Separation of the components of a mixture

Mixture that are uniform in composition, properties, and appearance throughout are called homogeneous. Sugar water is a homogeneous mixture and rocks is a heterogeneous mixture. Homogeneous and heterogeneous mixtures can be separated into their components by several physical methods. The methods that will use for the separation depend on differences in physical properties such as declaration, filtration, extraction and sublimation. The process of separating a liquid from a solid (sediment) by gently pouring the liquid from the solid so as not to disturb the solid is Declaration.

Filtration is the process of separating a solid from liquid by means of a porous substance -a filter- which allows the liquid to pass through but not the solid. Extraction is the separation of a substance from a mixture by preferentially dissolving that substance in a suitable solvent. Also, the process in which a solid passes directly to the gaseous state and back to the solid state without the appearance of the liquid state is called Sublimation. Experimental: The materials that we use it in this experiment are unknown mixture of sodium chloride, ammonium chloride, and silicon dioxide.

Also, we use some apparatus such as balance, tongs, evaporating dishes (2), watch glass, 50 or 100 ml graduated cylinder, clay triangles (2) or wire gauze (2), glass stirring rods, ring stands (2), iron inns (2), Bunsen burner and hose. The mixture that we will separated contains three components: NCAA, Enoch and Isis. First, weigh a clean evaporating dish and then obtain 2 to 3 g sample of unknown mixture in the evaporating dish. Next, weigh the evaporating dish containing the sample and calculate the sample mass.

Place the evaporating dish containing the mixture on a clay triangle. Heat the evaporating dish with a burner until white fumes are no longer formed. Allow the evaporating dish to cool until it reaches room temperature and then weigh the evaporating dish with the contained solid. The loss in mass represents the amount of ammonium chloride. Add 15 ml of water to the solid in the evaporating dish and stir gently for 5 min. Next, weigh another clean, dry evaporating dish and watch glass. Decant the liquid carefully into the second evaporating dish.

Add 5 ml more of water to the solid in the first evaporating dish, stir, and decant this liquid into the second evaporating dish as before. Now we have two evaporating dishes- one containing wet sand, and the second a solution of sodium chloride. Place the evaporating dish containing the sodium chloride solution carefully on the clay triangle on the ring stand. Near the end, cover the evaporating dish with the watch glass. While the water is evaporating, you may proceed to dry the silicon dioxide. When you have dried the sodium chloride completely.

Let the evaporating dish and watch glass cool to room temperature on a wire gauze and weigh them. The difference between this mass and the mass of the empty evaporating dish and watch glass is the mass of the NCAA. Place the evaporating dish containing the wet sand on clay triangle on the ring stand. When sand is dry, remove the heat and let the dish cool to room temperature. Weigh the sis after it has cooled to room temperature. The difference between this mass and the mass of the empty dish is the mass of silicon dioxide. After that, calculate the percentage of each substance in the mixture.