



EHS Bulletin

May 2020

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Fume Hood Use and Inspections

Fume hoods are the primary method of inhalation exposure control and the most common local exhaust ventilation system used in laboratories. When used properly, fume hoods offer a significant degree of protection for the user. Fume hoods or other effective local ventilation must be provided and used when the materials will exceed exposure limits in the laboratory. The primary purpose of a laboratory fume hood is to keep toxic or irritating vapors out of the working area. The secondary purpose of the hood is to act as shield between the employee and equipment being used when there is the possibility of an explosive reaction. Fume hood

performance requirements are listed below (American Industrial Hygiene Association, 2012).

- Average airflows of no less than 80 ft/min (linear) and no more than 120 ft/min (linear) across the face of the hood.
- Flow rates of higher than 125 ft/min can cause turbulence problems and are not recommended.
- When not in use, the sash of the hood should be kept closed.
- While performing work in the hood, the sliding sash should be kept at the height designated to provide the minimum face velocity required (usually 100 ft/min).
- Only items necessary to perform the present experiment should be in the hood.
- When instrumentation is utilized for a process inside a hood, all instruments should be elevated a minimum of two inches from the hood base to facilitate proper air movement.
- The purpose and function of a hood is NOT to store chemicals or unused items.
- Do not use infectious material in a chemical fume hood.
- Controls for all services (i.e., vacuum, gas, electric, water) should be located at the front of the hood and should be operable when the hood door is closed.
- Always ensure the hood is operational before initiating an experiment.

EHS performs an annual functional performance test to assure hoods perform as required. The performance test typically includes an evaluation of the face velocity, sound, containment, monitor performance, and the tracking ability of the variable air volume (when applicable) of the hood. EHS tested fume hoods will have a label recording last functional test. If the hood fails functional test the following steps are taken:

- It is taken out of service until repaired.
- EHS will notify the researchers and post a "Do Not Use" sign.
- When Facilities Management has completed repairs, EHS will retest the hood and put it back in service.

A properly designed and operated fume hood reduces exposure to hazardous fumes, vapors, and dusts for those that use them.

For more information or questions about laboratory chemical fume hoods please see the Laboratory Safety Manual, email EHS at chemicalsafety@okstate.edu, or call (405) 744-7241.

Silica Awareness on Campus

Silica is a mineral that forms the basis of rock and sand and it is found in many materials used in the workplace and home. Over time, exposure to silica dust can damage lungs and cause other respiratory problems such as lung cancer, bronchitis, and tuberculosis. OSHA standard 29 CFR 1910.1053 requires employers to determine the hazards of their job sites that include silica. Employers must ensure workers are provided with appropriate protective equipment at no cost for reducing silica dust levels.

Silica dust is created in these common ways:

- Crushing, loading, hauling, or dumping of cement products
- Building demolition
- Chipping, sawing, grinding, hammering, or drilling of cement products
- Power cutting or dressing stone
- Facade renovation, including tuck-point of brick work
- Abrasive or hydro blasting of cement products
- Dry sweeping or pressurized air blowing of cement products
- Tunneling, excavating, or earth moving

How to reduce exposure:

- Using engineering controls, such as blasting cabinets and local exhaust ventilation
- Using water sprays and wet methods for cutting, chipping, drilling, sawing, and grinding
- Using enclosures that isolate the work process or the worker
- Using respirators approved for protection against silica
- Not eating, drinking, or smoking near silica dust
- Wash hands and face before eating or drinking after exposure in dangerous area

Silicosis symptoms may include:

- Shortness of breath
- Severe cough
- Weakness
- Fever
- Weight loss
- Night sweats
- Chest pains
- Respiratory failure

There is no cure and limited treatment options for silicosis. Fortunately, this condition can be prevented if measures are taken to reduce exposure.

For more information or questions about silica, please see [Silica Health Effects](#), e-mail ehs@okstate.edu, or contact EHS at (405) 744-7241.

Current Events

Bloodborne Pathogen Training

2nd Tuesday of the month, 9-10 am or 2-3 pm

EHS Conference Room, 003UHS

Required annually for members under OSHA's standard.

Registration: Email name to chemicalsafety@okstate.edu

Respiratory Protection

1st Tuesday of the month, 8:30-9:30 am

FM North Building, Room 101c

Required annually for members who wear respiratory protection.

Registration: Email name to ohsp@okstate.edu

Fire Safety w/ Hands-on Extinguisher Training

EHS Conference Room, 003UHS

Come join us for fire safety education featuring the BullsEye laser training device.

Registration: Email name to ohsp@okstate.edu

2nd Friday of the month, 9:00-10:00 am

Monthly Employee Training

3rd Thursday of the month, 9:30-11:30 am

EHS Conference Room, 003UHS

Topics: Hazcom; Fire Safety; Slips, Trips, and Falls; Office Safety; and Back Safety

Registration: Email name to ohsp@okstate.edu

Training will resume in June