Purpose

Science, Chemistry

Purpose To check whether mass is gained or lost during a Chemical reaction. Hypothesis Equipments and Materials - Eye protection - Test tube - 250 ml Erlenmeyer flask and stopper - Weight Balance - Antacid tablet - Dilute solutions of o Sodium Hydroxide, NaOH(aq) o Iron(III) Nitrate, Fe(NO3)3 - Funnel - Cylinder Procedures 1. Put eye protection on for safety purposes. Part A: Reaction between Iron(III) Nitrate and Sodium Hydroxide. 2. Take two cylinders and fill one (full) with sodium hydroxide solution and other with Iron(III) nitrate solution. 3. Pour suitable amount (around 50 ml) of sodium hydroxide from the cylinder using a funnel into a Erlenmeyer flask. 4. Take a test tube and fill it half with the iron(III) nitrate solution from the cylinder with the use of a funnel. 5. Place the test tube containing iron(III) nitrate solution into the Erlenmeyer flask containing sodium hydroxide solution. Do not allow the test tube content to spill. 6. Seal the flask with the stopper. 7. Measure and record the total mass of the flask and its contents. 8. Slowly tilt the flask sideways to allow the two solutions to mix. 9. Measure and record the total mass of the flask and all its contents. Part B : Antacid Tablet in water 1. Take a Erlenmeyer flask and fill it half with water. 2. Take an antacid tablet out of its package. 3. Place the tablet and the flask containing water on the balance scale. Record the mass of the flask, water, and the tablet. 4. Add the tablet to the water and record your observation. 5. When the reaction has come to a stop, measure and record the total mass of the flask and its contents. Observations Reaction 1 Reaction 2 Predicted mass change: decrease, no change or increase No change Decrease Initial mass of reactants + container(g) 240. 2g 174. 7g Final mass of products + container (g) 240. 2g 174. 16g Change in mass(final- initial) (g) 0g 0. 54g Observed

changes in mass: decrease, no change or increase? No change (a precipitate is formed) Decrease (a precipitate is formed) Observed class results: decrease, no change or increase? No change (a precipitate is formed) Decrease (a precipitate is formed) A precipitate is formed in both reactions. Iron (III) nitrate and sodium hydroxide reaction produced a red- orange precipitate.