University of Victoria | Occupational Health, Safety and Environment

COMMON FUME HOOD MYTHS

Myth - *When working with highly dangerous materials, the higher the face velocity the better.*

While it is important to have a face velocity between 0.4m/s (80 fpm) to 0.6 m/s (120 fpm), velocities higher than this can be less efficient. When face velocities are excessive, eddy (turbulent) currents can be created that allow contaminants to be drawn out of the hood, possibly increasing worker exposure.

Myth - *A fume hood can be used for storage of volatile, flammable, or odoriferous materials when an appropriate storage cabinet is not available.*

While it is appropriate to keep chemicals that are being used during a particular procedure inside the fume hood, hoods are not designed for permanent chemical storage. Each item placed on the work surface interferes with the directional air flow, causing turbulence and eddy currents that allow contaminants to be drawn out of the hood. Unlike a fume hood, flammable materials storage cabinets provide additional protection in the event of a fire.

Myth – *The fume hood can be used as a waste disposal mechanism (e.g. for evaporation of chemicals).*

It is not appropriate to use a fume hood for waste disposal because it vents directly to the atmosphere untreated.

Myth – *The air foil on the front of a hood is of minor importance and can be safely blocked for storage of small items.*

Air foils are critical to efficient operation of a fume hood. The air foil smooth's air flow over the hood edges. Without an air foil turbulent eddy currents form, causing contaminants to be drawn out of the hood. With the sash closed the opening beneath the bottom air foil provides for a source of exhaust air to clear the work surface of contaminants.

Myth – *A user has no control over how well a fume hood captures and contains harmful materials. Placement of objects or large bulky equipment has no effect on fume hood capture.*

A user can negate the protective measures that a fume hood provides with bad practices. Bulky items should be raised 2.5cm above the work surface to allow air flow under the item. All work should be performed 15cm back from the front air foil and 10cm from each sidewall to allow proper air flow around the item. Items within the work area should be distributed in such a manner to avoid blocking air flow to the rear baffles.