

Nancy Gardner of the California State University, Long Beach Chemistry Department presents "Chemistry Lab Procedures: episode two, Vacuum Filtration."

Vacuum filtration is used when the solid particles are sufficiently large enough to avoid being forced through the filter paper by the vacuum. It is faster than gravity filtration, and aids in the drying process.

The Materials required for vacuum filtration are:

Buchner funnel, filter paper the same size as the Buchner funnel,
a seal for the funnel, a vacuum flask, two vacuum tubes, a filter trap and a vacuum.

Assemble the filtration set up by first attaching two rubber tubes to the filtration trap as shown.

Attach one of the tubes to the vacuum line and the second to your vacuum flask.

Place the pre-weighed filter paper in the bottom of the Buchner funnel and moisten it with a small amount of solvent.

Turn on the vacuum.

Once the solid has settled to the bottom of your solution, slowly decant the solvent into the funnel.

Use the excess solvent to transfer all the solid particles from your beaker.

Rinse the solid with cold solvent and then a few milliliters of methanol to aid in the drying process.

Leaving the vacuum line on for a few minutes will also speed up the drying process.

To insure you have not lost any product make sure the filtrate flowing out of the filter paper is clear.

Turn off the vacuum line.

Carefully collect your damp filter paper and solid from the Buchner funnel using a "rubber policeman" and place it on your watch glass for further drying.