


Personal Air Sampling Pump Calibration

Chapter 10: FIELD OPERATIONS
AHETF-10.G.O.

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1.0 PURPOSE AND SCOPE

- 1.1 This Standard Operating Procedure (SOP) provides the steps to properly calibrate the personal air sampling pumps used to collect air monitoring samples during Agricultural Handlers Exposure Task Force (AHETF) worker exposure studies.

2.0 EQUIPMENT REQUIRED

- 2.1 The following equipment is needed to calibrate the sampling pumps:
- Personal low-volume air sampling pump(s) (e.g., SKC, or equivalent)
 - Tygon[®] tubing or equivalent
 - Appropriate OSHA Versatile Sampler (OVS) Tubes
 - Appropriate calibration device (e.g., Kurz Mass flow meter, Buck Calibrator, bubble meter and stopwatch, or equivalent)

3.0 CALIBRATION PROCEDURE

- 3.1 Place air sampling pumps on chargers before each use. If the pump is fully charged proceed to 3.2.
- 3.2 Calibrate air sampling pumps before use in each monitoring replicate. Calibrations will take place on the day prior to or the same day the pumps are to be used.
- 3.3 Calibrate the pumps under actual use conditions, as the air temperature may affect the airflow (e.g., calibrate outside rather than inside for exposure trials). Calibrate pumps with the appropriate OVS tube/sampling train attached.
- 3.4 Follow appropriate contractor SOPs for the individual calibration methods for contractor equipment.
- 3.5 Adjust the airflow rate to appropriate rate as defined in the study protocol [e.g., 2 liters per min (L/min)] and document the flow rate and pump number in the raw data.
- 3.6 Turn off the air sampling pump and set aside. Repeat steps 3.4 and 3.5 until all needed sampling pumps (including backups) have been calibrated.

4.0 POST EXPOSURE FLOW RATE CHECK

- 4.1 Using the same methods to calibrate the air pump, measure the airflow with a new OVS tube. Document the results in the study file.
- 4.2 Check the post exposure flow rate after the replicate OVS tube has been removed by the field sample collection personnel.