

18 Electrolysis Lab (1239617)

Question

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#)**Description**

Electrolysis of water and potassium iodide solution.

Instructions

Purpose: To bring about chemical change using electrical current.

Equipment: One glass electrolysis jar with graduated test tubes, distilled water, Pt electrodes, power supply, connecting wires, Sodium sulfate, Bromothymol blue (blue in base, yellow in acid), stirring rod, 1 small test tube, U-tube, 0.5 M KI solution, cyclohexane, phenolphthalein, stopper, dropper pipet, parafilm.

Procedure:

A. Electrolysis of water:

1. Add enough distilled water to fill the electrolysis jar to within about 3 cm from the top.
2. Add one spoonful of sodium sulfate to the water in the electrolysis jar. Stir to mix.
3. Add enough BTB to the water to detect the color in the water.(about 2 mL) Stir to mix.
4. Completely fill the two graduated test tubes with the solution from the jar.
5. Place the electrodes into the jar.
6. Cover the graduated test tubes with parafilm, invert them, and place them into the solution over the electrodes (remove the parafilm).
7. Connect the wires from the DC side of the power supply to the top of the electrodes and to the wires on the electrodes.
8. Turn on the power and adjust the powerstat to 9 Amps.
9. Observe for about 25 minutes.

B. Electrolysis of potassium iodide:

1. Fill the U-tube with 0.5 M KI to within about 2 cm of the top of each side of the tube.
2. Make the electrical connections, turn on the power and adjust the powerstat to 9 Amps.
3. Observe for about 15 minutes.
4. Turn off the power and remove the electrodes.
5. Using a dropper pipet, obtain about 5 mL of liquid from the anode side (dark side) of the tube and place it in a small test tube.
6. Add about 2 mL of cyclohexane, stopper the tube, and shake. Note the result. Dispose of this in the appropriate waste container.
7. Add 1 drop of phenolphthalein to the cathode side (light side) of the u-tube. Note the result.

1. Question Details

Lab Partners [1837468]

Enter the name(s) of your lab partner(s). (If you worked by yourself, enter "none").

2. Question Details

Objective and procedure summary [3413760]

Restate the objective in your own words using complete sentences. Summarize the steps in your procedure. (Be sure and include any safety concerns).

3. Question Details

Upload Lab Photo [3413757]

Upload a photo of the lab apparatus with your face in the photo as you perform some part of the lab. Title the image with a unique file name before you upload it. (Maybe use your initials and part of the lab title) no file selected It must be less than 5 MB in size.

4. Question Details

Electrolysis Lab #1 [1405568]

In the electrolysis of water(part A):

What color do you observe at the anode?

What color do you observe at the cathode?

Why?

5. Question Details

Electrolysis Lab #2 [1405583]

Compare the amount of gas produced at the anode and the cathode. Explain.

6. Question Details

Electrolysis Lab #3 [1405564]

For the electrolysis of water: (part A)

Write the balanced net ionic equation for the half reaction taking place at the anode.

(Use the lowest possible coefficients. Omit states-of-matter in your answer.)

7. Question Details

Electrolysis Lab #4 [1405565]

For the electrolysis of water: (part A)
Write the balanced net ionic equation for the half reaction taking place at the cathode.
(Use the lowest possible coefficients. Omit states-of-matter in your answer.)

8. Question Details

Electrolysis Lab #5 [1405591]

The cyclohexane indicates the presence of what in the solution?

9. Question Details

Electrolysis Lab #6 [1405594]

The phenolphthalein indicates the presence of what in the solution?

10. Question Details

Electrolysis Lab #7 [1405566]

For the electrolysis of KI(aq): (part B)
Write the balanced net ionic equation for the half reaction taking place at the anode.
(Use the lowest possible coefficients. Omit states-of-matter in your answer.)

11. Question Details

Electrolysis Lab #8 [1405567]

For the electrolysis of KI(aq): (part B)
Write the balanced net ionic equation for the half reaction taking place at the cathode.
(Use the lowest possible coefficients. Omit states-of-matter in your answer.)

12. Question Details

Observations, Skills utilized and learning [3413764]

What observations did you make during the lab? What chemistry concepts, laws, and/or skills were necessary to complete this lab? What did you learn or re-learn? Use complete sentences.

Assignment Details

Name (AID): 18 Electrolysis Lab (1239617)

Feedback Settings

Submissions Allowed: **5**

Category: **Lab**

Code:

Locked: **Yes**

Author: **Ryan, Matt** (mryan@allsaintsschool.org)

Last Saved: **Apr 12, 2018 09:16 AM CDT**

Permission: **Protected**

Randomization: **Person**

Which graded: **Last**

Before due date

Question Score

Assignment Score

Publish Essay Scores

Question Part Score

Mark

Help/Hints

Response

Save Work

After due date

Question Score

Assignment Score

Publish Essay Scores

Key

Question Part Score

Mark

Help/Hints

Response