

Mitigation Strategy Checklist



Purchasing

- Select printers that meet the requirements of ANSI/CAN/UL 2904
- Require compliance with ANSI/CAN/UL 2904 in the bidding/purchasing process
- Consider integrated enclosures, direct exhaust lines, and filtration systems, only if these features have been verified to be effective
- Purchase the filament brand specified by the printer manufacturer
- Consider printers that use PLA filaments



Location

- Locate 3D printers away from heavy-traffic areas and building occupants in an isolated room away from classrooms and offices, with an operable door
- Place 3D printers in a well-ventilated space (that meets ventilation rates according to ASHRAE 62.1) with a well mixed outdoor air supply and returns that vent contaminants to the outside
- Keep 3D printers away from return air vents
- Consider locating 3D printers near operable windows
- Consider locating the 3D printer in a room with a fume hood or local exhaust installed or consider building a vented enclosure for the printer
- Ensure location has a sprinkler system (for fire safety concerns)



Operation

- Follow manufacturer instructions for material selection and base plate glue or tape application
- Set the nozzle and base plate temperatures at the lowest recommended settings that produce desired print quality
- Limit time spent observing the 3D printer while it is operational
- If you need to check it periodically, always wear protective safety glasses
- Consider operating the printer after hours when fewer people are present (only if the building's HVAC system is running)
- Due to risk of fire, do not leave operational 3D printers unattended
- Do not rely on standard protective dust masks, only commercial respirators approved by the National Institute for Occupational Safety and Health (NIOSH)
- Clean the 3D printer nozzle and build plate before each use
- Dust all surfaces around the printer frequently with a disposable wet cloth
- Vacuum floors, surfaces and furniture frequently with a vacuum with high efficiency particulate filtration (HEPA)
- Wash your hands, and students' hands, to avoid hand-to-mouth transfer of chemicals and particles, especially before eating

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