

Extracted from *Understanding the properties of matter* by Michael de Podesta.  
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**Table 7.10** The molar heat capacity at constant pressure  $C_p$  of the elements at room temperature 25 °C (298.15K). The shaded data are elements that are either liquids or gases at this temperature.

Z	Element	A	$\rho$ (kg m <sup>-3</sup> )	$C_p$ (J K mol <sup>-1</sup> )	Z	Element	A	$\rho$ (kg m <sup>-3</sup> )	$C_p$ (J K mol <sup>-1</sup> )
1	Hydrogen, H	1.008	89	28.824	49	Indium, In	114.8	7290	26.74
2	Helium, He	4.003	120	20.786	50	Tin, Sn	118.7	7285	26.99
3	Lithium, Li	6.941	533	24.770	51	Antimony, Sb	121.7	6692	25.23
4	Beryllium, Be	9.012	1846	16.44	52	Tellurium, Te	127.6	6247	25.73
5	Boron, B	10.81	2466	11.09	53	Iodine, I	126.9	4953	54.438
6	Carbon (graphite), C	12.01	2266	8.53	54	Xenon, Xe	131.3	3560	20.786
6	Carbon (diamond), C	12.01	3513	6.11	55	Caesium, Cs	132.9	1900	32.17
7	Nitrogen, N	14.01	1035	29.125	56	Barium, Ba	137.3	3594	28.07
8	Oxygen, O	16.00	1460	29.355	57	Lanthanum, La	138.9	6174	27.11
9	Fluorine, F	19.00	1140	31.300	58	Cerium, Ce	140.1	6711	26.94
10	Neon, Ne	20.18	1442	20.786	59	Praseodymium, Pr	140.9	6779	27.20
11	Sodium, Na	22.99	966	28.24	60	Neodymium, Ne	144.2	7000	27.45
12	Magnesium, Mg	24.31	1738	24.89	61	Promethium, Pm	145.0	7220	26.81
13	Aluminium, Al	26.98	2698	24.35	62	Samarium, Sm	150.4	7536	29.54
14	Silicon, Si	28.09	2329	20.0	63	Europium, Eu	152.0	5248	27.66
15	Phosphorus, P	30.97	1820	23.84	64	Gadolinium, Gd	157.2	7870	37.03
16	Sulphur, S	32.06	2086	22.64	65	Terbium, Tb	158.9	8267	28.91
17	Chlorine, Cl	35.45	2030	33.907	66	Dysprosium, Dy	162.5	8531	28.16
18	Argon, Ar	39.95	1656	20.786	67	Holmium, Ho	164.9	8797	27.15
19	Potassium, K	39.10	862	29.58	68	Erbium, Er	167.3	9044	28.12
20	Calcium, Ca	40.08	1530	25.31	69	Thulium, Th	168.9	9325	27.03
21	Scandium, Sc	44.96	2992	25.52	70	Ytterbium, Yb	173.0	6966	26.74
22	Titanium, Ti	47.90	4508	25.02	71	Lutetium, Lu	175.0	9842	26.86
23	Vanadium, V	50.94	6090	24.89	72	Hafnium, Hf	178.5	13276	25.73
24	Chromium, Cr	52.00	7194	23.35	73	Tantalum, Ta	180.9	16670	25.36
25	Manganese, Mn	54.94	7473	26.32	74	Tungsten, W	183.9	19254	24.27
26	Iron, Fe	55.85	7873	25.10	75	Rhenium, Re	186.2	21023	25.48
27	Cobalt, Co	58.93	8800	24.81	76	Osmium, Os	190.2	22580	24.70
28	Nickel, Ni	58.70	8907	26.07	77	Iridium, Ir	192.2	22550	25.10
29	Copper, Cu	63.55	8933	24.44	78	Platinum, Pt	195.1	21450	25.86
30	Zinc, Zn	65.38	7135	25.40	79	Gold, Au	197.0	19281	25.42
31	Gallium, Ga	69.72	5905	25.86	80	Mercury, Hg	200.6	13546	27.98
32	Germanium, Ge	72.59	5323	23.35	81	Thallium, Th	204.4	11871	26.32
33	Arsenic, As	74.92	5776	24.64	82	Lead, Pb	207.2	11343	26.44
34	Selenium, Se	78.96	4808	25.36	83	Bismuth, Bi	209.0	9803	25.52
35	Bromine, Br	79.90	3120	75.69	84	Polonium, Po	209	9400	25.75
36	Krypton, Kr	83.80	3000	20.79	85	Astatine, At	210		
37	Rubidium, Rb	85.47	1533	31.06	86	Radon, Rn	222	4400	20.786
38	Strontium, Sr	87.62	2583	26.40	87	Francium, Fr	223	2410	31.70
39	Yttrium, Y	88.91	4475	26.53	88	Radium, Ra	226	5000	25.76
40	Zirconium, Zr	91.22	6507	25.36	89	Actinium, Ac	227	10060	27.20
41	Niobium, Nb	92.91	8578	24.60	90	Thorium, Th	232	11725	27.32
42	Molybdenum, Mo	95.94	10222	24.06	91	Protactinium, Pa	231	15370	27.20
43	Technetium, Tc	97	11496	25.88	92	Uranium, U	238	19050	27.66
44	Ruthenium, Ru	101.1	12360	24.06	93	Neptunium, Np	237	20250	29.62
45	Rhodium, Rh	102.9	12420	24.98	94	Plutonium, Pu	244	19840	32.80
46	Palladium, Pd	106.4	11995	25.98	95	Americium, Am	243	13670	25.86
47	Silver, Ag	107.9	10500	25.35	96	Curium, Cm	247	1330	27.70
48	Cadmium, Cd	112.4	8647	25.98					