



**AS**

**CHEMISTRY**

**Data Sheet**

**7404**

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

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Table A

## Infrared absorption data

Bond	Wavenumber/cm <sup>-1</sup>
N – H (amines)	3300 - 3500
O – H (alcohols)	3230 - 3550
C – H	2850 - 3300
O – H (acids)	2500 - 3000
C ≡ N	2220 - 2260
C = O	1680 - 1750
C = C	1620 - 1680
C – O	1000 - 1300
C – C	750 - 1100

[Turn over]

## The Periodic Table of the Elements

1	2	Key							
(1)	(2)								
6.9 Li 3	9.0 Be 4	relative atomic mass							1.0 H 1
23.0 Na 11	24.3 Mg 12	symbol							
		atomic (proton) number							
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	
39.1 K 19	40.1 Ca 20	45.0 Sc 21	47.9 Ti 22	50.9 V 23	52.0 Cr 24	54.9 Mn 25	55.8 Fe 26	58.9 Co 27	
85.5 Rb 37	87.6 Sr 38	88.9 Y 39	91.2 Zr 40	92.9 Nb 41	96.0 Mo 42	[98] Tc 43	101.1 Ru 44	102.9 Rh 45	
132.9 CS 55	137.3 Ba 56	138.9 La* 57	178.5 Hf 72	180.9 Ta 73	183.8 W 74	186.2 Re 75	190.2 Os 76	192.2 Ir 77	
[223] Fr 87	[226] Ra 88	[227] Ac † 89	[267] Rf 104	[268] Db 105	[271] Sg 106	[272] Bh 107	[270] Hs 108	[276] Mt 109	

\* 58 – 71 Lanthanides

† 90 – 103 Actinides

140.1 Ce 58	140.9 Pr 59	144.2 Nd 60	[145] Pm 61	150.4 Sm 62
232.0 Th 90	231.0 Pa 91	238.0 U 92	[237] Np 93	[244] Pu 94

5

			3	4	5	6	7	0
			(13)	(14)	(15)	(16)	(17)	(18)
			10.8	12.0	14.0	16.0	19.0	20.2
			B	C	N	O	F	Ne
			5	6	7	8	9	10
(10)	(11)	(12)	27.0	28.1	31.0	32.1	35.5	39.9
			Al	Si	P	S	Cl	Ar
			13	14	15	16	17	18
58.7	63.5	65.4	69.7	72.6	74.9	79.0	79.9	83.8
Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
28	29	30	31	32	33	34	35	36
106.4	107.9	112.4	114.8	118.7	121.8	127.6	126.9	131.3
Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
46	47	48	49	50	51	52	53	54
195.1	197.0	200.6	204.4	207.2	209.0	[209]	[210]	[222]
Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
78	79	80	81	82	83	84	85	86
[281]	[280]	Elements with atomic numbers 112-116 have been reported but not fully authenticated						
Ds	Rg							
110	111							

152.0	157.3	158.9	162.5	164.9	167.3	168.9	173.1	175.0
Eu	Gd	Tb	Dv	Ho	Er	Tm	Yb	Lu
63	64	65	66	67	68	69	70	71
[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[262]
Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
95	96	97	98	99	100	101	102	103

[Turn over]

**KEY – Periodic Table of Elements**

1	H	Hydrogen	30	Zn	Zinc
2	He	Helium	31	Ga	Gallium
3	Li	Lithium	32	Ge	Germanium
4	Be	Beryllium	33	As	Arsenic
5	B	Boron	34	Se	Selenium
6	C	Carbon	35	Br	Bromine
7	N	Nitrogen	36	Kr	Krypton
8	O	Oxygen	37	Rb	Rubidium
9	F	Fluorine	38	Sr	Strontium
10	Ne	Neon	39	Y	Yttrium
11	Na	Sodium	40	Zr	Zirconium
12	Mg	Magnesium	41	Nb	Niobium
13	Al	Aluminium	42	Mo	Molybdenum
14	Si	Silicon	43	Tc	Technetium
15	P	Phosphorous	44	Ru	Ruthenium
16	S	Sulphur	45	Rh	Rhodium
17	Cl	Chlorine	46	Pd	Palladium
18	Ar	Argon	47	Ag	Silver
19	K	Potassium	48	Cd	Cadmium
20	Ca	Calcium	49	In	Indium
21	Sc	Scandium	50	Sn	Tin
22	Ti	Titanium	51	Sb	Antimony
23	V	Vanadium	52	Te	Tellurium
24	Cr	Chromium	53	I	Iodine
25	Mn	Manganese	54	Xe	Xenon
26	Fe	Iron	55	Cs	Caesium
27	Co	Cobalt	56	Ba	Barium
28	Ni	Nickel	57	La	Lanthanum
29	Cu	Copper	58	Ce	Cerium

59	Pr	Praseodymium	90	Th	Thorium
60	Nd	Neodymium	91	Pa	Protactinium
61	Pm	Promethium	92	U	Uranium
62	Sm	Samarium	93	Np	Neptunium
63	Eu	Europium	94	Pu	Plutonium
64	Gd	Gadolinium	95	Am	Americium
65	Tb	Terbium	96	Cm	Curium
66	Dy	Dysprosium	97	Bk	Berkelium
67	Ho	Holmium	98	Cf	Californium
68	Er	Erbium	99	Es	Einsteinium
69	Tm	Thulium	100	Fm	Fermium
70	Yb	Ytterbium	101	Md	Mendelevium
71	Lu	Lutetium	102	No	Nobelium
72	Hf	Hafnium	103	Lr	Lawrencium
73	Ta	Tantalum	104	Rf	Rutherfordium
74	W	Tungsten	105	Db	Dubium
75	Re	Rhenium	106	Sg	Seaborgium
76	Os	Osmium	107	Bh	Bohrium
77	Ir	Iridium	108	Hs	Hassium
78	Pt	Platinum	109	Mt	Meitnerium
79	Au	Gold	110	Ds	Darmstadtium
80	Hg	Mercury	111	Rg	Roentgenium
81	Tl	Thallium			
82	Pb	Lead			
83	Bi	Bismuth			
84	Po	Polonium			
85	At	Astatine			
86	Rn	Radon			
87	Fr	Francium			
88	Ra	Radium			
89	Ac	Actinium			

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