Fundamentals of Science – Volumetric Analysis

Unit 1

Now that the number of moles is calculated, the concentration of sodium carbonate needs to be found also. The formula used to calculate the concentration is n=cv, which has to be re-arranged to find the concentration. This would be c=nv, so the number of moles is 0.046. The volume is 250cm³. The volume would have to be adjusted so it can be used in the formula. This is from cm³ to dm³. To get this, it must be divided by 1000. So its 250cm³/1000. This will equal to 0.25dm³. So the concentration would be 0.046/0.25 which is equal to 0.184mol/dm³

Task 3(b):

A chemical plant is an industrial plant where chemicals are produced. A laboratory is a facility where research and experiments are performed at under certain conditions. There are many differences between the procedures carried out in the laboratory and those performed in three large industrial chemicals. Those differences range from pricing to human errors.

The first difference of them all is the accuracy. A chemical plant nakes their own chemicals. This results to them having a high atom accords. There are normally no human errors as machines create the chemicals. However, a laboratory can result so either a high or low atom economy times is because tuman errors are possible as machines don't make the chemicals, people an.

The second of processes. One is a continuous process and the other is a batch process. A continuous process is a process that goes on all the time. An example of this is Ammonia. A batch process is a process when a small amount of a chemical is only needed. These results do not need a lot of electricity for a batch process. An example of a batch process is a pharmaceutical drug. A laboratory doesn't need a lot of electricity as machines undergo the experiment, people do it.

A third difference is the amount of staff. The chemical plants do not have many staff as machines do most of the work. The staff are normally there to check on the machines and also do the jobs machines cannot do. However, the laboratory has many staff with specific requirements to do specific jobs. This results to the staff knowing what to do and how to do it.

Another difference is the difference in equipment. The chemical plant has many equipment which are machine to do many jobs. This results to more money being funded for machines. A laboratory has many equipment for many experiments. This results to them having a wide range of apparatus and can get more accurate results.