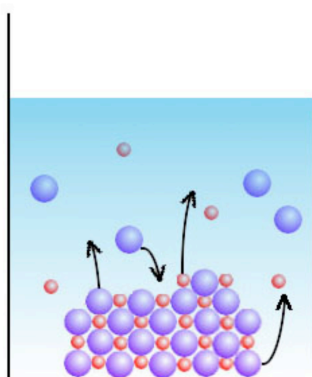


IONIC COMPOUND (SALT) SOLUBILITY

Applications in **Geology**, **Geochemistry**, **Water Chemistry**, **Environmental Chemistry**...

iron copper
calcium magnesium
aluminum



phosphates
nitrates
ammonia
mercury
lead

halides
sulfides
sulfates
carbonates

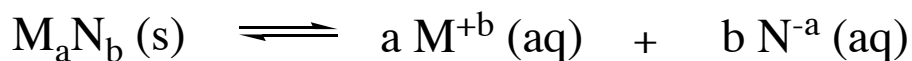
molar solubility: moles of solid salt that will dissolve in 1 Liter of water giving a saturated solution

solubility product constant: equilibrium constant for the salt dissolution process

$$K_{sp} = [M^{+x}][N^{-x}]$$

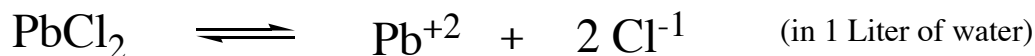
(for solids 1 cation : 1 anion)

Solubility Product



(for solids not 1 cation : 1 anion)

$$K_{sp} = [M^{+b}]^a [N^{-a}]^b$$



I solid 0 M 0 M

C -x moles + x M + 2x M $K_{sp} = [Pb^{+2}][Cl^{-1}]^2$

E less solid + x M + 2x M $K_{sp} = [x][2x]^2$

x is the molar solubility!