b>Th</b> thorium 90	<b>231.0</b> <b>Pa</b> protactinium 91	<b>238.0</b> <b>U</b> uranium 92	<b>[237]</b> <b>Np</b> neptunium 93	<b>[244]</b> <b>Pu</b> plutonium 94	<b>[243]</b> <b>Am</b> americium 95	<b>[247]</b> <b>Cm</b> curium 96	<b>[247]</b> <b>Bk</b> berkelium 97	<b>[251]</b> <b>Cf</b> californium 98	<b>[252]</b> <b>Es</b> einsteinium 99	<b>[257]</b> <b>Fm</b> fermium 100	<b>[258]</b> <b>Md</b> mendelevium 101	<b>[259]</b> <b>No</b> nobelium 102	<b>[262]</b> <b>Lr</b> lawrencium 103