Chemical Fume Hood Operation
Environmental Health & Safety

SOP No. 5.2

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PURPOSE
This SOP will provide guidance on proper operating procedures within a chemical fume hood. The guidance here is adapted from Section A22.1 of the Laboratory Safety Manual.

NOTES
Operations involving volatile or other hazardous chemicals should be performed within a chemical fume hood. Example operations include preparation of solutions involving solvents, some chemical reactions, measuring of hazardous chemicals in solid or liquid form, etc.

PROTECTIVE EQUIPMENT
Protective equipment should be appropriate for the work being conducted inside the chemical fume hood. Minimum PPE includes lab coat, eye protection and gloves. A chemically-resistant lab apron may be worn over lab coat if working with particularly hazardous or volatile chemicals.

A blast shield should be used to manipulate energetic materials (i.e., explosives, propellants, pyrotechnics). A radiation shield may be used when working with radioactive materials. (Fume hoods for use with radioactive materials are certified at a higher rate of flow than non-radioactive hoods and must be marked with radioactive labeling).

MATERIALS
Gather all materials required for the operation being performed inside the chemical fume hood. This will prevent unnecessary disturbances of the protective air curtain.

PRE-OPERATION PROCEDURE
1. Before beginning work inside a chemical fume hood ensure the visual air flow indicator is being gently pulled into the hood.
2. If the indicator is not moving or is being blown out of the hood, DO NOT use the hood and call EHS for a Chemical Fume Hood Assessment. A Work Order through the TTU Physical Plant will need to be submitted to service nonfunctioning hoods.

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3. Newer model fume hoods will alarm if the air flow is not sufficient. Never use an alarming fume hood.

KEY USE REQUIREMENTS

1. Perform all operations and place all equipment / materials at least six (6) inches inside the face of the fume hood.
2. Limit traffic behind personnel working inside the fume hood.
3. Make slow and deliberate motions while working inside the fume hood; avoid sudden, sweeping motions.
4. Always keep the hood sash as low as possible to perform operations and never above the indicated sash height except when loading / unloading large equipment.
5. Keep the hood sash completely closed when not actively manipulating materials inside the fume hood. This includes when you step away from the hood for a moment to obtain additional supplies.
6. Keep fume hoods clear of excess storage.
7. Large pieces of equipment must be elevated off the work surface so as not to block air flow. This can include feet present on the bottom of equipment or placing equipment on risers.
8. Remove all trash, chemicals, unnecessary tools or equipment from the hood upon completing work.
9. If you anticipate spills or splashes, use an appropriately-sized absorbent pad / lab paper under your work area. This material can later be disposed of as solid chemical waste.
10. Decontaminate the hood surface if a spill or splash occurred during work procedures.

EMERGENCY PRE-PLANNING

Should a spill occur inside the fume hood, close the sash to contain the spill. Should a spill occur outside the fume hood, the hood sash may be opened to assist in exhausting chemical fumes.

If the spill meets the criteria for EHS response as outlined in Section A17.7 or Appendix AC of the University Laboratory Safety Manual, evacuate the area and call EHS at 742-3876.

REFERENCES

Section A17.7 (Chemical Spill Response) of the University Laboratory Safety Manual

Section A22.1 (Chemical Fume Hood Operating Procedures) of the University Laboratory Safety Manual

Appendix AC (Chemical Spill Response Flowchart) of the University Laboratory Safety Manual
AKNOWLEDGEMENT OF PROFICIENCY

The individuals below have been trained and are competent in completing the above procedure.

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