

Acidhood & Acidhood2 Procedures and Rules

- Engage the acidhood in CORAL
- Understand and follow the MTL color coding scheme
 - Black & Brown (Diffusion- RCA Station)
 - Green (Standard non-metal CMOS processing)
 - Blue (Standard CMOS compatible metal processing)
 - Red (Au contaminated processing, metals and non-metals)
 - Yellow (KOH/TMAH processing ONLY)
 - Purple, and labeled SU-8 only (SU-8 photo processing ONLY)
- Labware locations:
 - Etch-room
 - SU-8/gold photo room
 - Photo room
 - Other wet benches
- Read and follow these TRL Rules & Protocols:
 - PPE is to be worn at all times when you are working directly within the scope of acidhood, acidhood2, or the acid pass-through. This includes Using the chemical cart.
 - PPE is to be removed anytime you are not working directly within the scope of Acidhood, Acidhood2, the acid pass-through and the acid cart.
 - PPE gowning order is as follows:
 - Apron
 - Arm Shields
 - Face Shield
 - Acid Gloves
 - Always maintain strict separation between Au (Red) and Si (Green) labware, wafers, pieces, carriers, tweezers, vacuum wands, work spaces....etc.
 - Acidhood2 is for green and blue dot processing ONLY.
 - The Acidhood dumpinse is for green and blue dot ONLY.
 - Follow the proper procedures when performing a post KOH/TMAH cleaning.
 - Never allow a fabwipe inside any wet station, at anytime, for any reason.
 - Anytime a chemical is to be left in a wet station unattended it's container must be labeled with your name, the name of the chemical(s) contained, your phone extension, the date, and the approximate time you will be back to attend the chemical(s).
 - Never leave any solution, in any container, in any wet station without proper labeling.....EVER.
 - Use opened bottles of acid first.
 - When you use the last bottle of a chemical, always call the chemical cell phone, and make the person responsible for chemical stock aware of this, so that empty bottles can be removed, and fresh chemical can be added.
 - Always use the chemical cart to transport acids and corrosives.
 - Never store any chemical on the chemical cart.
 - Never leave the chemical cart in any aisle.
 - Always return the chemical cart to the pass-through area.
 - Rinse your labware properly, and return it to its proper place of storage as soon as you are though Using it.
 - Always return tweezers and scribes back to their appropriate place of storage.
 - Thoroughly clean the acidhood deck and utility sink when you are done.
 - Thoroughly rinse off your acid gloves before returning them to the rack.
 - Always store your wafers properly.
 - Always return your notebook to the notebook rack.
- Review the standard recipes, and use them whenever possible.
- Quartz labware is used for non-HF chemistries, those chemistries that require the use of a hotplate, and any chemistry that is heat producing (Piranha).
- Always be aware of the nearest safety shower & eyewash.

- Always use the proper staging area, and always follow protocol.
- The hazards of HF:
 - *Hydrofluoric acid is a solution of hydrogen fluoride in water. It is corrosive, and highly poisonous. Skin contact with concentrated hydrofluoric acid or inhalation of its vapor has caused many serious injuries, even death. Concentrated solutions of hydrofluoric acid pass quickly through the skin and cause deep, painful burns. Dilute solutions also penetrate the skin, but it does not give the immediate burning sensation caused by the concentrated form of the acid, a user may tend to be less aware of the contact with the acid.*
 - *Concentrated hydrofluoric acid in contact with the skin will penetrate the skin to damage deeper tissues. This can lead to full-thickness skin burns. As well as this, fluoride entering the bloodstream will trap calcium and magnesium ions with rapid harmful effects on the heart, muscles and nervous system. Because of this, skin absorption is the main route of exposure for fatalities. Even dilute solutions will penetrate the skin although the effect is usually delayed. Once the dilute solution has penetrated, its destructive action will continue even after surface solution has been washed off.*
- Always be certain the HF Gel is available. If it isn't notify someone ASAP.
- Obtain the correct labware for your process.
- Transfer your wafers, or pieces at the correct staging area.
- Review step 4a and 4b concerning lab protocol on PPE
- Review the PPE gowning procedure, and gown up.
- Obtain the correct beakers/containers for your process.
- Setup the beakers/containers in the acidhood.
- Obtain the required chemicals for your process from the acid pass-through.
- Never open any bottle of acid or corrosive on the chemical cart, or outside of the acidhood. Always inside the acidhood.
- Always add acid to water, and sulfuric acid is to be added to hydrogen peroxide.
- Place the chemical bottle inside the acidhood, and open it.
- If you are Using a graduated cylinder, carefully pour a little bit more than you actually need into a suitably sized beaker, and from this beaker pour the chemical into the graduated cylinder, measuring the correct amount required.
- **NEVER pour a chemical directly from the gallon bottle into a tall, narrow graduated cylinder.**
- Slowly and with care, pour the chemical accordingly.
- Recap the bottle inside the acidhood.
- Place the chemical bottle back on the chemical cart.
- Repeat as necessary.
- Return the chemicals to the acid pass-through.
- Process your wafers/pieces.
- When processing is complete move the wafers/pieces to the rinse container or dumpinse.
- Aspirate all of the chemicals Using the correct aspirator.
- Fill and aspirate each container three times.
- Rinse all of the labware thoroughly.
- Rinse the sink deck thoroughly.
- Rinse your acid gloves accordingly.
- Remove your PPE:
 - Acid Gloves
 - Face Shield
 - Arm Shields

- Apron
- Move your wafers to the correct SRD.
- Replace labware, tweezers, etc ... to their correct storage location.
- Disengage CORAL