Plasma Cleaner

Procedure

Purpose: To remove nanoscale and residual contamination while activating the sample surface without the alteration of bulk material properties. For many materials, exposure to O2 plasma exposes a more hydrophilic surface.

Procedure:
1) Open valve on O2 tank (ensure that tank is not empty). Regulate pressure to 0 – 30 psi.
2) Bleed air from O2 line by opening the needle valve for a few seconds. Close valve. This purges the line of any unwanted air.
3) Load samples into plasma cleaner (the side that gets cleaned is the side facing up).
4) Close the door (it won’t lock until later when we turn the pump on)
5) Turn on pump by pressing the green button at the base. Open valve at the top of the pump.
   a. Recommended to open the valve completely
6) Check pressure gauge and ensure that it goes below 400 mtorr.
   a. The gauge may remain at 1000 mtorr for a while. Give it 60 seconds to drop.
7) Open needle valve slightly and wait for pressure reach 500-600 mtorr (or whatever your desired pressure is).
8) Turn on power switch and adjust RF level with knob (count number of clicks if knob is loose).
9) After sample has been cleaned, adjust RF to off and turn off power switch.
10) Close pump valve and turn off pump (red button at base).
11) Open needle valve to vent the chamber until the door opens. Close the needle valve.
12) Close O2 tank.