

**P5000 CERTIFICATION CHECKLIST**

How can a user hurt themselves? How can a user hurt the tool?

A qualified user should be able to:

- Identify personal safety hazards associated with the tool and what precautions are taken to prevent an accident from occurring.
- Identify hazards to the tool and what precautions are taken to prevent an accident from occurring.
- Operate the tool safely and proficiently.
- Recover from simple errors.
- Demonstrate knowledge of the processes performed with the tool.
- Know the appropriate uses of the tool.

**Wet Etch Bench**

- **Personal Safety Hazards**
  - The system uses a number of different gases including silane and ammonia which are hazardous. Read and understand the material safety data sheets (MSDS) for all gases used in the system and be familiar with the hazards and safety controls to prevent an accident before using the system.
  - The system uses a liquid source chemical for the TEOS depositions.
  - There are thermal, mechanical and electrical hazards inside of the machine. Do not operate with the covers off. Keep clear of the door when it is closing.
- **Hazards to the Tool**
  - Wafer Size -The system is set up for 6 inch wafers. Smaller sizes may be run on the carrier wafers.
  - Contamination - Process only clean wafers in the system. No photoresist, gold or copper. If you are not sure about a wafer please ask a staff member.
  - Non-Standard Substrates-No wafer pieces or non-standard wafers may be processed without approval.
  - Unapproved Recipes - Unapproved recipes could cause damage to the system. **Recipe changes need staff approval.**
  - Make sure that chamber is pumped down before turning on the lamps.
  - Arcing - If etching in Chamber C, verify that no arcing is occurring at the beginning and during the process.
  - Do not run the hazardous gases or burn box unattended.
- **Operating Tool**
  - Users should be able to:
    - Perform the initial state check and set up.
    - Heat up the chamber.
    - Process wafers.
    - Pump out gas lines if used.
    - Shut down the lamps.
    - Shut down the pumps.
  - Reservations – If not present at stated start time, tool is reserved for 15 minutes and is then considered open for general use.
- **Simple Errors**
  - If the burn box temperature readout is wrong, cycle the breaker off and on.

## ***R·I·T SEMICONDUCTOR AND MICROSYSTEMS FABRICATION LABORATORY***

- **Processes**
  - A qualified user should be familiar with the process that will be done in the chamber.
  
- **Appropriate Tool Use**
  - Nitride depositions use hazardous gases and may not be run after 5:00pm. All gas lines must be completely pumped out by that time.
  - Only Si substrates are allowed in this tool
  - The only allowed metals are Al, Ti, Ta, W, Mo
  - Gold and Copper are not allowed.