

SOLUBILITY RULES

Soluble:

- All Nitrates, Acetates, Ammonium, and Group 1 (IA) salts
- All Chlorides, Bromides, and Iodides, except Silver, Lead, and Mercury(I)
- All Fluorides except Group 2 (IIA), Lead(II), and Iron(III)
- All Sulfates except Calcium, Strontium, Barium, Mercury, Lead(II), and Silver

Insoluble (0.10 M or greater):

- All Carbonates and Phosphates except Group 1 (IA) and Ammonium
- All Hydroxides except Group 1 (IA), Strontium, Barium, and Ammonium
- All Sulfides except Group 1 (IA), 2 (IIA), and Ammonium
- All Oxides except Group 1 (IA)

Use the solubility rules above to determine if the following compounds would be soluble or insoluble. If the compound is soluble, write (aq) for its state of matter. If the compound is insoluble, write (s).

Pb(NO₃)₂ _____ K₂SO₄ _____ Na₂S _____

CaCl₂ _____ CaSO₄ _____ PbS _____

PbCl₂ _____ KCl _____ NaNO₃ _____

Ca(NO₃)₂ _____ BaCl₂ _____ Ag₂CO₃ _____

An **insoluble product** that is produced from a double replacement reaction is called a _____
A soluble product that is produced from a double replacement reaction forms our _____
Our net ionic equation will consist of the soluble ions that come together to form our _____
Click on the link: https://javalab.org/en/precipitation_reaction_en/

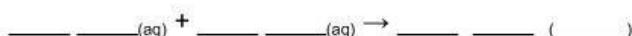
Reaction 1

Suppose one lead(II) Nitrate reacts with 1 Calcium Chloride. Allow the simulation to run and see what products are produced.

Write the molecular equation that results from this reaction.



Write the net ionic equation for this reaction

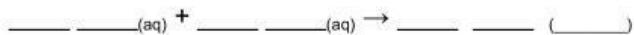


Reaction 2: Suppose one potassium sulfate reacts with one barium chloride. Allow the simulation to run and see what products are produced.

Write the molecular equation that results from this reaction.



Write the net ionic equation for this reaction

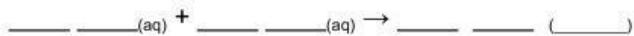


Reaction 3: Suppose one Barium Chloride reacts with two Silver Nitrates. Allow the simulation to run and see what products are produced.

Write the molecular equation that results from this reaction.



Write the net ionic equation for this reaction



Reaction 4: Suppose one Sodium Sulfide reacts with one lead(II)Nitrate. Allow the simulation to run and see what products are produced.

Write the molecular equation that results from this reaction.



Write the net ionic equation for this reaction

