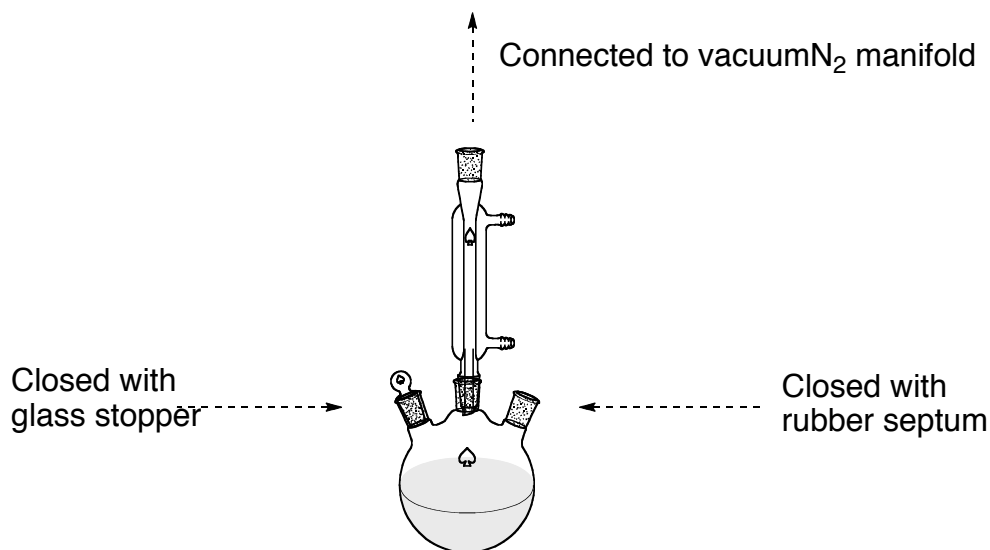


Typical set-up for an air-sensitive reaction:



Each specific reaction may require a slightly different set-up, but here is a general protocol for setting up a reaction that is air-sensitive:

- Place any non-air-sensitive, non-volatile, and compatible reagents (as well as a stirbar) into the reaction flask.
- Connect the flask to the vacuum/N₂ manifold.
- Turn the manifold stopcock so that the reaction apparatus is open to the vacuum and completely evacuate the apparatus.
- Once evacuated, SLOWLY and CAREFULLY (and with the N₂ flowing) turn the manifold stopcock 180° to backfill the apparatus with N₂ gas. Do this by keeping one hand on the stopcock, one hand on the N₂ valve, and an eye on the bubbler so that you don't switch to N₂ too fast, suck up all the oil in the bubbler, and introduce oxygenated air back into the system. Turning the stopcock slowly and regulating with the N₂ valve should help prevent this from happening.
- Once the apparatus is filled with N₂, repeat the evacuation-N₂ filling procedure two more times.
- Now the reaction apparatus should be under an inert N₂ atmosphere and you can add the rest of the reagents as needed.

Notes:

- If you need to add any solid reagents into an inert reaction apparatus then (1) turn up the flow of N₂ gas high enough that when you remove the glass stopper the bubbler will still bubble a little bit (meaning that there is still a positive flow of N₂ gas through the whole apparatus), (2) add the solid, (3) replace the stopper and turn the N₂ back down.
- If you need to add additional liquid reagents you can do so through the rubber septum.