

Periodic Chart of the Elements and Ions

1	2	3	4	5	6	7	8	9
1 H hydrogen 1.01 H ⁺ hydrogen	2 He helium 4.00 H ⁻ hydride	3 Li lithium 6.94 Li ⁺ lithium	4 Be beryllium 9.01 Be ²⁺ beryllium	5	6	7	8	9
Note: The legend at the right denotes the physical state of the elements at 101.325 kPa and 298.15 K (25°C).	Legend for the Elements							
	Solid	Liquid	Gas	Seldom forms ions				
Table of Polyatomic Ions								
Polyatomic ions								
acetate CH_3COO^-	chlorate ClO_3^-	iodate IO_3^-	permanganate MnO_4^-	sulfite SO_3^{2-}				
ammonium NH_4^+	chlorite ClO_4^-	nitrate NO_3^-	phosphate PO_4^{3-}	hydrogen sulfide HS^-				
benzoate $\text{C}_6\text{H}_5\text{COO}^-$	hypochlorite ClO^-	nitrite NO_2^-	hydrogen phosphate HPO_4^{2-}	hydrogen sulfate HSO_4^-				
borate BO_3^{2-}	chromate CrO_4^{2-}	methanoate CHOO^-	dihydrogen phosphate H_2PO_4^-	hydrogen sulfite HSO_3^-				
carbonate CO_3^{2-}	dichromate $\text{Cr}_2\text{O}_7^{2-}$	oxalate OOCOO^{2-}	silicate SiO_3^{2-}	thiocyanate SCN^-				
hydrogen carbonate HCO_3^-	cyanide CN^-	hydrogen oxalate HOOCOO^-	sulfate SO_4^{2-}	thiosulfate $\text{S}_2\text{O}_3^{2-}$				
perchlorate ClO_4^-	hydroxide OH^-							

Lanthanide and Actinide Series Begins

58 Ce cerium 140.12	59 Pr praseodymium 140.91	60 Nd neodymium 144.24	61 Pm promethium (145)	62 Sm samarium 150.36
Ce^{3+} cerium	Pr^{3+} praseodymium	Nd^{3+} neodymium	Pm^{3+} promethium	Sm^{3+} samarium(III) Sm^{2+} samarium(II)
90 Th thorium 232.04	91 Pa protactinium 231.04	92 U uranium 238.03	93 Np neptunium (237)	94 Pu plutonium (244)
Th^{4+} thorium	Pa^{5+} protactinium(V) Pa^{4+} protactinium(IV)	U^{6+} uranium(VI)	U^{4+} uranium(IV)	Np^{5+} neptunium

10	11	12	13	14	15	16	17	18
5 B boron 10.81 B ³⁺ boron	6 C carbon 12.01 C ⁴⁺ carbon	7 N nitrogen 14.01 N ³⁻ nitride	8 O oxygen 16.00 O ²⁻ oxide	9 F fluorine 19.00 F ⁻ fluoride	10 Ne neon 20.18 Ne ⁻ neon	11 Na sodium 22.99 Na ⁺ sodium	12 Mg magnesium 24.31 Mg ²⁺ magnesium	13 Al aluminum 26.98 Al ³⁺ aluminum
14 Si silicon 28.09 Si ⁴⁺ silicon	15 P phosphorus 30.97 P ³⁻ phosphide	16 S sulfur 32.07 S ²⁻ sulfide	17 Cl chlorine 35.45 Cl ⁻ chloride	18 Ar argon 39.95 Ar ⁻ argon				
19 K potassium 39.10 K ⁺ potassium	20 Ca calcium 40.08 Ca ²⁺ calcium	21 Sc scandium 44.96 Sc ³⁺ scandium	22 Ti titanium 47.87 Ti ⁴⁺ titanium(IV) Ti ³⁺ titanium(III) Ti ²⁺ titanium(II)	23 V vanadium 50.94 V ⁵⁺ vanadium(V) V ⁴⁺ vanadium(IV) V ³⁺ vanadium(III)	24 Cr chromium 52.00 Cr ³⁺ chromium(III) Cr ²⁺ chromium(II)	25 Mn manganese 54.94 Mn ²⁺ manganese(II) Mn ⁴⁺ manganese(IV)	26 Fe iron 55.85 Fe ³⁺ iron(III) Fe ²⁺ iron(II)	27 Co cobalt 58.93 Co ²⁺ cobalt(II) Co ³⁺ cobalt(III)
28 Ni nickel 58.69 Ni ²⁺ nickel(II) Ni ³⁺ nickel(III)	29 Cu copper 63.55 Cu ²⁺ copper(II) Cu ⁺ copper(I)	30 Zn zinc 65.41 Zn ²⁺ zinc	31 Ga gallium 69.72 Ga ³⁺ gallium	32 Ge germanium 72.64 Ge ⁴⁺ germanium	33 As arsenic 74.92 As ³⁻ arsenide	34 Se selenium 78.96 Se ²⁻ selenide	35 Br bromine 79.90 Br ⁻ bromide	36 Kr krypton 83.80 Kr ⁻ krypton
37 Rb rubidium 85.47 Rb ⁺ rubidium	38 Sr strontium 87.62 Sr ²⁺ strontium	39 Y yttrium 88.91 Y ³⁺ yttrium	40 Zr zirconium 91.22 Zr ⁴⁺ zirconium	41 Nb niobium 92.91 Nb ⁵⁺ niobium(V) Nb ³⁺ niobium(III)	42 Mo molybdenum 95.94 Mo ⁶⁺ molybdenum	43 Tc technetium (98) Tc ⁷⁺ technetium	44 Ru ruthenium 101.07 Ru ³⁺ ruthenium(III)	45 Rh rhodium 102.91 Rh ³⁺ rhodium
46 Pd palladium 106.42 Pd ²⁺ palladium(II) Pd ³⁺ palladium(III)	47 Ag silver 107.87 Ag ⁺ silver	48 Cd cadmium 112.41 Cd ²⁺ cadmium	49 In indium 114.82 In ³⁺ indium	50 Sn tin 118.71 Sn ⁴⁺ tin(IV) Sn ²⁺ tin(II)	51 Sb antimony 121.76 Sb ³⁺ antimony(III) Sb ⁵⁺ antimony(V)	52 Te tellurium 127.60 Te ²⁻ telluride	53 I iodine 126.90 I ⁻ iodide	54 Xe xenon 131.29 Xe ⁻ xenon
78 Pt platinum 195.08 Pt ⁴⁺ platinum(IV) Pt ²⁺ platinum(II) Pt ¹⁺ platinum(I)	79 Au gold 196.97 Au ³⁺ gold(III) Au ⁺ gold(I)	80 Hg mercury 200.59 Hg ²⁺ mercury(II) Hg ⁺ mercury(I)	81 Tl thallium 204.38 Tl ⁺ thallium(I)	82 Pb lead 207.2* Pb ²⁺ lead(II) Pb ⁴⁺ lead(IV)	83 Bi bismuth 208.98 Bi ³⁺ bismuth(III) Bi ⁵⁺ bismuth(V)	84 Po polonium (209) Po ²⁻ polonium(II) Po ⁴⁻ polonium(IV)	85 At astatine (210) At ⁻ astatide	86 Rn radon (222) Rn ⁻ radon
110 Ds darmstadtium (271)	111 Rg roentgenium (272)							

* The isotopic mix of naturally occurring lead is more variable than that of other elements, preventing precision to greater than tenths of a gram per mole.

63 Eu europium 151.96 Eu ³⁺ europium(III) Eu ²⁺ europium(II)	64 Gd gadolinium 157.25 Gd ³⁺ gadolinium	65 Tb terbium 158.93 Tb ³⁺ terbium	66 Dy dysprosium 162.50 Dy ³⁺ dysprosium	67 Ho holmium 164.93 Ho ³⁺ holmium	68 Er erbium 167.26 Er ³⁺ erbium	69 Tm thulium 168.93 Tm ³⁺ thulium	70 Yb ytterbium 173.04 Yb ³⁺ ytterbium(III) Yb ²⁺ ytterbium(II)	71 Lu lutetium 174.97 Lu ³⁺ lutetium
95 Am americium (243) Am ³⁺ americium(III) Am ²⁺ americium(II)	96 Cm curium (247) Cm ³⁺ curium	97 Bk berkelium (247) Bk ³⁺ berkelium(III) Bk ⁴⁺ berkelium(IV)	98 Cf californium (251) Cf ³⁺ californium	99 Es einsteinium (252) Es ³⁺ einsteinium	100 Fm fermium (257) Fm ³⁺ fermium	101 Md mendelevium (259) Md ²⁺ mendelevium(II) Md ³⁺ mendelevium(III)	102 No nobelium (262) No ²⁺ nobelium(II) No ³⁺ nobelium(III)	103 Lr lawrencium (262) Lr ³⁺ lawrencium

Based on ^{12}C . Most stable or common ion is listed above dotted line. Atomic mass in parentheses indicates mass of the most stable isotope.