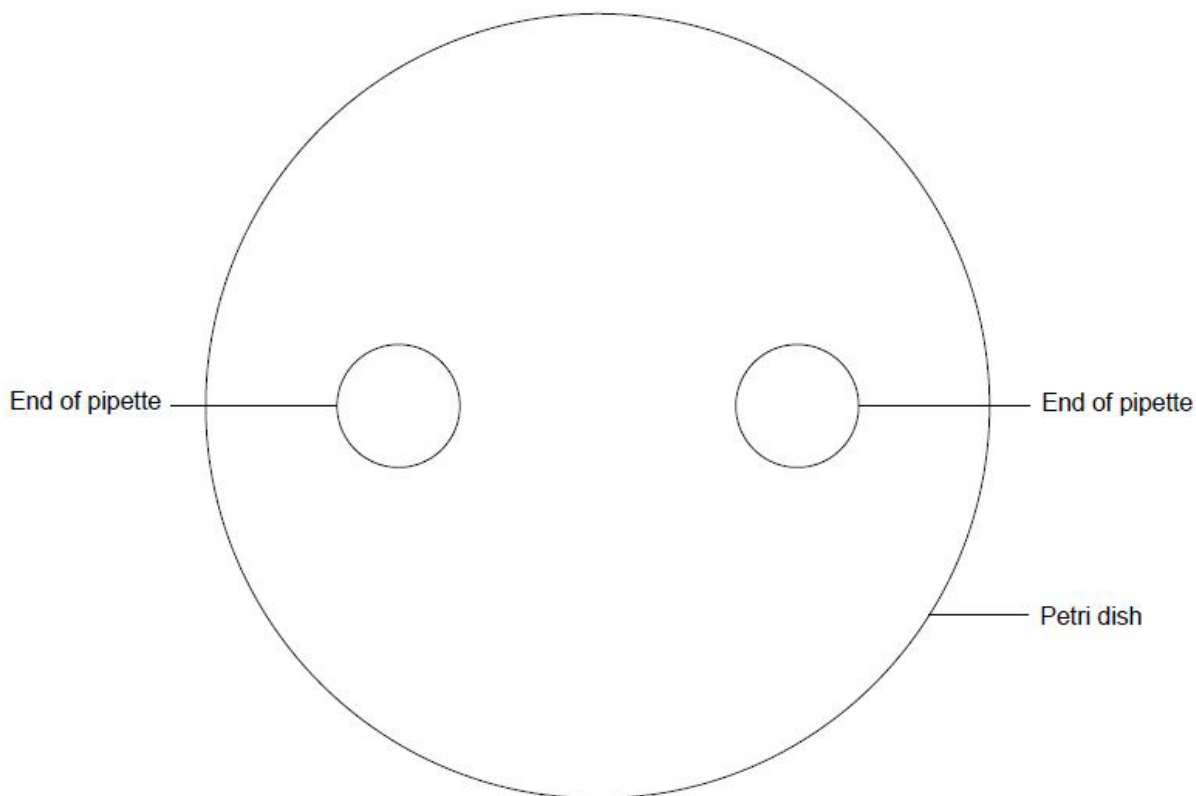


Preparing and testing ethyne – student sheet

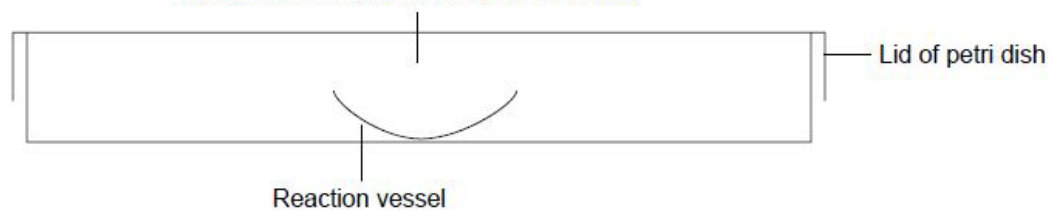
In this experiment you will be generating ethyne gas inside a plastic Petri dish and testing its properties using a solution of potassium manganate(VII) in propanone.

Instructions

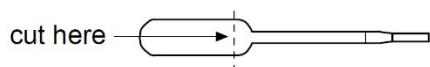
1. Cover the worksheet with a clear plastic sheet.
2. Place the base of the Petri dish over the large circle on the diagram (see below).
3. Cut off the ends of two plastic pipettes (as shown below) and place them inside the Petri dish.



There must be a gap between the top of the reaction vessel and the lid of the petri dish



- Cut off the bulb of a plastic pipette as shown below and place it in a beaker.



- Carefully add a few crystals of potassium manganate(VII) to the pipette.
- Add propanone to the pipette until it is about half-full.
- Using a pipette, add four drops of the potassium manganate(VII) in propanone solution to one of the pipette ends in the Petri dish.
- Using tweezers carefully place one small lump of calcium carbide into the other pipette end.
- Carefully add four drops of deionised water to the calcium carbide and quickly place the lid on the Petri dish.
- Observe any changes over the next few minutes.
- When no more gas is formed add one drop of full-range indicator solution to the residue of the calcium carbide and observe.

Health, safety and technical notes

- Wear eye protection throughout (splash-resistant goggles to BS EN166 3) and work in a well-ventilated area.
- Propanone is highly FLAMMABLE.
- Calcium carbide, CaC_2 (s), can produce flammable gasses when in contact with water, which may ignite spontaneously. Wear splash-proof goggles and ensure sufficient ventilation.
- Potassium manganate(VII) is an OXIDISER, harmful if swallowed and toxic to aquatic life. Avoid direct contact and store in the dark, stains glass, plastic, clothing and skin.