

# Solubility Guidelines

## Predicting solubility of Ionic Compounds

1. The greater the ion's charge, the less soluble. More attraction, therefore harder to pull apart. Ex. KCl – soluble  
MgS – insoluble
2. The smaller the atoms, the less soluble. Smaller atoms bond closer together, therefore harder to pull apart. Ex. NaF is less soluble than NaI.

Solubility charts list the common patterns.

Ex 1. Determine whether each of the following compounds is soluble or insoluble.

- a) AgCl
- b) Na<sub>2</sub>CO<sub>3</sub>
- c) Li<sub>3</sub>N
- d) PbI<sub>4</sub>