

Chemistry Lab Chapter 2

Properties of a Mixture and the Law of Conservation of Mass

Purpose: The purpose of this lab is to examine the properties of a homogeneous mixture of pure substances. The purpose is also to examine the Law of Conservation of Mass.

Materials:

1. Small container and cover., 2. Water, 3. Salt

Procedure:

Part A:

1. Carefully weigh and record the mass of as mall container and its cap.
2. Fill the container about half full of water and place 2.000 g of NaCl on the cap.
3. Place the container with water and cap with salt on the balance together. Carefully weigh and record the mass to the .001g.
4. Without spilling the salt, pour it into the water in the container. Place the cap on the container and shake it to dissolve the salt.
5. Calculate the change in mass of the salt, before and after dissolving.
6. Calculate the 5 % change for the salt.
7. Calculate the average change in mass of the salt for the class.
8. Calculate the % deviation between your group's data and the average for the class.

Part B:

1. Go to desktop and open "shortcut to chemistry" folder.
2. Open "Chang" folder
3. Open "shortcut to chem. 95".
4. When the menu comes up click next and go to "Solutions" and click.
5. Click on "Molecular View of Solutions".
6. Click on "Play".
7. Click on "Mix NaCl and Water".
8. Click on "View Close Up.

Data:

Table 1. Group Data – Mass of dissolved NaCl.

Mass of container and cap	Mass in grams
Mass of container and cap with salt and water unmixed	
Mass of salt and water unmixed	
Mass of salt and water dissolved	
Change in mass when salt is dissolved	
% Change in mass for group	
Average change in mass for the class	
% Change in mass for the class	

Table 2: Class Data – Mass of dissolved NaCl

Group #	Mass of Salt Unmixed	Mass of Salt Mixed	Change in Mass of Salt
1			
2			
3			
4			
Use the correct number of rows for the number of groups in your class			
Total			
Average			

Questions:

1. What is the % change (deviation) in mass for the class?
2. Is this significant? Is there really a change?
3. State the Law of Conservation of Mass
4. What is a mixture?
5. Why are the salt and water a mixture? Why?
6. What kind of mixture is it?
7. What is a solution, solvent, solute? Describe the salt and water in terms of these terms.
8. What is a phase? How many phases are in this solution?
9. What is a reversible physical change? Irreversible? Give an example of each.
10. Describe whether and how you could separate the substances in the mixture in this lab.