Safety Self-Inspection Checklist for Start-Ups

The designated safety officer for your company should periodically inspect the laboratory at least once a year. Use this checklist to document these inspections.

**Date:**

**Inspected by:**

**Signage and Documentation**

[ ] Yes [ ] No [ ] N/A **Emergency response guide not posted or completed**: The UMD Emergency Response Guide must be posted in each laboratory with accurate customized emergency contact information and immediate actions to take in the event of injuries, spills or fires defined in the "Additional Site Instructions" sections. Corrective Action(s): Post the Emergency Response Guide and complete the relevant "Additional Site Instructions" sections.

[ ] Yes [ ] No [ ] N/A **Current Chemical Hygiene Plan not available**: A Chemical Hygiene Plan is required for all laboratories that use hazardous chemicals. The Chemical Hygiene Plan must be reviewed annually and updated as needed. Corrective Action(s): Prepare or update laboratory Chemical Hygiene Plan.

[ ] Yes [ ] No [ ] N/A **Safety Data Sheets (SDS) are not available or accessible**: Safety data sheets (SDS) are required for chemicals, and they must be available and accessible to all workers. Access can be provided via paper copies or electronic copies. Corrective Action(s): Ensure SDS for chemicals used in the space are available and accessible.

[ ] Yes [ ] No [ ] N/A **Standard operating procedures (SOPs) are not available**: SOPs are required for work involving hazardous materials in the laboratory. SOPs must include a summary of the hazards, the controls needed to minimize exposures and safe handling/storage procedures. Corrective Action(s): Prepare SOPs for work involving hazardous materials and review procedures with lab members.

[ ] Yes [ ] No [ ] N/A **Personnel delinquent in required training or training records not documented**: All personnel must receive training appropriate to their work activities. Corrective Actions: Ensure that all personnel complete required training and that this training is documented.

**General Housekeeping**

[ ] Yes [ ] No [ ] N/A **General laboratory housekeeping is not satisfactory**: Maintaining a neat, clutter-free work area minimizes the risk of injuries and exposures. Clutter can lead to falls, chemical spills or can block emergency exits. Contamination on floors and work benches can cause exposures to hazardous materials. Corrective Action(s): General laboratory housekeeping must be actively maintained on a regular basis. This includes prompt clean-up of spills, prompt disposal of waste and proper storage of surplus chemicals, equipment, and supplies. Discuss this with your lab group.

[ ] Yes [ ] No [ ] N/A **Combustible materials not stored in orderly manner**: Combustible materials must be stored in an orderly manner. Ensure laboratory is free of surplus equipment, empty containers, and trash. Corrective Action(s): Remove surplus equipment, empty containers, trash and/or other clutter from laboratory.

[ ] Yes [ ] No [ ] N/A **Food, drinks, and/or food related items present in the laboratory**: Food and drinks cannot be consumed or stored in any laboratories where chemicals, radioisotopes, biological materials, or animals are present. Food related items (i.e., coffee pot, microwave) cannot be stored or used in any laboratories where chemicals, radioisotopes, biological materials, or animals are present. Corrective Action(s): Relocate food, drink, and food related items to an area outside of the laboratory.

[ ] Yes [ ] No [ ] N/A **Path of egress is obstructed**: A clear, unobstructed path of egress to exits must be maintained at to allow for rapid egress in the event of an emergency. Maintain 36 inches wide clearance for all aisles leading to exits. Corrective Action(s): Remove obstructions from paths of egress.

[ ] Yes [ ] No [ ] N/A **Laboratory doors are kept open**: Most laboratories are designed to be negative to surrounding areas to allow air to flow from areas of low hazard to areas of higher hazard. When a door to the laboratory is kept open, the negative pressure differential and desired containment are lost. Corrective Action(s): Close laboratory doors and discuss with lab group.

[ ] Yes [ ] No [ ] N/A **Materials for the use of safe hygiene not readily available**. The sinks in your laboratory should have adequate supplies for personnel to wash their hands frequently. This includes soap and paper towels. Ensure that all handwashing sinks have adequate water pressure and hot water. Corrective Actions: Restock and ensure handwashing locations are known by all members.

**Fire Safety and Emergency Systems**

[ ] Yes [ ] No [ ] N/A **Fire extinguisher obstructed**: To allow for immediate use, fire extinguishers must never be obstructed or obscured from view. Corrective Action(s): Remove obstruction so that fire extinguisher is accessible and visible.

[ ] Yes [ ] No [ ] N/A **Obstruction to sprinkler discharge**: To allow for proper water distribution, sprinklers must never be obstructed. Corrective Action(s): Remove obstruction.

[ ] Yes [ ] No [ ] N/A **Eyewash and/or emergency shower is obstructed**: The area around eyewashes and emergency showers and the path of travel to the devices must be free of obstructions at all times. Corrective Action(s): Remove obstructions from around the eyewash and/or emergency shower and discuss with group.

[ ] Yes [ ] No [ ] N/A **Eyewash not flushed weekly**: Flush the eyewash(es) weekly to ensure the eyewash is functioning properly, to clear the supply line of any sediment buildup and minimize microbial contamination due to stagnant water. Corrective Action(s): Flush eyewash(es) weekly and document. Discuss with lab group.

[ ] Yes [ ] No [ ] N/A **Eyewash station not functioning properly**: Proper maintenance and weekly testing is necessary to ensure the systems are functioning safety and properly. Corrective Actions: Test system. Request a repair through Facilities Management, if necessary.

**Personal Protective Equipment and Controls**

[ ] Yes [ ] No [ ] N/A **Proper PPE not available/worn**: Proper personal protective equipment (PPE) must be available and worn when working with hazardous materials, processes, and/or equipment. Corrective Action(s): Ensure proper PPE is available and worn. Discuss requirements with personnel.

[ ] Yes [ ] No [ ] N/A **PPE does not properly fit or employee cannot properly don, doff, adjust or wear PPE**: Employee shall select PPE that properly fits and be properly trained on how to don, doff, adjust and wear PPE. Corrective Actions: Train personnel required to use PPE.

[ ] Yes [ ] No [ ] N/A **Damaged PPE**: PPE should be inspected routinely to identify if it is in good condition. Damaged PPE should be taken out of service immediately. Corrective Action(s): Replace damaged PPE.

[ ] Yes [ ] No [ ] N/A **Fume hood or alarm not functioning properly**: The fume hood is not functioning properly and may not be providing adequate protection from chemical vapors. Corrective Action(s): Cease use of fume hood and submit a work order to Facilities Management at 301.405.2222 or https://www.facilities.umd.edu for repair.

[ ] Yes [ ] No [ ] N/A **Fume hood used for storage**: Chemical fume hoods must not be used for storage of chemicals, equipment, or other materials. Excessive storage in a fume hood can disrupt the airflow and reduce the protection the hood provides. Corrective Action(s): Remove all chemicals, equipment or materials from the fume hood that are not presently being used.

[ ] Yes [ ] No [ ] N/A **Guards removed from mechanical equipment**: Mechanical guards removed. Guards on mechanical equipment isolate the hazards associated with moving parts. Reaffix any manufacturer provided guards. Corrective Action(s): Reaffix guards to mechanical equipment.

[ ] Yes [ ] No [ ] N/A **Loose clothing and unsecured long hair not prohibited from mechanical equipment with moving parts**: Loose clothing and unsecured long hair may get caught in the moving parts and cause injury or death. Corrective Action(s): Discuss with affected personnel.

**Electrical Hazards**

[ ] Yes [ ] No [ ] N/A **Access to electrical panel is obstructed**: Maintain 36 inches of clearance in front of electrical panels. Corrective Action(s): Remove obstructions from in front of electrical panel.

[ ] Yes [ ] No [ ] N/A **Extension cords or power strips are not plugged directly into receptacles**: Extension cords must be plugged directly into electrical receptacles. Connecting extension cords in series increases the electrical resistance and heat generation, which can lead to equipment damage or fire. Extension cords can be used only for immediate or temporary use (less than 90 days.) Corrective Action(s): Relocate equipment so that it can be plugged directly into a receptacle, or for temporary use, so that only one extension cord is needed.

[ ] Yes [ ] No [ ] N/A **Extension cords being used as permanent wiring**: Extension cords can be used only for immediate or temporary use. (Less than 90 days.) Relocate equipment so that it can be plugged directly into a receptacle. If this is not possible, contact Facilities Management to request the installation of additional receptacles. Corrective Action(s): If additional receptacles are needed, submit a work order to Facilities Management at 301.405.2222 or https://www.facilities.umd.edu.

[ ] Yes [ ] No [ ] N/A **Electrical cord subject to damage or poses a trip hazard**: Electrical cords shall not be affixed to structures; extend through walls, ceilings, or floors, or under doors or floor coverings; or be subject to environmental or physical damage. Cords/cables must be protected when they cross aisles to avoid tripping hazards and prevent damage to the cords or cables. Corrective Action(s): Reconfigure cords and/or use a cable bridge.

[ ] Yes [ ] No [ ] N/A **Electrical cords/plugs are frayed or damaged**: Electrical cords and plugs on appliances and equipment must be maintained in good condition to minimize the risk of shock or fire. Corrective Action(s): If the equipment is hard-wired, submit a work order to repair electrical cord to Facilities Management at 301.405.2222 or https://www.facilities.umd.edu. If the equipment is plugged into a receptacle, contact the manufacturer or authorized service dealer for repair.

**Chemicals**

[ ] Yes [ ] No [ ] N/A **Inappropriate chemical storage configuration or location**: Chemicals should be stored in accordance with guidance from their SDS, which may have requirements related to light, temperature, and humidity. Appropriate storage locations should be in a safe and secure location that does not generate a hazard to workers. Hazardous chemicals should be stored below eye level. All hazardous liquid chemicals should be stored in secondary containment bins. Chemical storage shelves should not be overcrowded. Chemicals should not be stacked or stored on their sides. Corrective Actions: Move chemicals to appropriate storage location or adjust storage configuration to prevent hazardous conditions.

[ ] Yes [ ] No [ ] N/A **Incompatible chemical storage**: Physically separate chemicals by hazard class (flammable liquids, acids, bases, oxidizers, water reactive, air reactive). Corrective Action(s): Separate incompatible chemicals.

[ ] Yes [ ] No [ ] N/A **Chemical containers in bad condition**: Chemical containers must be in good condition (not misshapen, broken or degraded) to minimize the risk of a spill and labels must be clear to allow for identification of the contents. Corrective Action(s): Transfer to an appropriate secondary container.

[ ] Yes [ ] No [ ] N/A **Inappropriate container used for chemical storage**: Ensure chemicals are stored in compatible containers meant for chemical use. Some chemicals react with or degrade certain container materials. (e.g., hydrofluoric acid dissolves glass). Food containers are not acceptable. Corrective Action(s): Transfer chemical or waste to appropriate container.

[ ] Yes [ ] No [ ] N/A **Chemical containers open when not in use**: All chemical containers must have a proper cap, lid or cover and remain closed when not in use. Parafilm or foil lids are not adequate for storage. Corrective Action(s): Close containers.

[ ] Yes [ ] No [ ] N/A **Unlabeled/improperly labeled chemicals**: All chemical containers must be labeled in compliance with company Chemical Hygiene Plan labeling requirements. Corrective Action(s): Properly label chemical containers.

[ ] Yes [ ] No [ ] N/A **Chemical spill kit not available**: A chemical spill kit must be available in laboratories where chemicals are used and stored. The spill kit must contain appropriate absorbent materials, PPE and disposal bags. Corrective Action(s): Purchase a chemical spill kit.

[ ] Yes [ ] No [ ] N/A **Chemicals not used in accordance with SDS**: Handling of chemicals must conform to the manufacturers' recommendations and safety data sheet (SDS). Corrective Action(s): Use chemicals in accordance with SDS.

[ ] Yes [ ] No [ ] N/A **Improper storage of flammable liquids**: Flammable liquids must be stored in approved safety cans or flammable liquid storage cabinets. Flammable liquid storage cabinets must meet the requirements of NFPA 30. Corrective Action(s): Relocate flammable liquids to a flammable liquids cabinet or transfer to a safety can.

[ ] Yes [ ] No [ ] N/A **Class 1 flammable liquids not stored in approved refrigerator/freezer**: The storage of Class 1 flammable liquids in non-approved refrigerator/freezer presents a fire risk and is prohibited. Store flammable liquids only in a refrigerator or freezer designed and approved for flammable material storage. Flammable material refrigerators and freezers are designed to prevent the ignition of flammable vapors inside the storage compartment. Corrective Action(s): Relocate the flammable liquids to a refrigerator/freezer designed and approved for flammable liquids.

[ ] Yes [ ] No [ ] N/A **Flammable liquids storage cabinet door kept open**: Flammable liquids storage cabinet doors must be kept closed to afford proper fire protection. Corrective Action(s): Keep flammable liquids storage cabinet doors closed and latched when not in use. Discuss with lab group.

**Compressed Gases**

[ ] Yes [ ] No [ ] N/A **Compressed gas cylinders not stored appropriately**: Store compressed gas cylinders in an upright position. Do not store compressed gas cylinders on their side. Gas cylinders should be strapped or chained to a wall or secure fixture at a height of 1/2 to 2/3 of the cylinder height. Corrective Action(s): Properly secure all compressed gas cylinders in an upright position. If a cylinder is not in use, it must be capped.

[ ] Yes [ ] No [ ] N/A **Incompatible compressed gas storage**: Incompatible gases must be segregated in one of the following ways: store cylinders at least 20 feet apart, store cylinders in separate rooms or separate cylinders with a 30-minute fire-rated barrier. Corrective Action(s): Segregate incompatible compressed gas cylinders.

[ ] Yes [ ] No [ ] N/A **Unlabeled gas cylinders**: All gas cylinders must be labeled with the full chemical name and the appropriate hazard warning. Hazard warning information can be found in the Safety Data Sheet. Corrective Action(s): Properly label gas cylinders.

**Hazardous Waste**

[ ] Yes [ ] No [ ] N/A **Hazardous waste container(s) open**: Hazardous waste containers must be capped and closed at all times, except when adding or removing waste from the container. The practice of leaving a funnel in a waste container and venting open containers in fume hoods is not acceptable. Corrective Action(s): Close all waste containers.

[ ] Yes [ ] No [ ] N/A **Hazardous waste container(s) unlabeled or improperly labeled**: Hazardous waste tags must be properly filled out with the constituents and percentages of the constituents present in the container. The chemical constituents listed on the tags must be written using full chemical names. Chemical abbreviations or chemical formulas are not permissible. Corrective Action(s): Properly label waste containers.

[ ] Yes [ ] No [ ] N/A **Hazardous waste not in secondary containment**: All liquid waste must be in secondary containment. Incompatible waste must be placed in separate secondary containment bins. Corrective Action(s): Place waste in secondary containment.

[ ] Yes [ ] No [ ] N/A **Incompatible hazardous waste not segregated**: Incompatible hazardous waste must be segregated into separate secondary containment bins. Corrective Action(s): Properly segregate waste.

**Additional Notes:**