

# Laboratory Chemical Fume Hoods

The fume hood is often the primary control device for protecting laboratory workers when working with flammable and/or toxic chemicals. When used properly, it will protect the user from exposure to potentially harmful chemicals. The purpose of this fact sheet is to provide an overview of safe use practices. By following safe operating procedures for fume hoods, we can prevent the loss of people and property. To adequately protect the fume hood user, the linear face velocity of air into the hood should ideally be between 80 and 120 feet per minute (fpm). A fume hood that isn't performing properly could possibly be worse than no hood at all because the user is likely to have a false sense of security about its ability to provide protection.

## How EHS Verifies Performance

The Environmental Health and Safety Office evaluates the performance of fume hoods and works with Facilities Management to identify and correct problems that may arise. EHS marks each hood with a calibration sticker indicating the date of the performance test and indicating the sash height needed to obtain the desired flow with an arrow.

## Evaluation and Repairs

- Promptly report any hood that is not functioning properly to your supervisor. Any hood that is not functioning properly should be removed from service and posted as such until hood can be evaluated/repared and air flow verified by EHS Office.
- If you have any questions regarding the performance or safe work practices for your Fume Hood, please contact the Environmental Health and Safety Office at 704-687-1111.
- We are available to assist by conducting performance testing and training on safe laboratory practices. Please visit our website to review a comprehensive version of the University's Chemical Hygiene Plan.

## Before Using A Fume Hood

- Make sure that you understand how the hood works.
- You should be trained to use it properly.
- Know the hazards of the chemical you are working with; refer to the chemical's Safety Data Sheet (SDS) if you are unsure.
- Ensure that the hood is on.
- Make sure that the sash is open to the proper operating level, which is indicated by arrows on the frame.
- Make sure that the air gauge (if provided) indicates that the air flow is within the required range.

## Safe Use of a Fume Hood

- Eliminate clutter in the hood. Fume hoods are not meant for storage of chemicals or lab equipment. Keep combustibles, such as paper towels, out of the hood.
- Use only those chemicals for which the fume hood is appropriate (i.e. do not use Perchloric Acid, Radioactive materials, or HF Acid in a standard hood)
- Use appropriate eye protection and Personal Protective Equipment (PPE).
- Be sure that nothing blocks the airflow through the baffles or through the baffle exhaust slots.
- Elevate large equipment (e.g., a centrifuge) at least two inches off the base of the hood interior.
- Keep all materials inside the hood at least six inches from the sash opening. When not working in the hood, close the sash.
- Do not permanently store any chemicals inside the hood.
- When using extremely hazardous chemicals, understand your laboratory's action plan in case an emergency, such as a power failure, occurs.
- Minimize traffic near the hood, especially when conducting hazardous work.
- Chemical fume hoods should never be used as a means of evaporating old or unwanted chemicals. Submit all chemical waste disposal requests to the EHS Office.
- Remove potential sources of sparks when using flammable liquids in the hood.
- Do not modify the fume hood hardware or use it for anything other than its intended purpose.

## Emergency Contacts

Dial 911 (campus phone)  
704-687-2200 (external phone)