

CHEMISTRY DATA SHEET AND PERIODIC TABLE

Metal activity

K	↓	most reactive
Ca		
Na		
Mg		
Al		
Zn		
Cd		
Co		
Ni		
Bi		
Cu		
Hg		
Ag		
Au		least reactive

Table of SI prefixes

SI prefix	Symbol	Value
tera	T	10^{12}
giga	G	10^9
mega	M	10^6
kilo	k	10^3
deci	d	10^{-1}
centi	c	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}
nano	n	10^{-9}
pico	p	10^{-12}

Symbols of common quantities

amount of substance	n
mass	m
molar concentration	c
change in enthalpy	ΔH
molar mass	M
volume	V
heat energy	Q
specific heat capacity	c
temperature	T

Mathematical relationships

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

$$c = \frac{n}{V}$$

$$Q = mc\Delta T$$

$$\Delta H = \frac{Q}{n}$$

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

Periodic table of the elements

1	H Hydrogen 1.008											2	He Helium 4.003																						
3	Li Lithium 6.941	4	Be Beryllium 9.012											9	F Fluorine 19.00	10	Ne Neon 20.18																		
11	Na Sodium 22.99	12	Mg Magnesium 24.31											17	Cl Chlorine 35.45	18	Ar Argon 39.95																		
19	K Potassium 39.10	20	Ca Calcium 40.08	21	Sc Scandium 44.96	22	Ti Titanium 47.90	23	V Vanadium 50.94	24	Cr Chromium 52.00	25	Mn Manganese 54.94	26	Fe Iron 55.85	27	Co Cobalt 58.93	28	Ni Nickel 58.70	29	Cu Copper 63.55	30	Zn Zinc 65.38	31	Ga Gallium 69.72	32	Ge Germanium 72.59	33	As Arsenic 74.92	34	Se Selenium 78.96	35	Br Bromine 79.90	36	Kr Krypton 83.80
37	Rb Rubidium 85.47	38	Sr Strontium 87.62	39	Y Yttrium 88.91	40	Zr Zirconium 91.22	41	Nb Niobium 92.91	42	Mo Molybdenum 95.94	43	Tc Technetium (97)	44	Ru Ruthenium 101.1	45	Rh Rhodium 102.9	46	Pd Palladium 106.4	47	Ag Silver 107.9	48	Cd Cadmium 112.4	49	In Indium 114.8	50	Sn Tin 118.7	51	Sb Antimony 121.8	52	Te Tellurium 127.6	53	I Iodine 126.9	54	Xe Xenon 131.3
55	Cs Caesium 132.9	56	Ba Barium 137.3	57¹	La Lanthanum 138.9	72	Hf Hafnium 178.5	73	Ta Tantalum 180.9	74	W Tungsten 183.8	75	Re Rhenium 186.2	76	Os Osmium 190.2	77	Ir Iridium 192.2	78	Pt Platinum 195.1	79	Au Gold 197.0	80	Hg Mercury 200.6	81	Tl Thallium 204.4	82	Pb Lead 207.2	83	Bi Bismuth 209.0	84	Po Polonium (209)	85	At Astatine (210)	86	Rn Radon (222)
87	Fr Francium (223)	88	Ra Radium (226)	89²	Ac Actinium (227)	104	Rf Rutherfordium (261)	105	Db Dubnium (268)	106	Sg Seaborgium (271)	107	Bh Bohrium (272)	108	Hs Hassium (270)	109	Mt Meitnerium (276)	110	Ds Darmstadtium (281)	111	Rg Roentgenium (280)	112	Cn Copernicium (285)	113	Nh Nihonium (284)	114	Fl Flerovium (289)	115	Mc Moscovium (288)	116	Lv Livermorium (293)	117	Ts Tennessine (294)	118	Og Oganesson (294)
				¹Lanthanide series										69	Tm Thulium 168.9	70	Yb Ytterbium 173.0	71	Lu Lutetium 175.0																
				²Actinide series										68	Er Erbium 167.3	67	Ho Holmium 164.9	103	Lr Lawrencium (262)																
														99	Es Einsteinium (252)	100	Fm Fermium (257)	101	Md Mendelevium (258)	102	No Nobelium (259)	103	Lr Lawrencium (262)												
														98	Cf Californium (251)	97	Bk Berkelium (247)	96	Cm Curium (247)	95	Am Americium (243)	94	Pu Plutonium (244)	93	Np Neptunium (237)	92	U Uranium 238.0	91	Pa Protactinium 231.0	90	Th Thorium 232.0				
														162.5	Dy Dysprosium 162.5	158.9	Tb Terbium 158.9	157.3	Gd Gadolinium 157.3	152.0	Eu Europium 152.0	150.4	Sm Samarium 150.4	145	Pm Promethium (145)	144.2	Nd Neodymium 144.2	140.9	Pr Praseodymium 140.9	140.1	Ce Cerium 140.1				