ALUMINUM ETCH SOP

June 2013

1. It is suggested that this operation be started within 30 minutes of the completion of a hard bake.

2. **DO NOT PERFORM THIS OPERATION IF YOU DO NOT HAVE A BUDDY IN THE CLEANROOM.**

3. Before preparing the etchant put on the appropriate PPE (personal protection equipment) of the blue chemically resistant apron, face shield and orange gloves.

4. Use only the commercially prepared acid mixture labeled *Aluminum Etch* which is mixture of phosphoric, acetic and nitric acids. This mixture can be found in the acids cabinet in the wet etch bay.

5. Make sure the acids bench is powered on and retrieve a Pyrex beaker labeled for aluminum etch. Place the beaker onto the hotplate and place all three thermocouple and nitrogen back pressure leads into the beaker.

6. Pour the aluminum etch solution into the Pyrex beaker on the hotplate until you are able to turn on the hotplate. You can refer to the link below on how to turn on and program the temperature of the hotplate.
   

7. Program the hotplate to bring the solution temperature up to 40°C.

8. When the aluminum etch is at temperature immerse your sample into the solution until the desired aluminum is removed. This etching process is rapid and typically takes less than two minutes.

9. Place your wafer into a wafer cassette and rinse your sample using the quick-dump-rinse (QDR).
   

10. Dry your sample in the lower spin-rinse-dryer by opening the door and placing the wafer cassette into the basket. Press the start button and wait approximately 4 minutes for the process to finish. **DO NOT PLACE YOUR SAMPLE IN THE UPPER SRD FOR IT IS RESERVED FOR RCA CLEAN WAFERS ONLY.**

11. Allow the solution to cool down and pour the used aluminum etch into the Aluminum Etch Waste bottle.

12. Rinse the pyrex beaker and place onto the acids bench.

13. Remove your PPE and inspect your samples with a high power optical microscope.