

University of Minnesota Nano Fabrication Center

Standard Operating Procedure

Equipment Name: Exhausted Blue M oven

Coral Name: oven-4

Revision Number: 1

Model: 008A-3-26

Revisionist: K.Burkland

Location: Bay 2

Date: 11/21/03

1 Description

This is an exhausted oven with a controllable N² flow gauge. The temperature may be adjusted up to 500°C (340 °F), the N² flow rate 0 - 60 SCFH . There is a center rack for placing substrates.

2 Safety

- a Maximum temperature is 500°F.
- b Take caution when unloading your hot substrates when the bake time is complete.
- c Turn the oven power OFF when completed.
- d Turn off the N² flow gauge flip toggle that is connected to the red N² gas line when complete.

3 Restrictions/Requirements

- a No aluminum foil is oven.
- b Wafers may have material on the surface that could out gas fumes such as photoresist. This oven is exhausted.

Required Facilities

- a Electrical outlet.
- b Nitrogen

4 Definitions

- a SCFH Standard Cubic Feet per Hour
- b PSIG Pounds Per Square Inch Gauge

5 Setup

- a Place substrates in the quartz a boats provided.
- b Users must supply their own method of timing their length of bake.
- c Turn the MAIN CONTROL oven toggle switch to ON. This is located on the front panel of the oven.
- d Turn the black MEMORY RING DIAL to the desired temperature, this dial is labeled CONTROL.

6 Operating Instructions

- a. Open the door and place substrates in the oven on the rack and close the door.
- b Turn on the Nitrogen by flipping the toggle switch on the red gas line.
- c Switch sign to IN USE DO NOT OPEN
- d Set the N² flow rate by turning the black dial on the SCFH AIR flow meter to the desired PSI.
- f Check the temperature on the FARENHEIGHT / CENTIRGRADE read out, and the N² Flow rate periodically through out you process.
- f When the process is complete, turn the N² Flow to zero and flip the toggle to the OFF position.

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g Turn the oven MAIN POWER switch to OFF.

7 **Problems/Troubleshooting**

- a If the temperature is not responding to the set parameter, notify the process staff
- b If no nitrogen is flowing on the N² flow gauge after turning it to the desired PSGI, notify the process staff.