Kessler, Michael R [M SE]

From: Prashanth Badrinarayanan <prashanth.badrinarayanan@gmail.com>
Sent: Monday, June 28, 2010 10:18 AM
To: polycomp@iastate.edu
Subject: Q2000

Group,

Here are some suggestions for using the Q2000 DSC that I talked about in the group meeting. Some of these really obvious and may be known to most of you, however most are based on actual issues that I noticed when the DSC was being used. If there are any important ones to be added, let me know. I will place a final list along with the SOPs.

Thanks,

Prashanth

Q2000 DSC DO'S AND DON'T'S

1. Let me know if you want to perform curing studies on the Q2000 DSC. Unless there is a critical need to use controlled cooling rates after curing, cure studies can be performed in the Q20 DSC.

2. Always inspect the sample cell before and after your test to check if it is clean. If you are testing materials that can volatize or potentially degrade in the DSC, inspect the sample cell following the DSC to see that it is still clean.

3. Never open the sample cell of the Q2000 at sub ambient temperatures.

4. Always ensure that both the base purge and the sample cell purge are on during the test. In case of moisture sensitive measurements, turn on the purge gases before opening the sample cell to load the sample.

5. Do not randomly turn all the valves of the purge gas tanks. Follow the manual or check with a group member to verify the valves that need to opened, in case of uncertainty.

6. Never manually move the sample cell cover as it disrupts the delicate alignment of the autolid assembly and would result in moisture contamination.

7. Never move or bump the arm of the auto sampler as it is calibrated to precisely place the sample and reference in the cell.
8. Exercise caution while using the liquid nitrogen tank. Ensure that the valves of the liquid nitrogen hose are tight, but do not over tighten. After a good seal, there should be no leaking at the valves.

9. Never leave the valve of the bulk liquid nitrogen tank fully open unless you are actually filling the DSC. It is both time consuming and expensive to get the liquid nitrogen tank filled.

10. Always clean up the sample preparation area near the balance after your tests. (For both Q20 and Q2000 users). Although the Q2000 puts samples back in some locations in the auto sampler, if you want to test that sample at a later day/time, do not leave your sample there.