

Activity Series of Metals in Aqueous Solutions

The following ordered list shows relative activities of metals and nonmetals in aqueous single displacement reactions. An element can displace any element below itself, but cannot displace an element above itself.

| Metals | | |
|---------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Element | | Reactivity |
| lithium rubidium potassium sodium | Li Rb K Na | Reacts with cold H ₂ O and acids, replacing hydrogen. Reacts with O ₂ forming oxides. |
| strontium barium calcium | Sr Ba Ca | Reacts with hot H ₂ O (not cold H ₂ O) and acids, replacing hydrogen. Reacts with O ₂ forming oxides. |
| magnesium aluminum manganese zinc chromium iron cadmium | Mg Al Mn Zn Cr Fe Cd | Reacts with steam (not cold H ₂ O) and acids, replacing hydrogen. Reacts with O ₂ forming oxides. |
| cobalt nickel tin lead | Co Ni Sn Pb | Does not react with H ₂ O. Reacts with acids, replacing hydrogen. Reacts with O ₂ , forming oxides. |
| hydrogen | H | Reacts with O ₂ , forming oxides. |
| antimony bismuth arsenic copper mercury | Sb Bi As Cu Hg | Reacts with O ₂ , forming oxides. |
| silver platinum gold | Ag Pt Au | Fairly unreactive, forming oxides only indirectly. |

| Non-Metals | |
|------------|----------|
| F | fluorine |
| Cl | chlorine |
| Br | bromine |
| I | iodine |
| S | sulfur |