

# Quality control for pharmaceutical products essay sample



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Producing pharmaceutical products ready for consumer is important because Quality assurance is the sum of all parameters concerning the preparation and control of a finished product. It is a wide term commonly used for the confirmation and validity of various ways and measurements adopted to obtain a high quality procedure for intended use with guaranteed performance.

Biological quality control of pharmaceutical products becomes essential and to keep the risks of producing pharmaceutical products as minimum as possible as they are ultimately to be consumed by living organisms, in particular the humans. A standard solution is a solution whose concentration is known accurately. Its concentration is usually given in mol dm<sup>-3</sup>. When making up a standard solution it is important that the correct mass of substance is accurately measured.

It is also important that all of this is successfully transferred to the volumetric flask used to make up the solution. Titrations are important to understand how acids and bases react with each other, ways to understand detection of experimental error, and to experimentally calculate or figure out what a chemical or substance consists of or the properties it can contain. Titrations are a key tool in industry laboratories and for educational purposes. The right technique and precision of an experiment, accurate results can be achieved.

Accuracy and precision can improve in a titration when effort as well as repetition is applied. Titrations in Modern Industrial Laboratories It is important to prepare an accurate concentration of a standard solution. The

concentration of a standard solution must also be correct, so the determinations of vitamins are correct. It is useful to prepare the standard solution before carrying the titration out first, as you can get practise in for getting the results accurate and it saves time doing it before doing the titration.

Titration is carried out differently in industry, in hospitals as they titrate by hand, as it may be more accurate; however there is a cause for human error. In different industries the process is usually automated thereby eliminating human error, as the answers would be digital and not guessing, however for this there could also be the risk of systematic error, but this is a lot more quicker than the titrating by hand, where the accuracy is at most importance.

Automated titration is also used in industry for titrating large amount of volumes. Also, in industry, different industries may also, measure the endpoint differently, as they may use a PH indicator, a potentiometer or a PH meter. However, you cannot always trust the concentration on the bottle, as the concentration should be one number, but then the concentration could be 0. 1 out, and this could affect your results overall. This is why you should check the concentration of the iodine, so then the results are accurate.

The winemaker industry are moving away from old manual titrations, colour indicators, time consuming aeration oxidation tests and dilution calculations to more accurate, more dependable and faster methods. It is vital that instruments deliver information quickly, inexpensively but most of all with high accuracy. An automatic titration device for use in either batch

processing or a continuous processing mode to identify quantitative fluid properties.

The device consists of a plurality of reservoirs each connected to a respective plurality of pumps. A central computer controls individual pump speeds and therefore the pump output mix through a delivery tube that delivers fluid mixture through an ultrasonic mixer to a mixing tube whereupon a color detector is disposed to detect indicator color changes of the liquid for providing indication back to the central computer for calculation of fluid presence, fluid equivalent points, and related fluid properties.

The automatic titration system is capable of operation in a selected one of two modes, a batch processing mode and a continuous mode. The batch processing mode enables the sampling of a multiple of fluids which may then be subject to reaction to identify the types of fluids. For example, these may be the various fluids contained within naturally occurring well bore fluids.

Thus, an operator may travel with portable titration equipment to a field location whereupon the operator can draw a fluid sample from a well bore or tank at the drilling site and place the sample solution in the source reservoir subject to flow by pump. Titration under control of digital computer may then examine successive portions of sample solution from source reservoir with respective reagents to identify, for example, phosphors, barium, calcium, chlorides, etc.

Suitable program control of digital computer will enable such sequential fluid sample examination as the sample with successive reagents is flowed  
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through delivery tube and the ultrasonic mixer to the mixing tube whereupon color detector provides indication output to the digital computer. In some cases where an indicator chemical is required in combination with the particular reagent, the indicator can be added directly into the solution in the reservoirs.