

Preparation and Reactions of Ethylene

Lab 34

PURPOSE

To prepare ethylene from ethyl alcohol and sulfuric acid and observe some reactions of ethylene

EQUIPMENT	round-bottomed flask thermometer	large test tubes match	bent-delivery tube watch glass	two-holes stopper
MATERIALS	5ml ethyl alcohol (C ₂ H ₅ OH) 2 g aluminum sulfate	8 g of sand	0.01M KMnO ₄	10ml conc. sulfuric acid

PROCEDURE

1. Place the mixture of ethyl alcohol, sulfuric acid, aluminum sulfate and sand to the round-bottomed flask.
2. Take a test tube and put 2-3ml of KMnO₄ solution to the first test tube.
3. Set up the apparatus aside.
4. Fit the bent-delivery tube to the first test tube. (Baeyer test)
5. Heat the flask on a sand-bath until gas is evolved.
6. Wait 2-3 minutes and shake the tube well.
7. Take the first test tube and place into the second test tube.
8. Wait 2-3 minutes and shake the test tube well.
9. If gas is continuing to come, burn it.

QUESTIONS

1. Write the equation for the reaction of preparation of ethylene.
2. Why is sand used? Write the function of the sand.
3. Write equation for the Baeyer test.
4. Write equation for the bromine water test.
5. Is the forming gas pure ethylene or not? How can you take pure ethylene?

