# Lab dilutions essay

Environment, Water

\n[toc title="Table of Contents"]\n

\n \t



\n[/toc]\n \n

# PART-1 DILUTIONS

a) the technique of transferring an exact amount of liquid from one container to another

a) The process of achieving a precise volume in one container while still being able to thoroughly mix the contents.

While pipetting, one should take care to avoid errors. The reading is taken by positioning the eye in correct point with the lower meniscus. Water is added little at a time to the volumetric flask to enhance proper mixing. Tap water is undesired since it has impurities plus ions, which interferes with the results of the experiment. When the water meniscus is almost fill line a “ disposable pipette” is used to fill the water. After filling the flask with water to the required point, the flask is covered with a stopper, and inverted to facilitate complete mixing. In cases of aqueous solution, grease is used to help cover the flask.

c) Give a specific example and explain how you use dilution in your everyday life.

An example of dilution is the addition of water to concentrated fruit juice to

achieve a desired taste. Apart from this, in everyday life we encounter situations where we use dilutions for example while making tea. We prepare tea everyday.

## PART II—Re-crystallization

(a) The process of making a supersaturated solution of acetyl salicylic acid . The acetyl salicylic acid is “ an active ingredient” in aspirin. The technique of re-crystallization consists of dissolving acetyl salicylic acid crystals in water. Five grams of acetyl salicylic acid crystals are put to a beaker and water added. The contents are then heated up to 100 degrees Celsius where the solution is saturated. The water is added little at a time to reach saturation point. A little amount of food coloring is added to the solution. It is considered as an impurity. Once the solution is removed from heat and cooled, it becomes supersaturated and crystals begin to form leaving the impurities of food coloring in solution form.

b) The process of re-crystallization

Re-crystallization is a technique used in the laboratory to purify solids by virtue of their differences in solubility. The “ saturation point” is a function of temperature since at 100 degree Celsius, the solution is saturated and at room temperature it is supersaturated. Repeated crystallization process is termed “ re-crystallization and yields more pure products.

c) The role of vacuum filtration in this process

A vacuum filter further purifies the crystals by separating the impurity from the crystals. The crystals are washed using cold water so that they do not form solution.

d) A “ Saturated solution” is that which is in “ equilibrium” with the un-

dissolved form of its solute.

e) “ A supersaturated solution” consists of a solute at a concentration greater than its solubility

f) “ Saturation point” is the point where the solute concentration no longer increases with addition of more solute.

## Reference

www. thinkwell. com