

## SAMDRI CRITICAL POINT DRYER (CPD)

Brief Instructions (for more detailed instructions, see attached copy)

1. Make sure all valves are **closed**, including the CO<sub>2</sub> main valve. Make sure the Power and Heat switches on the unit are in the **OFF** position.
2. Place enough 100%, dry ethanol in the chamber to cover the sample completely.
3. Make sure that O-ring is in place and screw down cover securely. Check O-ring for any flaws, bubbles, breaks – found use new O-ring.
4. Open main valve on CO<sub>2</sub> tank. Carefully open the **COOL** valve enough to let CO<sub>2</sub> cool the chamber to around **0°C**.
5. Once chamber is cooled, close **COOL** valve and carefully open the **INLET** valve so that a very small stream of liquid CO<sub>2</sub> fills the chamber completely. Once full, open the **INLET** valve a few more turns.
6. Leaving the **INLET** valve open, slowly open the **PURGE** valve until ethanol can be seen exiting from the tygon tubing. Pay attention to the temperature, as it will want to creep up. Do not allow it to go above 10 C. Open the COOL valve if needed.
7. Once CO<sub>2</sub> appears to be spraying out of the tube, test the CO<sub>2</sub> with a brown paper towel for “wetness”. Any ethanol will cause the paper to appear wet. Once the paper is obviously staying dry, close the **PURGE** valve.
8. Make sure the chamber is completely full of liquid CO<sub>2</sub> and then close the **INLET** valve.
9. Make sure **all** valves are closed, including the main CO<sub>2</sub> tank valve.
10. Turn ON both switches. Wait for the temperature to reach **34-38 C** and the pressure to reach **1250 psi**.
11. Once the temperature and pressure have been reached, let the unit maintain this state for another **2 minutes**.
12. Begin to bleed the gaseous CO<sub>2</sub> by slowly and carefully opening the **BLEED** valve. The pressure should be allowed to escape slowly, around **100 psi/min**.
13. Once the unit has reached **250 psi** or lower, open both **BLEED** and **PURGE** valves to allow the chamber to equilibrate with atmosphere and then carefully open the chamber and remove your specimen.
14. Close **all** valves and turn **both switches** to **OFF**.
15. Replace cover with or without the O-ring to keep the chamber free of debris.
16. Record your run(s) on the sheet and any other information required (such as billing info if needed.)