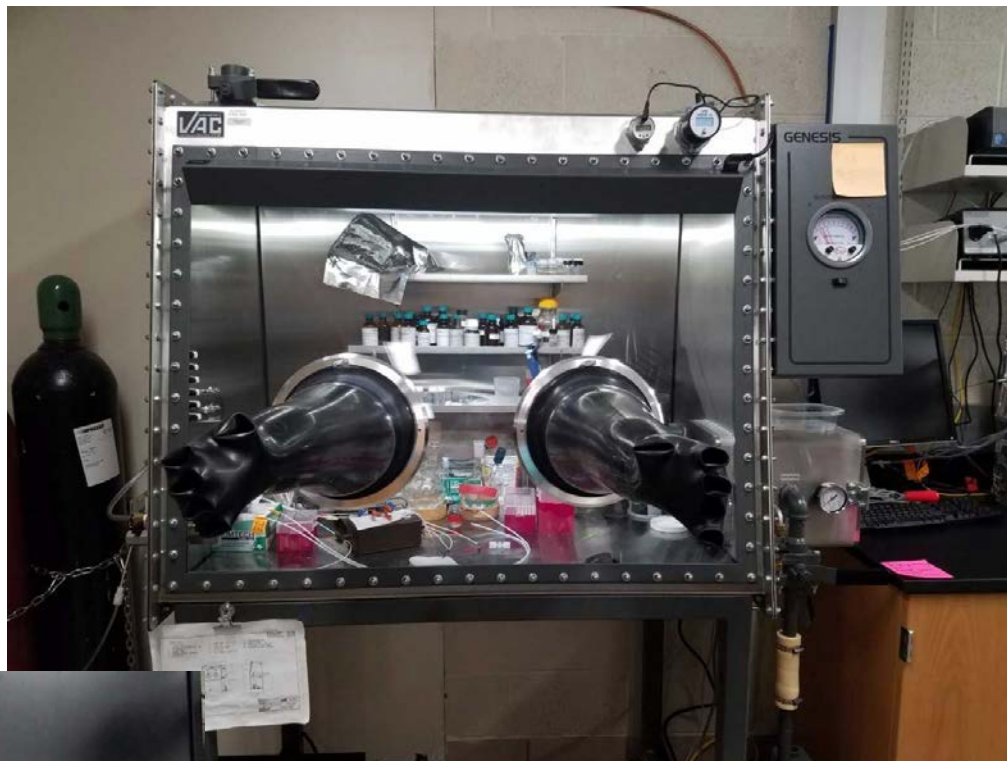


# How to: Glove Box

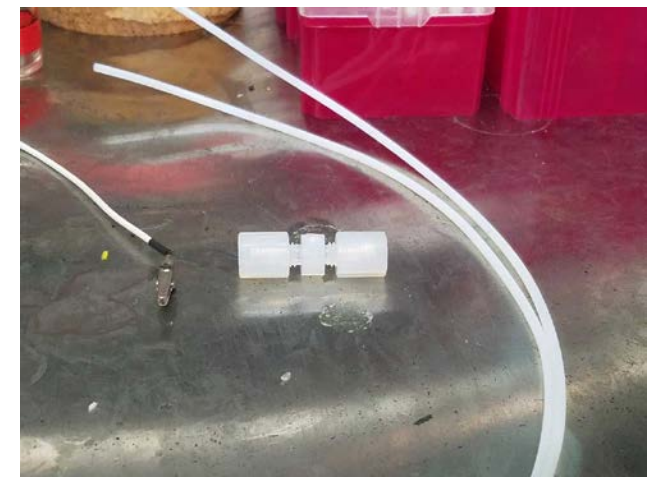
- Always wear gloves
  - Cotton gloves optional
- **DO NOT** wear rings, watches, bracelets etc.
- If glove punctured patch it
  - Same way you would a bike tire



- Purge gas lines before using in your cell
  - And every time you switch tanks

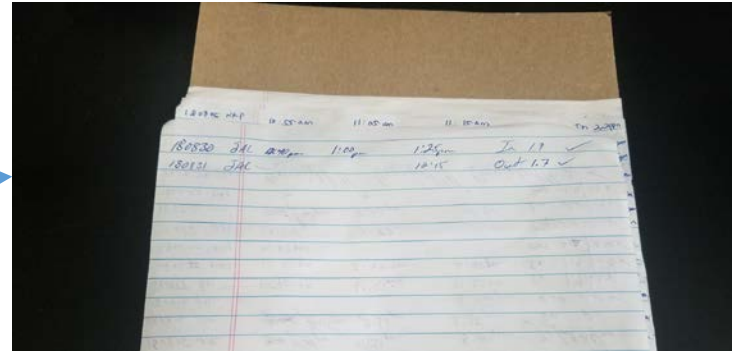


- When passing something make sure to
  - 3 – 15 min cycles
  - Vials loosely capped
- Fill log book
  - Before and after use



# Using the antechamber

Turn on pump



Fill log sheet

Fill until pressure gauge reads zero

Pass **HOT** glassware through



Put antechamber under vacuum and do your cycles

Immediately turn on vacuum again



# Switching out nitrogen tank



Close main valve leading to glove box

Vent gas line using bottom valve (15 sec)



Close green valve and remove gas line, remember lefty loosey righty tighty



Connect to nitrogen tank and open tank valve



Close valve

Open main valve to glove box



# Things to avoid!

- Unheated glassware
- **NEVER** pass water
- Passing things through that don't have an inert atmosphere or vacuum
- Substances with high vapor pressure (they will go straight to the vacuum)
- Solvents should always be dried and passed through using a solvent bomb

Don't leave the antechamber door open for an extended period of time



Don't leave antechamber valve open



**NEVER DO BOTH AT THE SAME TIME**

# Oh no! I've let oxygen into the box!!!

- The O<sub>2</sub> sensor will spike and show levels in the hundredths or thousands
  - If the O<sub>2</sub> starts to read in percentage...Oxygen level is extremely high, No Bueno!
- Turn off the oxygen filters (this preserves filter life)



Raise the minimum and maximum levels for nitrogen pressure

Ppm level should read 30 ppm

Pressure settings back to normal once release valve



Slowly open release gas valve  
You will hear the pump fill the box as the pressure falls to the lower limit set  
Continue to slowly open the glove box valve until the filling pressure is equal to the exit pressure and the pump isn't working over time



# How do I avoid letting water & oxygen into the box?

- Always make sure to pump in hot glassware
  - Heat glassware for at least 90 min before passing through
- Things like plastic bags, kimwipes, pipet tips etc
  - Should be pumped in over night
- Don't pass water into the glove box
- Do not open glove box valve and antechamber door at the same time
- When in doubt, or don't feel comfortable using the glove box, as one of the senior grads for assistance