**STUDENT LEARNING OBJECTIVES: CHEMISTRY 9**

**Academic year 2017-2018**

**I. EXPERIMENT**

**Question 1**: The moisturizing purple knot is red:

            A. MgO B. CaO C. SO2 D. K2O

**Question 2:** To distinguish two solutions of HCl and H2SO4 diluted. We use a metal:

     A. Mg B. Ba C. Cu D. Zn

**Question 3**: Reagent used to identify 3 solutions: HCl, HNO3, H2SO4 contained in 3 different vials have lost the label. The reagents used to identify them are:

A. AgNO3 solution and purple paprika.

B. BaCl2 solution and AgNO3 solution.

C. Use a purple halter and NaOH solution.

D. BaCl2 solution and phenolphthalein solution.

**Question 4**: Reagent used to identify 4 substances: HNO3, Ba (OH)2, NaCl, NaNO3 separately in vial labeled as:

         A. Use purple clover and Solution Ba (NO3)2.

        B. Use phenolphthalein solution and AgNO3 solution.

         C. Apply purple clay and AgNO3 solution.

         D. Use phenolphthalein solution and Ba

**Question 5**: Aluminum works more chemically than iron because:

A. Al, Fe are not reacted with HNO3.

B. Al reacts with alkaline solution.

C. Aluminum pushes the iron out of the iron salts.

D. Only iron is absorbed by the magnet.

**Question 6**: After the experiment, there are toxic emissions: HCl, H2S, CO2, SO2. Which of the following to eliminate them is best?

A. Water in lime. B. NaCl salts.

C. HCl solution. D. NaNO3 solution

**Question 7:** Solution A has a pH of <7 and generates a precipitate when applied to a solution of Barium nitrate Ba (NO3)2. Agent A is:

A. HCl. B. Na2SO4. C. Ca (OH)2. D. H2SO4.

**Question 8:** To dry CO2 gas through this:

        A. concentrated H2SO4. B. solid NaOH.

C. CaO D. KOH solid.

**Question 9**: Oxide used as desiccator (desiccant) in the laboratory is:

         A. CuO B. ZnO C. PbO D. CaO

**Question 10**: Conduct gas mixture consisting of CO2, CO, SO2  through excess liquor, residual gas,

         A. CO B. CO2  C. SO2  D. CO2 and SO2

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Question** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Answer** | C | B | B | A | C | Â | D | A | D | D |

**II. ESSAY**

**Question 11**

Dissolve 4.68 grams of mixture of two salts of ACO3, BCO3 with dilute solution of H2SO4. After the reaction, solution X was obtained and 1.12 liters of CO2 gas (in TOR).

1. Calculate the total mass of salts formed in Solution X.

2. Look for metals A and B and compute the mass percentage of each salt in the original mixtureKnow the ratio of molar,. Know the molar ratio, molar mass ratio MA: MB = 3: 5.



3. Add all of the CO2 collected above to 200 ml of Ba (OH)2 solution. Calculate the molar concentration of the Ba (OH)2 solution to obtain 1.97 g of precipitation.

**Answer**

**1.**PTHH: ACO3 + H2SO4->ASO4 + CO2 + H2O

 BCO3 + H2 SO4 -> BSO4  + CO2 + H2O

     The salts obtained in dd X are ASO4, BSO4;



\* Calculate the total mass of salts formed in solution X:

- According to (1), (2):



- According to the Law of conservation of mass :

msalt = 4.68 + 0.05.98 - 0.05.44 - 0.05.18 = 6.48 (g)

**2.**\* Find metals A, B and calculate the mass% of each initial salt:

- Set: (for)



            MA = 3a (g) MB = 5a (g) (because MA: MB = 3: 5)

- According to (1), (2): ->x = 0.01 (mole)



* 0.02 (3a + 60) + 0.03 (5a + 60) = 4.68 (g) a = 8

  MA = 24 g, MB = 40 g A is Mg.B is Ca.

  The: ;



**3.** Calculate the molar concentration of the Ba (OH)2 solution

- According to the post: CO2 uptake is absorbed on the Ba(OH)2  precipitated as BaCO3



- Assume that the salt is neutralized only:

             CO2 + Ba(OH)2  -> BaCO3  + H2O

- According to (4): but the actual ->thing is g / s wrong.



  The reaction must create two salts:

 CO2  + Ba(OH)2  -> BaCO3  + H2O

 2CO2 + Ba(OH)2  -> Ba (HCO3)2

- Calculate 

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