**SCH 3UI Reference Tables**

Table 1: Solubility of Ionic Compounds at SATP

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Anions** | | | | | | |
| **Cl-, Br-, I-** | **S2-** | **OH-** | **SO42-** | **CO32-, PO43-, SO32-** | **C2H3O2-** | **NO3-** |
| **Cations** | High solubility (aq)  ≥ 0.1 mol/L  (at SATP) | most | Group 1, NH4+, Group 2 | Group 1, NH4+, Sr2+, Ba2+, Tl+ | most | Group 1, NH4+ | most | all |
| All Group 1 compounds, including acids, and all ammonium compounds are assumed to have high solubility in water | | | | | | |
| Low solubility (s)  ≤ 0.1 mol/L  (at SATP) | Ag+, Pb2+, Tl+, Hg22+, (Hg+), Cu+ | most | most | Ag+, Pb2+, Ca2+, Ba2+, Sr2+, Ra2+ | most | Ag+ | none |

Table 2: Activity Series of Common Metals

Li K Ba Ca Na Mg Al Zn Cr Fe Cd Co Ni Sn Pb **H** Cu Hg Ag Pt Au

# react with acids

# react with water

Table 3: IUPAC Names and Formulas of Some Common Polyatomic Ions

|  |  |  |  |
| --- | --- | --- | --- |
| **Ion** | **Name** | **Ion** | **Name** |
| C2H3O2- | acetate | C22- | carbide |
| **BrO3-** | **bromate** | **CO32-** | **carbonate** |
| **ClO3-** | **chlorate** | CrO42- | chromate |
| CN- | cyanide | Cr2O72- | dichromate |
| **OH-** | **hydroxide** | C2O42- | oxalate |
| **IO3-** | **iodate** | O22- | peroxide |
| **NO3-** | **nitrate** | SiO32- | silicate |
| MnO4- | permanganate | **SO42-** | **sulfate** |
| SCN- | thiocyanate | S2O32- | thiosulfate |
|  |  |  |  |
| NH4+ | ammonium | AsO43- | arsenate |
| H3O+ | hydronium | BO33- | borate |
|  |  | **PO43-** | **phosphate** |