

Mixture and solids



**ASSIGN
BUSTER**

Fawn Lovell February 25, 2013 Lab#2 Separation of Mixture of Solids

PURPOSE The purpose of this lab was to understand the steps involved in separation of multiple solids and how to proceed in the separation of iron filings, sand, table salt and benzoic acid. DATA SEPERATION OF MIXTURE OF SOLIDS | | DATA TABLE | | | GRAMS | PERCENT OF MATERIAL | | IRON FILINGS | 1. | | | SAND | 1. 5 | | | TABLE SALT | UNKNOWN LAB WAS COMPROMISED **** | UNKNOWN LAB WAS | | | | COMPROMISED*** | | BENZOIC ACID |. | | | TOTAL | 3. 3 total for the above available count | | ****while mixture of water and table salt were evaporating in the cupboard in-law accidently spilt out of container it was in so test amount was never able to be done***

OBSERVATIONS The separation of material for the iron filings were to get out of the mixture even though a few passes had to be done to make sure all of them were out.

The experiment to extract the sand, table salt and benzoic was slightly difficult of a process and with only one test material available the lab was not able to done correctly. The process to get the sand and the Benzoic acid was easily accomplished but even four days of evaporation time to get the distilled water to evaporate to the grams of table salt would be available there had been no evaporation and then the experimental incident with the spillage of the salt/distilled water . CALCULATIONS

Unable to complete due to percentage of table salt not found due to accidental spilling of distilled water and table salt left in cup to determine appropriate percentages between all substances. CONCLUSION/DISCUSSION The experiment to find how to extract multiple materials out of one sample was a long and difficult process to this researcher. The flow chart was helpful

in understanding the steps but when the experiment was conducted it was not as simple. There were plenty of iron filings and with the strength of the magnet provided took multiple passes to retrieve all of them out of the mixture.

The benzoic acid crystals in the cold bath went better than expected and was the researcher was surprised how many crystals were obtained out of the original mixture. The hardest was to obtain the salt grams and percentage, the evaporation time was too short and with the invalidation due to an experimental accident was never obtained and the experiment was never completed correctly. What the researcher has learned from this experiment is to better allocate time, understanding evaporation time and to make sure experiments that need to take time to complete are stored in a better location.

QUESTIONS A. How did your procedures or flow charts at the beginning of this experiment compare to the actual procedures of this lab exercise? The procedural flow chart that was designed to extract all the mixture followed the lab experiment, however possibly a slightly bigger magnet could have been used for the iron filings, they were hard to extract all of them and also the procedure to obtain the salt might have been designed better so days would not have been involved since the experiment had a time limit and evaporation can take weeks.

B. Discuss potential advantages or disadvantages of your proposed procedure compared to the one actually used. The advantage of using a flow chart procedure is to show how you are going to conduct the experiment so other researchers can follow the same steps as the previous researcher so if

experimental errors occur the researcher can go back to what step might have been done incorrectly. C. How would you explain a sand recovery percentage that is higher than the original sand percentage?

The sand recovery percentage that is higher from the original sand percentage might be from not letting it dehydrate all the way and could still hold the potential of water molecules in it. D. What were potential source of error in this experiment? The potential sources of error could possibly be from not extracting all the mixture out of the sample, evaporation of the distilled water and as in this researchers case having the material being accidentally spilled.