

Lab 1: carbon dioxide from antacid tablet

IT IS ABSOLTELY ESSENTIAL THAT YOU GET THE BEST EQUIPMENT AS YOU CAN. POOR EQUIPMENT WILL LOWER YOUR RESULT & MARKS SIGNIFICANTLY.

1. Grab three 125 ml Erlenmeyer flasks
2. Label them as 1,2,3
3. Wash flasks, dry them as dirt, rinse with ethanol to help with drying
4. Put flask #1 on balance and press tare
5. Use spatula to transfer 0.4 g of CaCO_3 into flask (no more than 0.5 g)
6. Record precise mass in table 1
7. Grab clean vial and fill $\frac{3}{4}$ full (about 6 ml) with 4.5 M HCL
8. Wipe any spilled acid from outside of vial
9. Make sure that CaCO_3 is to one side of the flask

DO PRACTICE RUN FIRST, then do the real thing

1. Use tweezers to grab vial and lower it into the flask
2. Connect vacuum tube to 2-way valve (make sure the 2-way valve is closed first)
3. Open tap
4. Open 2 way valve
5. When pressure gets between 5 and 10 kpa, close 2-way valve
6. Disconnect vacuum tubing
7. Turn off tap
8. Wait until pressure is stable (differs by only 0.1 kpa for 1 minute)
9. Pressure should not be lower than the vapour of pressure (refer to table a)

RXN

1. Check for leaks in equipment (pressure should increase slowly until vapour pressure of water has been reached and stabilized, if not then your equipment has leaks. Better seal the leaks)
2. Record initial pressure and temperature
3. Knock vial over so acid spills into the CaCO_3
4. Shake flask continuously for 2 mintes until CaCO_3 reacts with acid completely
5. When no more pressure change is observed, record final temp and pressure

REPEAT EXPERIMENT FOR FLASK 2 AND 3

RUNNING EXPERIMENTS WITH ANTACID TABLETS

1. Weigh tablet using a weighing plate
2. Record weight and code number on bottom of table 2
3. Cover tablet with kimwipe and crush
4. Use $\frac{1}{3}$ of tablet for each rxn
5. Repeat the same procedure used for CaCO_3