

## VAC Solvent Purifier Instrument Management

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Student Supervisor: Davita Watkins ([dwatkins@memphis.edu](mailto:dwatkins@memphis.edu)) x4428

### Student supervisor responsibilities.

The student supervisor will notify director of any malfunctions or irregularities.

#### Friday:

- (1) Calculate (from log sheet) total usage of solvent
- (2) Check N2 cylinder for leaks and maintaining regulator setting at 1PSIG

\*Solvent purifier system is designed to alert supervisor when solvent is **lower than 1 liter**. In addition, students in need of a particular solvent are recommended to give **24 hour notice** prior to usage.

When quantity of solvent in reservoir is reduced to 1 liter, solvent purifier will not dispense. New solvent should be added and circulated the purifier for 16 hours.

#### Adding solvent to reservoir:

Following solvent purifier user guide—ONLY **ONE** RESERVOIR SHOULD BE IN OPERATION AT A TIME

- (1) Prepare unit by turning circulation pump off, open vent valve, turn sparge gas on and remove vent flange clamp. (Pressure setting for nitrogen cylinder regulator should be 1 PSIG)
- (2) Remove vent valve and o-ring seal, insert funnel, and slowly pour 4 liters of solvent into funnel.
- (3) Reattach vent valve with valve in OPEN position and secure with clamp. Sparging should occur while pouring and should continue to flow for a short period. (One should hear a bubbling sound that will discontinue when sparging is complete)
- (4) Turn sparge valve to off and close vent valve.
- (5) Turn circulation pump on and circulate for 16 hrs (circulation pump should be in on position)

**Friday:** Check nitrogen cylinder level. Tell Adrienne if cylinder is need. Replace cylinder if needed, making sure to close valve to system before replacing.

### Student supervisor training

The student supervisor will know how add solvent to purifier, dispense solvent, and change nitrogen cylinder.

### Manager and Director responsibilities.

1. Supervise and train student supervisor

2. Troubleshoot and fix problems consulting with system documentation and vendor engineer
3. Advise Department Chair and Facilities Committee on the necessity of system replacement or repair by vendor

### **User Training on Instrument**

- (1) Most users should obtain training for routine use while observing members of their group.

### **User Guidelines and Scheduling**

- (1) Students in need of a particular solvent are recommended to give **24 hour notice** prior to usage.
- (2) Sign in the log book **before** you begin using the purifier
- (3) Review user guide for further information if needed
- (4) Report system malfunctions to student supervisor
- (5) For after business hour use, all users must consult with research advisor to obtain key from director.

### **Maintenance and repairs**

See **Manager and Director Responsibilities**.