5. Label a paper towel with your name and the date. Place the towel in a clean, dry 250 mL beaker, and measure and record the mass of the paper towel and beaker to the nearest 0.01 g.

PROCEDURE

1. Measure about 15 mL of the Na_2CO_3 solution into the graduated cylinder. Record this volume to the nearest 0.5 mL. Pour the Na_2CO_3 solution into an empty 250 mL beaker. Carefully wash the graduated cylinder, and rinse it with distilled water.
2. Measure about 25 mL of the 0.30 M $SrCl_2$ solution into the graduated cylinder. Record this volume to the nearest 0.5 mL. Pour the $SrCl_2$ solution into the beaker with the Na_2CO_3 solution, as shown in **Figure A.** Gently stir with a glass stirring rod.
3. Measure another 10 mL of the $SrCl_2$ solution into the graduated cylinder. Record the volume to the nearest 0.5 mL. Slowly add the solution to the beaker, and stir gently. Repeat this step until no more precipitate forms.
4. Slowly pour the mixture into the funnel. Do not overfill the funnel—some of the precipitate could be lost between the filter paper and the funnel.
5. Rinse the beaker several more times with distilled water. Pour the rinse water into the funnel each time.
6. After all of the solution and rinses have drained through the funnel, use distilled water to slowly rinse the precipitate on the filter paper in the funnel to remove any soluble impurities.
7. Carefully remove the filter paper from the funnel, and place it on the paper towel that you labeled with your name. Unfold the filter paper, and place the paper towel, filter paper, and precipitate in the rinsed beaker. Then, place the beaker in the drying oven. For best results, allow the precipitate to dry overnight.
8. Using beaker tongs, remove your sample from the oven, and let it cool. Record the total mass of the beaker, paper towel, filter paper, and precipitate to the nearest 0.01 g.

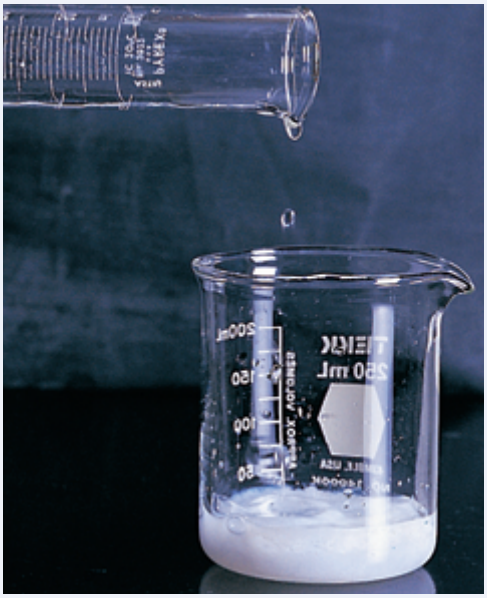

FIGURE A The precipitate is a product of the reaction between Na_2CO_3 and $SrCl_2$. Add enough $SrCl_2$ to react with all of the Na_2CO_3 present.

CLEANUP AND DISPOSAL

9. Dispose of the precipitate and the filtrate in designated waste containers. Clean up all equipment after use, and dispose of substances according to your teacher's instructions. Wash your hands thoroughly after all lab work is finished.

ANALYSIS AND INTERPRETATION

1. **Organizing Ideas:** Write a balanced equation for the reaction. What is the precipitate?
2. **Applying Ideas:** Calculate the mass of the dry precipitate. Calculate the number of moles of precipitate produced in the reaction.
3. **Applying Ideas:** How many moles of Na_2CO_3 were present in the 15 mL sample? How many grams of Na_2CO_3 were present?

CONCLUSIONS

1. **Applying Conclusions:** There are 0.30 mol $SrCl_2$ in every liter of solution. Calculate the number of moles of $SrCl_2$ that were added. What is the limiting reactant?