

Chapter 8 Experiment: Precipitation Reactions; Formation of Solids

Safety: Wear safety glasses

Part I

Purpose: To observe, identify, and write balanced equations for precipitation reactions.

Materials:

Reaction surface: spot plates or small test tubes

Solutions of: Sodium carbonate, Na_2CO_3 Sodium phosphate, Na_3PO_4 Sodium hydroxide, NaOH Sodium sulfate, Na_2SO_4 Sodium chloride, NaCl Silver nitrate, AgNO_3 Lead(II) nitrate, $\text{Pb}(\text{NO}_3)_2$ Calcium chloride, CaCl_2

Procedure: Mix the solutions according to the following data table.

	AgNO_3 (Ag^{1+})	$\text{Pb}(\text{NO}_3)_2$ (Pb^{2+})	CaCl_2 (Ca^{2+})
Na_2CO_3 (CO_3^{2-})	a	f	k
Na_3PO_4 (PO_4^{3-})	b	g	l
NaOH (OH^{1-})	c	h	m
Na_2SO_4 (SO_4^{2-})	d	i	n
NaCl (Cl^{1-})	e	j	o

Analysis: Using the experimental data, answer the following questions.

1. Write a balanced equation for the reaction that occurs in grids c, j, & k

a)

j)

k)

Analysis & Conclusions:

1. In which solutions did the appearance of the metal change? (Ignore the formation of bubbles.)
2. Write a balanced equation for each reaction between a metal and a solution.
3. based on the results of your experiment, construct an activity series for these five metals. Put the most active metal first.