

TABLE 3-4

Solubility of Some Ionic Compounds in Water			
Negative Ion	Plus	Positive Ion	Form a Compound Which Is
Any negative ion	+	Alkali metal ions (Li ⁺ , Na ⁺ , K ⁺ , Rb ⁺ , or Cs ⁺)	Soluble, i.e. >0.1 mol/l
Any negative ion	+	Ammonium ion, NH ₄ ⁺	Soluble
Nitrate, NO ₃ ⁻	+	Any positive ion	Soluble
Acetate, CH ₃ COO ⁻	+	Any positive ion except Ag ⁺ or Hg ₂ ²⁺	Soluble
Chloride, Cl ⁻ , or Bromide, Br ⁻ , or Iodide, I ⁻	+	Ag ⁺ , Pb ²⁺ , Hg ₂ ²⁺ , or Cu ⁺	Not soluble
	+	Any other positive ion	Soluble
Sulfate, SO ₄ ²⁻	+	Ca ²⁺ , Sr ²⁺ , Ba ²⁺ , Ra ²⁺ , Ag ⁺ , or Pb ²⁺	Not soluble
	+	Any other positive ion	Soluble
Sulfide, S ²⁻	+	Alkali ions or NH ₄ ⁺	Soluble
	+	Be ²⁺ , Mg ²⁺ , Ca ²⁺ , Sr ²⁺ , Ba ²⁺ , or Ra ²⁺	Soluble
	+	Any other positive ion	Not soluble
Hydroxide, OH ⁻	+	Alkali ions or NH ₄ ⁺	Soluble
	+	Any other positive ion	Not soluble
Phosphate, PO ₄ ³⁻ , or Carbonate, CO ₃ ²⁻ , or Sulfite, SO ₃ ²⁻	+	Alkali ions or NH ₄ ⁺	Soluble
	+	Any other positive ion	Not soluble

TABLE 3-3

Two Activity Series		
Metals	Decreasing Activity	Halogens
lithium		fluorine
potassium		chlorine
calcium		bromine
sodium		iodine
magnesium		
aluminum		
zinc		
chromium		
iron		
nickel		
tin		
lead		
HYDROGEN*		
copper		
mercury		
silver		
platinum		
gold		

* Hydrogen is in capital letters because the activities of the metals are often determined in relation to the activity of hydrogen.