

## Solubility Rules

1. All common salts of the Group 1 elements and ammonium ion are soluble.
2. All common acetates and nitrates are soluble.
3. All binary compounds of Group 17 elements (other than F) with metals are soluble except those of silver, mercury(I), and lead.
4. All sulfates are soluble except those of barium, strontium, lead, calcium, silver and mercury(I).
5. Except for those in Rule 1, carbonates, oxides, sulfides, and phosphates are insoluble.
6. Oxides and peroxides are always written in molecular form.
7. Gases are always written in molecular form.
8. The only strong bases are the hydroxides of Group I & II metals except beryllium.
9. The only strong binary acids are those of chlorine, bromine, and iodine.
10. The strong ternary acids have at least two oxygens more than hydrogens.
11. Polyprotic acids that are considered strong are strong only for their first ionization.