

## SUCTION (VACUUM) FILTRATION

Most of us are fairly competent with "liquid/solid" separations. One common example is gravity filtration as drip coffee is made. This process involves a filter and allows for the separation of a mixture into the "insoluble" component, and the "liquid or solution" component.

It is often necessary to perform separations of mixtures in the lab. When separating a solid from a liquid/solution component there is an advantage if the filtration can be sped up. Suction filtration is sometimes preferred (over gravity filtration) as time is saved!

- clamp a suction flask to a stand
- place a gasket (filtervac) between the flask and a Buchner funnel
- place a piece of filter paper in the Buchner funnel
- moisten it
- turn the water flow on fully (through the aspirator), check the end of the hose for suction
- attach the hose (from aspirator) to the suction flask
- press down firmly on the circumference of the funnel (do not cover entire funnel surface)
- generally, transfer any residue to the Buchner using the (already saturated) filtrate
- however if it is the filtrate that is needed, and the solid component is "insoluble", continue to transfer with small portions of water
- prior to turning off the water, break the suction, eg disconnect the hose (from flask)

In your procedure simply mention the transfer aid (eg solvent, or filtrate) and the description of the separated materials.

That means all that is required in the general procedure is a statement such as "The mixture was separated by suction filtration (pale orange filtrate, black solid) and water was used to transfer all the residue".