VENTILATION BASICS

I. Why Is Ventilation Important?

A. By-products such as carbon dioxide, carbon monoxide, etc., are produced during process

B. Elements and compounds added to glass can be volatized during process

C. Some combustion by-products are immediate hazards

D. Other combustion by-products are cumulative hazards

II. General Ventilation

A. HVAC (Heating, Ventilation and Air Conditioning) generally associated with our heating systems and air conditioners

B. Most often, system is closed loop; no fresh air added to air moving through studio

C. Unlikely to contribute to safety

D. Generally necessary for comfort in studio

III. Dilution Ventilation

A. Depends entirely on reducing the concentration of any contaminants in a large volume of air

B. Several smaller fans (rather than one large one) and design are important elements in creating a system to provide fresh air

C. There should be 100% exchange of air every 20 minutes

D. Better as part of a genaral ventilation scheme; not suitable as a primary exposure control mechanism

IV. Local Exhaust Ventilation

A. Designed to capture contaminant emissions at or near their source before they can contaminant the breathing zone and then transport contaminated air away from workspace

B. Five components to this ventilation design:

1. Hood or capture device
2. Ductwork or piping
3. Fan or blower
4. Stack in the ductwork
5. Source of fresh make-up air

V. Rules of Thumb for Creating Your Ventilation System

A. You must have sufficient airflow.

B. There must be “make-up” air.

C. Your hood opening must be appropriate for your blower.

D. Your hood opening must be positioned so by-products from your torch can be captured by it.

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