**CHEMISTRY 2022-23 November 21, 2022**

**Today’s Agenda (Day 57)**

1. HOUSEKEEPING ITEMS

**🡪**  BRING: ammonia, effervescent tablets, Epsom salts

1. Homework Check:

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1. Class Activity:

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🡪DAY 2: Chapter 9 PPT Review

1. **Section 9.2 – Classifying Chemical Reactions**
2. Section 9.3 – Reactions in Aqueous Solutions

HOMEWORK:

* READ: Chapter 9 – Chemical Reactions
* COMPLETE: Practice Problems 9.1 – 9.5
* STUDY: Chapter 9 Test, Chapter 9 - 11 Vocabulary Quiz

Chapter 9 – Chemical Reactions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| aqueous solution | chemical equation | chemical reaction | Coefficient | combustion reaction | complete ionic equation | decomposition reaction |
| double-replacement reaction | net ionic equation | Precipitate | Product | Reactant | single-replacement reaction | Solute |
| Solvent | spectator ion | synthesis reaction |  |  |  |  |

Chapter 10 – The Mole

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Avogadro’s number | Empirical formula | hydrate | Molar mass | Mole | Molecular formula | Percent composition |

Chapter 11 – Stoichiometry

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Actual yield | Excess reactant | Limiting reactant | Mole ratio | Percent yield | Stoichiometry | Theoretical yield |

REMINDERS:

* Practice Problems 9.1 – 9.5 – Nov. 21
* QUIZ: **Ch 9 - 11 Vocabulary** 🡪 **Nov. 22 Note addition of vocabulary words!**
* TEST: **Ch 9** 🡪 **Nov. 22**
* TEST: **Ch 10 🡪 Dec. 1**
* TEST: **Ch 11 🡪 Dec. 8**
* **MIDTERM EXAM: Ch 1 - 11**

**CHEMISTRY 2022-23 PRACTICE PROBLEMS**

**CHAPTER 9 – Reactions and Equations**

**Practice Problems 9.1 –** Write Balanced Chemical Equation

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**Practice Problems 9.2 –** Single- and Double-Replacement Reactions

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**Practice Problems 9.3 –** Reactions That Form a Precipitate

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**Practice Problems 9.4 -** Reactions That Form Water

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**Practice Problems 9.5 –** Reactions That Form Gases

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**CHEMISTRY 2022-23 LAUNCH LAB**

**CHAPTER 9 LAUNCH LAB – How do you know when a chemical change has occurred**

An indicator is a chemical that is added to the substances in a chemical reaction to show when change occurs.

**Procedure **

1. Read and complete the lab safety form.

2. Measure 10.0 mL of distilled water in a 25-mL graduated cylinder and pour it into a 100-mL beaker. Using a pipette, add one drop of 0.1M ammonia to the water. WARNING: Ammonia vapors are extremely irritating.

3. Stir 15 drops of universal indicator into the solution with a stirring rod. Observe the solution’s color. Measure its temperature with a thermometer.

4. Drop an effervescent tablet into the solution. Observe what happens. Record your observations, including any temperature change.

**Analysis**

1. Describe any changes in the color or temperature of the solution.

2. Explain Was a gas produced? If so, what did you observe to support this conclusion?

3. Analyze Did a physical change or a chemical change occur? Explain.

**Inquiry**

What does the universal indicator tell you about the solution? Design an experiment to support your prediction.

**CHEMISTRY 2022-23 MINI LAB**

**CHAPTER 9 MINI LAB – Observe a Precipitate – Forming Reaction**

**How do two liquids form a solid?**

**Procedure** 

1. Read and complete the lab safety form.

2. Place 50 mL distilled water in a 150-mL beaker.

3. Measure about 4 g NaOH pellets on a balance. Add the NaOH pellets to the beaker one at a time. Mix with a stirring rod until each NaOH pellet dissolves before adding the next pellet.

4. Measure about 6 g Epsom salts (MgSO4) and place it in another 150-mL beaker. Add 50 mL distilled water to the Epsom salts. Mix with another stirring rod until the Epsom salts dissolve.

5. Slowly pour the Epsom salts solution into the NaOH solution. Record your observations.

6. Stir the new solution. Record your observations.

7. Allow the precipitate to settle, then decant the liquid from the solid into a 100-mL graduated cylinder. 8. Dispose of the solid as instructed by your teacher.

**Analysis**

1. Write a balanced chemical equation for the reaction between the NaOH and MgSO4. Note that most sulfate compounds exist as ions in aqueous solutions.

2. Write the complete ionic equation for this reaction.

3. Determine which ions are spectator ions, then write the net ionic equation for this reaction.