

Glove Box Management

Glove Box Manager: Dr. Tomoko Fujiwara (tfujiwara@memphis.edu) x5558

Glove Box Student Supervisor: Andrew O. Ward (aoward@memphis.edu) x4428

Glove Box student supervisor responsibilities.

The student supervisor will notify Dr. Fujiwara of any malfunctions or irregularities.

Monday:

- (1) Check Analyzer levels for any irregular oxygen readings.
- (2) Check all circulation valves for proper flow.
- (3) Check liquid nitrogen (LN2) dewar level. Order new dewar if level is below 100psi.
- (2) Should oxygen levels read abnormally high (<10ppm), all foreign vessels must be either sealed or removed from the glove box, and regeneration of the circulation catalyst should be performed.

Tuesday/Thursday:

- (1) If necessary, replace liquid LN2. All dewars must be preweighed and reweighed empty, and recorded in the Cryolog sheet. The dewar pully and digital scale in the basement must be used for weighing.
- (2) If catalyst regeneration was performed, the change in oxygen levels after the cycle should be noted.

Friday: Check dewar and regeneration cylinder level. Tell Adrienne if dewar is below 100psi and if cylinder is below 1000psi. An order must be placed if either is the case.

Student supervisor training

The student supervisor will know how to use antechambers, vacuum pump, dewar and regeneration adapters. The student supervisor will be aware of maintenance of all valve components and performing the regeneration cycle.

Manager responsibilities.

1. Supervise and train student supervisor
2. Troubleshoot and fix problems consulting with instrument documentation and vendor engineer
3. Advise Department Chair and Facilities Committee on the necessity of instrument replacement or repair by vendor

User Training on Instrument

- (1) Users should obtain training for routine use from the student supervisor.

User Guidelines and Scheduling

- (1) A reservation for the glove box can be made by an email to the student supervisor. From there, the appointment will begin with the supervisor briefing the person with operating procedures.
- (2) Sign in the log book **before** you begin using the Glove box. Please note **ALL reagents and solvents** intended for use in the experiment, approximate duration, and any other halogenated or volatile compounds used.
- (3) Do not allow others to use the glove box without signing in. You will be held accountable for their actions otherwise.
- (4) Be sure antechambers in use are evacuated three times under the vacuum pump for thirty seconds before opening the inside door to the antechamber.
- (5) The use of halogenated solvents in the glove box should be avoided if at all possible. Spilling halogenated solvents can cause irreversible damage to the circulation catalyst and should be prevented at all costs.
- (6) Hand and wrist jewelry is not allowed when using the glove box. Any handling of needles will be done with the needle pointed away from the gloves and contact should never be made with the needle tip.
- (7) Repeated failure to conform to these procedures will result in loss of user privileges.

Maintenance and repairs

See **Manager and Director Responsibilities**.