

MATERIALS

- 6 M HCl
- 50 mL beaker
- 50 mL eudiometer
- 400 mL beaker
- 1000 mL graduated cylinder or hydrometer jar
- buret clamp
- magnesium ribbon (untarnished)
- ring stand
- rubber stopper, one-hole, #00
- thermometer, nonmercury, 0–100°C
- thread

PROCEDURE

1. Fill a 400 mL beaker two-thirds full of water that has been adjusted to room temperature.
2. Measure a length of magnesium ribbon to the nearest 0.1 cm. Your piece of magnesium should not exceed 4.5 cm. Record the length of the ribbon in the Data Table.
3. Obtain the mass of one meter of magnesium ribbon from your teacher and record this mass.
4. Roll the length of the magnesium ribbon into a loose coil. Tie it with one end of a piece of thread approximately 25 cm in length. All the loops of the coil should be tied together as shown in Figure A.

5. This step requires the use of 6 M hydrochloric acid and will be performed by your teacher.

CAUTION Hydrochloric acid is caustic and corrosive. Avoid contact with skin and eyes. Avoid breathing the vapor. Make certain that you are wearing safety goggles, a lab apron, and gloves when working with the acid. If any acid should splash on you, immediately flush the area with water and then report the incident to your teacher. If you should spill any acid on the counter top or floor, ask your teacher for the appropriate spill package to be used in the cleanup.

Your teacher will carefully pour approximately 10 mL of 6 M HCl into a 50 mL beaker and then pour the 10 mL of HCl into your gas measuring tube or eudiometer.

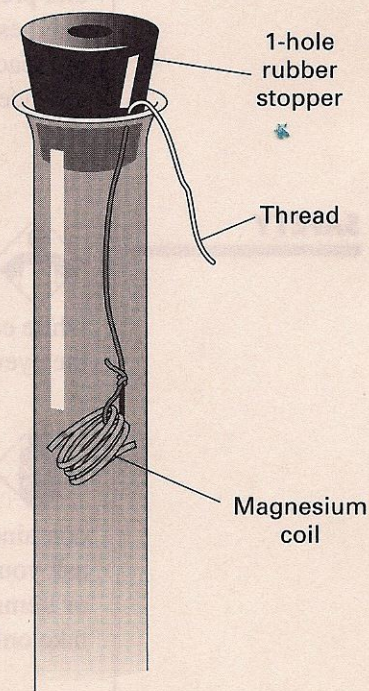


FIGURE A

6. While holding the eudiometer in a slightly tipped position, very slowly pour water from the 400 mL beaker into the eudiometer, being careful to layer the