

L2-CHEMR



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 2 Chemistry 2024

RESOURCE BOOKLET

Refer to this booklet to answer the questions in your Question and Answer Booklets.

Check that this booklet has pages 2–3 in the correct order and that neither of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.

Formulae for 91164: *Demonstrate understanding of bonding, structure, properties and energy changes*

$$n = cV \quad \Delta_r H = \Sigma \text{ bond energies (bonds broken)} - \Sigma \text{ bond energies (bonds formed)}$$

$$n = \frac{m}{M}$$

Formulae for 91166: *Demonstrate understanding of chemical reactivity*

$$\text{pH} = -\log[\text{H}_3\text{O}^+]$$

$$[\text{H}_3\text{O}^+] = 10^{-\text{pH}}$$

$$K_w = [\text{H}_3\text{O}^+][\text{OH}^-] = 1 \times 10^{-14} \text{ at } 25^\circ\text{C}$$

PERIODIC TABLE OF THE ELEMENTS

Atomic number																	
1						Molar mass/g mol ⁻¹											
H 1.0																	
<i>I</i>		<i>J</i>		<i>K</i>		<i>L</i>		<i>M</i>		<i>N</i>		<i>O</i>		<i>P</i>		<i>Q</i>	
3	Li 6.9	4	Be 9.0	5	B 10.8	6	C 12.0	7	N 14.0	8	O 16.0	9	F 19.0	10	Ne 20.2	11	Na 23.0
11	12	12	Mg 24.3	13	Al 27.0	14	Si 28.1	15	P 31.0	16	S 32.1	17	Cl 35.5	18	Ar 40.0	19	K 39.1
37	Rb 85.5	38	Sr 87.6	39	Y 88.9	40	Zr 91.2	41	Nb 92.9	42	Mo 95.9	43	Tc 98.9	44	Ru 101	45	Rh 103
55	Cs 133	56	Ba 137	57	La 138.9	58	Ce 140.1	59	Pr 140.9	60	Nd 144.2	61	Pm 144.9	62	Sm 150.4	63	Eu 151.9
87	Fr 223	88	Ra 226	89	Ac 227	90	Th 232	91	Pa 231	92	U 238	93	Np 237	94	Pu 244	95	Americium 243

Lanthanide Series	57	La	139	58	Ce	140	59	Pr	141	60	Nd	144	61	Pm	147	62	Sm	150	63	Eu	152	64	Gd	157	65	Tb	159	66	Dy	163	67	Ho	165	68	Er	167	69	Tm	169	70	Yb	173
	89	Ac	227	90	Th	232	91	Pa	231	92	U	238	93	Np	237	94	Pu	239	95	Am	241	96	Cm	244	97	Bk	249	98	Cf	251	99	Es	252	100	Fm	257	101	Md	258	102	No	259

