Mass Standard Notation

$n^0 + p^+ = \text{Atomic Mass}$

# Periodic Table of the Elements

Non Metal

Noble Gases

Alkaline Earth

Halogens

Alkali Earth

Basic Metal

Transition Metal

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 1+ H Hydrogen 1.0 | | | | | | | | | | | | | | | | | 2 0 He Helium 4.0 |
| 2 | 3 1+ Li Lithium 6.9 | 4 2+ Be Beryllium 9.0 | | | | | | | | | | | 5 B Boron 10.8 | 6 C Carbon 12.0 | 7 3– N Nitrogen 14.0 | 8 2– O Oxygen 16.0 | 9 1– F Fluorine 19.0 | 10 0 Ne Neon 20.2 |
| 3 | 11 1+ Na Sodium 23.0 | 12 2+ Mg Magnesium 24.3 | | | | | | | | | | | 13 3+ Al Aluminum 27.0 | 14 Si Silicon 28.1 | 15 3– P Phosphorus 31.0 | 16 2– S Sulfur 32.1 | 17 1– Cl Chlorine 35.5 | 18 0 Ar Argon 39.9 |
| 4 | 19 1+ K Potassium 39.1 | 20 2+ Ca Calcium 40.1 | 21 3+ Sc Scandium 45.0 | 22 4+ 3+ Ti Titanium 47.9 | 23 5+ 4+ V Vanadium 50.9 | 24 3+ 2+ Cr Chromium 52.0 | 25 2+ 3+ 4+ Mn Manganese 54.9 | 26 3+ 2+ Fe Iron 55.8 | 27 2+ 3+ Co Cobalt 58.9 | 28 2+ 3+ Ni Nickel 58.7 | 29 2+ 1+ Cu Copper 63.5 | 30 2+ Zn Zinc 65.4 | 31 3+ Ga Gallium 69.7 | 32 4+ Ge Germanium 72.6 | 33 3– As Arsenic 74.9 | 34 2– Se Selenium 79.0 | 35 1– Br Bromine 79.9 | 36 0 Kr Krypton 83.8 |
| 5 | 37 1+ Rb Rubidium 85.5 | 38 2+ Sr Strontium 87.6 | 39 3+ Y Yttrium 88.9 | 40 4+ Zr Zirconium 91.2 | 41 3+ 5+ Nb Niobium 92.9 | 42 2+ 3+ Mo Molybdenum 95.9 | 43 7+ Tc Technetium (98) | 44 3+ 4+ Ru Ruthenium 101.1 | 45 3+ 4+ Rh Rhodium 102.9 | 46 2+ 4+ Pd Palladium 106.4 | 47 1+ Ag Silver 107.9 | 48 2+ Cd Cadmium 112.4 | 49 3+ In Indium 114.8 | 50 4+ 2+ Sn Tin 118.7 | 51 3+ 5+ Sb Antimony 121.8 | 52 2– Te Tellurium 127.6 | 53 1– I Iodine 126.9 | 54 0 Xe Xenon 131.3 |
| 6 | 55 1+ Cs Cesium 132.9 | 56 2+ Ba Barium 137.3 | 57 3+ La Lanthanum 138.9 | 72 4+ Hf Hafnium 178.5 | 73 5+ Ta Tantalum 180.9 | 74 6+ W Tungsten 183.8 | 75 4+ 7+ Re Rhenium 186.2 | 76 3+ 4+ Os Osmium 190.2 | 77 3+ 4+ Ir Iridium 192.2 | 78 4+ 2+ Pt Platinum 195.1 | 79 3+ 1+ Au Gold 197.0 | 80 2+ 1+ Hg Mercury 200.6 | 81 1+ 3+ Tl Thallium 204.4 | 82 2+ 4+ Pb Lead 207.2 | 83 3+ 5+ Bi Bismuth 209.0 | 84 2+ 4+ Po Polonium (209) | 85 1– At Astatine (210) | 86 0 Rn Radon (222) |
| 7 | 87 1+ Fr Francium (223) | 88 2+ Ra Radium (226) | 89 3+ Ac Actinium (227) | 104 Rf Rutherfordium (261) | 105 Db Dubnium (262) | 106 Sg Seaborgium (263) | 107 Bh Bohrium (262) | 108 Hs Hassium (265) | 109 Mt Meitnerium (266) | 110 Ds Darmstadtium (281) | 111 Rg Roentgenium (272) | 112 Uub* Ununbium (285) | 113 Uut* Ununtrium (284) | 114 Uuq* Ununquadium (289) | 115 Uup* Ununpentium (288) | 116 Uuh* Ununhexium (292) | | 118 Uuo* Ununoctium (294) |

metal

metalloid

non-metal

O natural

Db synthetic

Atomic Number → 22 4+ 3+ ← Ion charge(s)
Symbol → Ti
Name → Titanium
Atomic Mass → 47.9

* Temporary names

Lanthanide

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 3+ 4+ Ce Cerium 140.1 | 59 3+ 4+ Pr Praseodymium 140.9 | 60 3+ Nd Neodymium 144.2 | 61 3+ Pm Promethium (145) | 62 3+ 4+ Sm Samarium 150.4 | 63 3+ 2+ Eu Europium 152.0 | 64 3+ Gd Gadolinium 157.3 | 65 3+ 4+ Tb Terbium 158.9 | 66 3+ Dy Dysprosium 162.5 | 67 3+ Ho Holmium 164.9 | 68 3+ Er Erbium 167.3 | 69 3+ 2+ Tm Thulium 168.9 | 70 3+ 2+ Yb Ytterbium 173.0 | 71 3+ Lu Lutetium 175.0 |
| 90 4+ Th Thorium 232.0 | 91 5+ 4+ Pa Protactinium 231.0 | 92 6+ 4+ 5+ U Uranium 238.0 | 93 5+ 3+ 4+ 6+ Np Neptunium (237) | 94 4+ 6+ 3+ 5+ Pu Plutonium (244) | 95 3+ 4+ 5+ 6+ Am Americium (243) | 96 3+ Cm Curium (247) | 97 3+ 4+ Bk Berkelium (247) | 98 3+ Cf Californium (251) | 99 3+ Es Einsteinium (252) | 100 3+ Fm Fermium (257) | 101 2+ 3+ Md Mendelevium (258) | 102 2+ 3+ No Nobelium (259) | 103 3+ Lr Lawrencium (262) |

Actinide

Based on mass of C-12 at 12.00.

Any value in parentheses is the mass of the most stable or best known isotope for elements that do not occur naturally.

Claim Evidence Reason

SNC 2D

# Chemistry Data Tables

**Table 1: Common Polyatomic Ions (and Valences)**

| Ion Name | Ion Formula (with Valence) |
|---|---|
| Nitrate | $NO_3^-$ |
| Hydroxide | $OH^-$ |
| Bicarbonate (hydrogen carbonate) | $HCO_3^-$ |
| Chlorate | $ClO_3^-$ |
| Carbonate | $CO_3^{2-}$ |
| Sulphate | $SO_4^{2-}$ |
| Phosphate | $PO_4^{3-}$ |
| Ammonium | $NH_4^+$ |
| Chromate | $CrO_4^{2-}$ |
| Thiocyanate | $SCN^-$ |
| Acetate | $CH_2COO^-$ |

**Table 2: Diatomic Molecules**

| Element Name | Chemical Symbol | Formula and State (at room temperature) |
|---|---|---|
| Hydrogen | H | $H_2$ (gas) |
| Nitrogen | N | $N_2$ (gas) |
| Oxygen | O | $O_2$ (gas) |
| Fluorine | F | $F_2$ (gas) |
| Chlorine | Cl | $Cl_2$ (gas) |
| Bromine | Br | $Br_2$ (liquid) |
| Iodine | I | $I_2$ (solid) |

**Table 3: Combining Capacities on Non-Metal Atoms**

| 4 | 3 | 2 | 1 |
|---|---|---|---|
| C<br>Si | N<br>P<br>As | O<br>S<br>Se | H<br>F<br>Cl<br>Br<br>I |

**Table 4: Prefixes for Nomenclature:**

| Number | Prefix | Number | Prefix |
|---|---|---|---|
| 1 | Mono- | 6 | Hexa- |
| 2 | Di- | 7 | Hepta- |
| 3 | Tri- | 8 | Octa- |
| 4 | Tetra- | 9 | Nona- |
| 5 | Penta- | 10 | Deca- |