

## Chemical Environmental Technology

<http://www.tstc.edu/harlingenchemtech/>

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### Location:

The Chemical Technology  
office is located in the  
Engineering Technology  
Building PM.

1 IA 1A <b>H</b> Hydrogen 1.008	2 IIA 2A <b>He</b> Helium 4.003																	18 VIIIA 8A
3 <b>Li</b> Lithium 6.941	4 <b>Be</b> Beryllium 9.012	5 <b>B</b> Boron 10.811	6 <b>C</b> Carbon 12.011	7 <b>N</b> Nitrogen 14.007	8 <b>O</b> Oxygen 15.999	9 <b>F</b> Fluorine 18.998	10 <b>Ne</b> Neon 20.180											
11 <b>Na</b> Sodium 22.990	12 <b>Mg</b> Magnesium 24.305	13 <b>Al</b> Aluminum 26.982	14 <b>Si</b> Silicon 28.086	15 <b>P</b> Phosphorus 30.974	16 <b>S</b> Sulfur 32.066	17 <b>Cl</b> Chlorine 35.453	18 <b>Ar</b> Argon 39.948											
19 <b>K</b> Potassium 39.098	20 <b>Ca</b> Calcium 40.078	21 <b>Sc</b> Scandium 44.956	22 <b>Ti</b> Titanium 47.88	23 <b>V</b> Vanadium 50.942	24 <b>Cr</b> Chromium 51.996	25 <b>Mn</b> Manganese 54.938	26 <b>Fe</b> Iron 55.933	27 <b>Co</b> Cobalt 58.933	28 <b>Ni</b> Nickel 58.693	29 <b>Cu</b> Copper 63.546	30 <b>Zn</b> Zinc 65.39	31 <b>Ga</b> Gallium 69.732	32 <b>Ge</b> Germanium 72.61	33 <b>As</b> Arsenic 74.922	34 <b>Se</b> Selenium 78.09	35 <b>Br</b> Bromine 79.904	36 <b>Kr</b> Krypton 84.80	
37 <b>Rb</b> Rubidium 84.468	38 <b>Sr</b> Strontium 87.62	39 <b>Y</b> Yttrium 88.906	40 <b>Zr</b> Zirconium 91.224	41 <b>Nb</b> Niobium 92.906	42 <b>Mo</b> Molybdenum 95.94	43 <b>Tc</b> Technetium 98.907	44 <b>Ru</b> Ruthenium 101.07	45 <b>Rh</b> Rhodium 102.906	46 <b>Pd</b> Palladium 106.42	47 <b>Ag</b> Silver 107.868	48 <b>Cd</b> Cadmium 112.411	49 <b>In</b> Indium 114.818	50 <b>Sn</b> Tin 118.71	51 <b>Sb</b> Antimony 121.760	52 <b>Te</b> Tellurium 127.6	53 <b>I</b> Iodine 126.904	54 <b>Xe</b> Xenon 131.29	
55 <b>Cs</b> Cesium 132.905	56 <b>Ba</b> Barium 137.327	57-71 Lanthanide Series	72 <b>Hf</b> Hafnium 178.49	73 <b>Ta</b> Tantalum 180.948	74 <b>W</b> Tungsten 183.85	75 <b>Re</b> Rhenium 168.207	76 <b>Os</b> Osmium 190.23	77 <b>Ir</b> Iridium 192.22	78 <b>Pt</b> Platinum 195.08	79 <b>Au</b> Gold 196.967	80 <b>Hg</b> Mercury 200.59	81 <b>Tl</b> Thallium 204.383	82 <b>Pb</b> Lead 207.2	83 <b>Bi</b> Bismuth 208.980	84 <b>Po</b> Polonium [208.982]	85 <b>At</b> Astatine 209.987	86 <b>Rn</b> Radon 222.018	
87 <b>Fr</b> Francium 223.020	88 <b>Ra</b> Radium 226.025	89-103 Actinide Series	104 <b>Rf</b> Rutherfordium [261]	105 <b>Db</b> Dubnium [262]	106 <b>Sg</b> Seaborgium [266]	107 <b>Bh</b> Bohrium [264]	108 <b>Hs</b> Hassium [269]	109 <b>Mt</b> Meitnerium [268]	110 <b>Ds</b> Darmstadtium [269]	111 <b>Rg</b> Roentgenium [272]	112 <b>Cn</b> Copernicium [277]	113 <b>Uut</b> Ununtrium unknown	114 <b>Fl</b> Flerovium [289]	115 <b>Uup</b> Ununpentium unknown	116 <b>Lv</b> Livermorium [298]	117 <b>Uus</b> Ununseptium unknown	118 <b>Uuo</b> Ununoctium unknown	

Lanthanide  
Series

Actinide  
Series

57 <b>La</b> Lanthanum 138.906	58 <b>Ce</b> Cerium 140.115	59 <b>Pr</b> Praseodymium 140.908	60 <b>Nd</b> Neodymium 144.24	61 <b>Pm</b> Promethium 144.913	62 <b>Sm</b> Samarium 150.36	63 <b>Eu</b> Europium 151.966	64 <b>Gd</b> Gadolinium 157.25	65 <b>Tb</b> Terbium 158.925	66 <b>Dy</b> Dysprosium 162.50	67 <b>Ho</b> Holmium 164.930	68 <b>Er</b> Erbium 167.26	69 <b>Tm</b> Thulium 168.934	70 <b>Yb</b> Ytterbium 173.04	71 <b>Lu</b> Lutetium 174.967
89 <b>Ac</b> Actinium 227.028	90 <b>Th</b> Thorium 232.038	91 <b>Pa</b> Protactinium 231.036	92 <b>U</b> Uranium 238.029	93 <b>Np</b> Neptunium 237.048	94 <b>Pu</b> Plutonium 244.064	95 <b>Am</b> Americium 243.061	96 <b>Cm</b> Curium 247.070	97 <b>Bk</b> Berkelium 247.070	98 <b>Cf</b> Californium 251.080	99 <b>Es</b> Einsteinium [254]	100 <b>Fm</b> Fermium 257.095	101 <b>Md</b> Mendelevium 258.1	102 <b>No</b> Nobelium 259.101	103 <b>Lr</b> Lawrencium [262]



Alkali  
Metal

Alkaline  
Earth

Transition  
Metal

Semimetal

Nonmetal

Basic  
Metal

Halogen

Noble  
Gas

Lanthanide

Actinide

## List of Common Monoatomic & Polyatomic Ions

<b>1+ Charge</b>	Iron (III) – Fe <sup>3+</sup>	Perchlorate – ClO <sub>4</sub> <sup>1-</sup>
Sodium – Na <sup>1+</sup>	Cobalt (III) – Co <sup>3+</sup>	Nitrite – NO <sub>2</sub> <sup>1-</sup>
Potassium – K <sup>1+</sup>	<b>4+ Charge</b>	Nitrate – NO <sub>3</sub> <sup>1-</sup>
Lithium – Li <sup>1+</sup>	Tin (IV) – Sn <sup>4+</sup>	Bicarbonate – HCO <sub>3</sub> <sup>1-</sup>
Silver – Ag <sup>1+</sup>	Lead (IV) – Pb <sup>4+</sup>	Acetate – C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> <sup>1-</sup>
Copper (I) – Cu <sup>1+</sup>	<b>1- Charge</b>	Bisulfate – HSO <sub>4</sub> <sup>1-</sup>
Rubidium – Rb <sup>1+</sup>	Fluoride – F <sup>1-</sup>	Cyanide – CN <sup>1-</sup>
<b>2+ Charge</b>	Chloride – Cl <sup>1-</sup>	Iodate – IO <sub>3</sub> <sup>1-</sup>
Chromium (II) – Cr <sup>2+</sup>	Bromide – Br <sup>1-</sup>	Thiocyanate – SCN <sup>1-</sup>
Magnesium – Mg <sup>2+</sup>	Iodide – I <sup>1-</sup>	Permanganate – MnO <sub>4</sub> <sup>1-</sup>
Iron (II) – Fe <sup>2+</sup>	<b>2- Charge</b>	Hydroxide – OH <sup>1-</sup>
Cobalt (II) – Co <sup>2+</sup>	Oxide – O <sup>2-</sup>	<b>2- Charge</b>
Nickel (II) – Ni <sup>2+</sup>	Sulfide – S <sup>2-</sup>	Sulfite – SO <sub>3</sub> <sup>2-</sup>
Calcium – Ca <sup>2+</sup>	Selenide – Se <sup>2-</sup>	Sulfate – SO <sub>4</sub> <sup>2-</sup>
Zinc – Zn <sup>2+</sup>	<b>3-Charge</b>	Chromate – CrO <sub>4</sub> <sup>2-</sup>
Copper (II) – Cu <sup>2+</sup>	Nitride – N <sup>3-</sup>	Dichromate – Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>
Strontium – Sr <sup>2+</sup>	Phosphide – P <sup>3-</sup>	Oxalate – C <sub>2</sub> O <sub>4</sub> <sup>2-</sup>
Barium – Ba <sup>2+</sup>	Arsenide – As <sup>3-</sup>	Monohydrogen Phosphate – HPO <sub>4</sub> <sup>2-</sup>
Tin (II) – Sn <sup>2+</sup>	<b>Polyatomic Ions</b>	Carbonate – CO <sub>3</sub> <sup>2-</sup>
Lead (II) – Pb <sup>2+</sup>	<b>1+ Charge</b>	<b>3- Charge</b>
Radium – Ra <sup>2+</sup>	Ammonium NH <sub>4</sub> <sup>1+</sup>	Phosphate – PO <sub>4</sub> <sup>3-</sup>
<b>3+ Charge</b>	<b>1- Charge</b>	Arsenite – AsO <sub>3</sub> <sup>3-</sup>
Nickel (III) – Ni <sup>3+</sup>	Hypochlorite – ClO <sup>1-</sup>	Arsenate – AsO <sub>4</sub> <sup>3-</sup>
Chromium (III) – Cr <sup>3+</sup>	Chlorite – ClO <sub>2</sub> <sup>1-</sup>	Phosphite- PO <sub>3</sub> <sup>3-</sup>
Aluminum – Al <sup>3+</sup>	Chlorate – ClO <sub>3</sub> <sup>1-</sup>	Borate – BO <sub>3</sub> <sup>3-</sup>