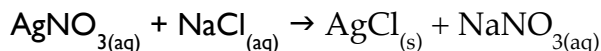


Precipitation Reactions

Precipitation reactions are reactions where an insoluble compound is formed. That is the reactions produce a solid. For example:



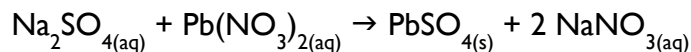
In order to determine if a compound will be soluble or insoluble we need to memorize some rules:

- 1- Most nitrate compounds are soluble.
- 2- Most alkali metals and ammonium compounds are soluble.
- 3- Most halogen salts are soluble, except for silver, lead and mercury salts.
- 4- Most sulfate salts are soluble except for barium, lead, mercury, and calcium.
- 5- Most hydroxide salts are only slightly soluble, except sodium and potassium.
- 6- Most sulfide, carbonate, chromate, and phosphate salts are slightly soluble.

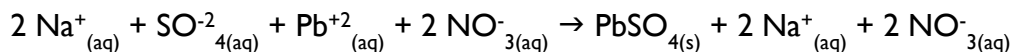
Writing Precipitation Reactions

There are three levels of detail in writing precipitation reactions.

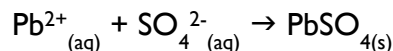
The first type of equation is the ones that we have been writing, molecular equations show us the reactants and products but not the ions. For example:



The complete ionic equation shows all the ions in solution and is the most accurate equation.



The net ionic equation shows just the ions that are reacting, we leave out all the ions that have not changed, the spectator ions.



Ex:

Future Thoughts- What would be different if the product was water?