

Name: _____

CHE115 Fall 2017 Rowan College at Burlington County

Please complete and balance the following chemical equations. Each problem requests that you:

- 1) Identify the type of chemical reaction (precipitation, acid base, or oxidation reduction)
- 2) List the ions that exist in the starting, reactant solutions
- 3) Write the correct chemical formulas for each product (with correct subscripts)
- 4) Balance the chemical equation with coefficients.
- 5) Indicate the correct states of matter for the products and reactants in the balanced equation.

All chemical equations should be written in the molecular equation format. An example is provided for your reference, along with the grading rubric. Please refer to Table 4.1, Table 4.2, and Table 4.5 in your CHE115 text book for this assignment.

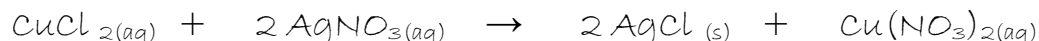
Example: Complete and balance the chemical reaction that occurs when a solution of $\text{CuCl}_{2(aq)}$ is mixed with a solution of $\text{AgNO}_{3(aq)}$.

Type of reaction is: *precipitation*

Ions in reactant solutions: Cu^{2+} , Cl^{-} , Ag^{+} , NO_3^{-}

Chemical formulas for products: AgCl , $\text{Cu}(\text{NO}_3)_2$

Balanced chemical equation (molecular eqn. format) with states of matter indicated:



Grading Rubric: Each question is worth 5 points.

- 1) Identify the type of chemical reaction = 1 point
- 2) List the ions that exist in the reactant solutions = 1 point
- 3) Write the correct chemical formulas = 1 point
- 4) Balance the chemical equation = 1 point
- 5) Indicate the correct states of matter for the products and reactants = 1 point

1) Complete and balance the chemical reaction that occurs when a solution of $\text{Ba}(\text{OH})_2$ (aq) is mixed with a solution of HNO_3 (aq).

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

2) Complete and balance the chemical reaction that occurs when a solution of K_2CO_3 (aq) is mixed with a solution of CuBr_2 (aq).

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

3) Complete and balance the chemical reaction that occurs when a solution of $\text{HCl}_{(aq)}$ is mixed with a solution of $\text{RbOH}_{(aq)}$.

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

4) Complete and balance the chemical reaction that occurs when a strip of zinc metal is put into a solution of $\text{Ni}(\text{NO}_3)_2_{(aq)}$.

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

5) Complete and balance the chemical reaction that occurs when a solution of $\text{LiOH}_{(aq)}$ is mixed with a solution of $\text{H}_2\text{SO}_{4(aq)}$.

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

6) Complete and balance the chemical reaction that occurs when a strip of aluminum metal is put into a solution of $\text{HCl}_{(aq)}$.

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

7) Complete and balance the chemical reaction that occurs when a solution of SrCl_2 (aq) is mixed with a solution of Na_2SO_4 (aq).

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

8) Complete and balance the chemical reaction that occurs when a solution of Na_3PO_4 (aq) is mixed with a solution of MnCl_2 (aq).

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

9) Complete and balance the chemical reaction that occurs when a strip of magnesium, Mg, metal is put into a solution of AgNO_3 (aq).

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:

10) Complete and balance the chemical reaction that occurs when a solution of $\text{Pb}(\text{NO}_3)_2$ (aq) is mixed with a solution of KI (aq).

Type of reaction is: _____

Ions in reactant solutions: _____

Chemical formulas for products: _____

Balanced chemical equation (molecular eqn. format) with states of matter indicated:
