Quantitative Production & Recovery of Sodium Sulfate

Summary

Students will measure the production of CuCO3 (s) + Na2SO4 (aq) from the reaction of CuSO4 (aq) + Na2CO3 (aq).

Time Frame

1 class periods of 90 minutes each

Group Size

Pairs

Materials

- student instructions worksheet (attached)
  CuSO4
  Na2CO3
  evaporating dish
  funnel
  filter paper
  Bunsen burner
  wire stand
  graduated cylinder
  2 beakers/group
  stirring rod

Background for Teachers

This lab requires excellent lab skills to achieve correct results that are probably beyond all but your most capable students. Your results will vary greatly and it is important to post the student results and discuss the validity of the class findings. Keeping a tally of all your classes will be a way to collect additional data.

Student Prior Knowledge

Students should understand that the reactants in a reaction do not all form product and that the equilibrium of the reaction depends on a number of factors. This reaction forms a pasty blue solid and a clear filtrate that dries to a white solid.

Instructional Procedures

Read the instructions with students and ask them to predict the gram mass of the product, based on the mass of the reactants.
Read the directions with students and if they are unfamiliar with evaporating a solution, take time to demonstrate how you wish for it to be accomplished.
Depending on your students skills at finding molar mass, they may need help with the calculations.
Ask students to write their results on the board or an overhead and discuss the reasons for the variations.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

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