

Fundamentals of Chemical Fume Hood Safety

Good Work Practices

There are several important work practices that researchers can do to ensure good performance of fume hoods. Fume hoods are checked and certified annually and a sticker on the front should show the date of certification along with the average face velocity measured during the testing. Each hood should also have a functional airflow monitor or alarm. These alarms indicate if the air flow to the hood is at the right level. When the air flow is too low the alarm will alert the user. When this happens the user should stop work, close the sash, and alert their manager and health and safety team. The low airflow alarm in many fume hood models has an audible feature as well as the visual notification. The audible alarm can often be disabled, however it can be reset. Keeping the alarm in an audible mode is a good work practice to ensure the user will realize there is a problem. To reset the alarm press the reset button and hold it down for about 30 seconds. The display will light up with a bunch of information and then you can release the button. To make the detector go into alarm mode, on some fume hoods there is a hole on the wall inside the fume hood. You can put your finger over the hole blocking it and that will reduce the airflow and cause the unit to go into alarm mode. For good containment of chemical fumes the user should make sure the sash is at the proper height. Fume hoods have glass sashes that slide to allow access a mark on the hood will show where the sash should be located for proper airflow velocity. If the sash is too high the air coming into the hood may slow to a point that the chemical vapors can leak out. The sash should be in between the workers face and the chemicals inside the hood. If the bottom of the sash is near the nose or mouth the hood may not be providing good protection. Generally the user should be standing while working at the hood. If sitting, your face may be below the sash. Never put your head inside the hood. When the sash is lowered the speed of the air entering the hood may increase, resulting in greater turbulence and potential for leakage. Many conditions can affect the efficiency and safe operation of a fume hood. The hood should be kept free of unnecessary items. Only those items required for the task should be inside the hood. Don't use the fume hood to store chemical containers, keep the back vent free of items. Good hood performance requires that airflow moves evenly across the work surface and keep the front of the hood clear too. Items too close to the front grille still can disrupt the airflow coming under the sill and potentially leak out of the hood. When you are finished with your work remove those items that are not expected to be necessary for upcoming procedures. Wipe down surfaces when finished with your work, that way the hood is clean and ready to go when needed next.