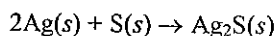


CHEMICAL REACTIONS

Practice Problems

SECTION 11.1 DESCRIBING CHEMICAL REACTIONS

1. Write the skeleton equation for the reaction between hydrogen and oxygen that produces water.
2. Write a balanced equation for the production of HCl gas from its elements (H and Cl).
3. Write the word equation for the following equation. Write a sentence fully describing the reaction. Is the equation correctly balanced? Explain.



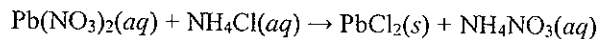
4. Write a balanced equation representing the formation of aqueous sulfuric acid from water and sulfur trioxide gas.

SECTION 11.2 TYPES OF CHEMICAL REACTIONS

1. Write a balanced equation representing the reaction of magnesium with oxygen gas to produce magnesium oxide.
2. Write the balanced equation for the production of oxygen gas and potassium chloride from the decomposition of potassium chlorate.
3. Write the balanced equation for the reaction between hydrochloric acid and calcium metal. The products are hydrogen gas and calcium chloride.
4. Write the balanced equation for the combustion of propane (C_3H_8) to produce carbon dioxide and water vapor.
5. Write the balanced equation for the reaction between iron(III) chloride and sodium hydroxide. The products are iron(III) hydroxide and sodium chloride.
7. Classify each of the reactions in problems 1–5 as a type.

SECTION 11.3 REACTIONS IN AQUEOUS SOLUTION

1. Write the net ionic equation for the reaction between aqueous barium nitrate, $\text{Ba}(\text{NO}_3)_2$, and sodium sulfate, Na_2SO_4 .
2. Magnesium reacts with HCl to form hydrogen and magnesium chloride. Write the balanced net ionic equation for this reaction.
3. The double-replacement reaction below results in the formation of the precipitate lead chloride. Balance the equation and write the net ionic equation.





CHEMICAL REACTIONS

Vocabulary Review

Each clue describes a vocabulary term. Read the clues and write the letters of each term on the lines provided.

1. Clue: the complete reaction of a hydrocarbon with oxygen to produce carbon dioxide and water.

_____ ○ _____

2. Clue: a single compound is broken down into two or more products.

_____ ○ _____

3. Clue: the equation indicating only those particles that actually take part in a chemical reaction in an aqueous solution.

_____ ○ _____

4. Clue: a substance that speeds up the rate of a chemical reaction.

_____ ○ _____

5. Clue: the elements or compounds on the left side of a chemical equation.

_____ ○ _____

6. Clue: ions that do not participate in an aqueous chemical reaction.

_____ ○ _____

7. Clue: reaction in which atoms of one element replace the atoms of a second, less reactive, element in a compound.

_____ ○ _____

8. Clue: a chemical equation that is consistent with the law of conservation of mass.

_____ ○ _____

9. Clue: numbers placed in front of chemical symbols or formulas in a chemical reaction.

_____ ○ _____

Write the letters found inside the circles on the lines below. Then unscramble them to find the term used to describe an insoluble salt.

Scrambled letters:

Solution:

a _____