Chemical Management Plan (CMP)

Introduction

The Chemical Management Plan (CMP) is designed to provide a comprehensive approach to the safe handling, storage, use, and disposal of chemicals at Bowie State University. Its purpose is to ensure that the university complies with all relevant federal, state, and local regulations, particularly those set forth by OSHA (Occupational Safety and Health Administration), EPA (Environmental Protection Agency), and other regulatory bodies. The CMP aims to minimize the risk of exposure to hazardous chemicals, prevent chemical accidents or spills, and protect the health and safety of staff, students, and the environment.

The CMP will be reviewed annually and updated as needed to reflect changes in regulations, campus activities, and emerging hazards.

Roles and Responsibilities

Safety and Environmental Compliance Coordinator:

- **Oversight of Chemical Safety**: The Safety and Environmental Compliance Coordinator (SECC) is responsible for the overall implementation and maintenance of the CMP.
- **Routine Inspections**: Conduct regular inspections of chemical storage, handling, and disposal areas to ensure compliance with safety standards.
- **Regulatory Liaison**: Serve as the point of contact for federal and state regulatory agencies, responding to inspections and requests for information.
- **Record Keeping**: Maintain and update chemical inventories, SDS (Safety Data Sheets), waste disposal records, and training logs.
- **Training Programs**: Develop, organize, and conduct chemical safety training programs for faculty, staff, and students.

Laboratories/Departments:

- **Compliance with CMP**: Departments must ensure that all personnel adhere to the guidelines set forth in the CMP.
- **Chemical Inventory Management**: Ensure that all chemicals are accounted for, including purchasing, use, and disposal records.
- **Hazardous Materials Identification**: Responsible for identifying, labeling, and properly storing hazardous materials.

Employees and Students:

- **Chemical Handling**: Follow safe handling procedures when working with chemicals, including the proper use of personal protective equipment (PPE).

- **Accident Reporting**: Promptly report any chemical spills, accidents, or unsafe conditions to the SECC or the designated safety officer.
- **Training Participation**: Participate in required training sessions on chemical safety and emergency procedures.

Chemical Inventory

An accurate and up-to-date inventory of all chemicals used and stored on campus is essential for ensuring chemical safety, regulatory compliance, and emergency preparedness.

- **Chemical Identification**: Include the full chemical name, common names, and any relevant synonyms. Hazard symbols and classification (flammable, carcinogenic, corrosive, etc.) must be documented.
- **Location**: Record the location of each chemical, specifying the building, room, and storage area (e.g., chemical storage room, laboratory).
- **Inventory System**: Utilize an electronic chemical inventory management system to track the quantity of chemicals on hand, as well as their usage and disposal. This system should be regularly updated to ensure accuracy.
- **SDS Availability**: For each chemical in the inventory, ensure that a corresponding Safety Data Sheet (SDS) is easily accessible. SDS should be stored electronically and available in hard copy in designated safety areas.

Key Action: Review and update the inventory annually or when significant chemical purchases are made, ensuring that expired or unused chemicals are properly disposed of.

Safety Data Sheets (SDS)

SDS are critical documents that provide detailed information on the chemical's properties, health and environmental hazards, safe handling procedures, and emergency response measures.

- **Accessibility**: SDS must be available at all times to all staff and students handling chemicals. This can be achieved by maintaining an electronic database accessible via the university's intranet and ensuring hard copies are available in areas where chemicals are used.
- **SDS Content**: Each SDS must include the following sections:
    - Chemical Identification
    - Hazard Identification
    - Composition/Information on Ingredients
    - First-aid Measures
    - Fire-fighting Measures
    - Accidental Release Measures
    - Handling and Storage
    - Exposure Controls/Personal Protection

    - Physical and Chemical Properties
    - Stability and Reactivity
    - Toxicological Information
    - Ecological Information (if applicable)
    - Disposal Considerations
- **SDS Review**: Ensure that SDS are reviewed for accuracy, especially when new chemicals are introduced or regulations change. The SECC should be responsible for ensuring that SDS are current and properly stored.

Chemical Purchasing and Receiving

To ensure that chemicals are purchased from reputable sources and handled appropriately upon arrival:

- **Authorized Purchasing**: Only authorized personnel should make chemical purchases to ensure that chemicals meet safety and regulatory standards. All purchases should be made through approved vendors who comply with safety standards.
- **Receiving and Inspection**: Upon receipt, chemicals should be inspected for damage, correct labeling, and the inclusion of the SDS. The receiving department should verify that chemicals match the order form and ensure that all shipping and handling instructions are followed.
- **Handling of Damaged Containers**: If any chemical containers are damaged during shipment, they must be reported immediately to the SECC for proper assessment, quarantine, and disposal.

Key Action: Establish a chemical receiving checklist for all incoming chemicals to ensure compliance with purchasing standards and safe handling upon arrival.

Chemical Storage

Safe chemical storage is crucial for preventing accidents and maintaining a safe environment.

- **Incompatible Chemicals**: Store incompatible chemicals in separate areas to avoid potentially dangerous reactions. For example, acids and bases should not be stored together, nor should oxidizers be near flammable chemicals.
- **Ventilation**: Chemical storage areas must have proper ventilation to minimize the risk of hazardous fumes accumulating. For volatile chemicals, fume hoods or other ventilation systems should be used.
- **Temperature and Humidity Control**: Some chemicals may require specific temperature or humidity conditions for safe storage. Ensure that storage areas maintain appropriate environmental controls (e.g., refrigeration for temperature-sensitive chemicals).

- **Labeling**: All containers, shelves, and storage areas should be clearly labeled with the chemical name, hazard symbols, and any special handling instructions.
- **Secondary Containment**: Store chemicals in secondary containment containers or trays to prevent spills from spreading. Secondary containment is especially important for liquid chemicals that could spill or leak.

Key Action: Perform routine audits of chemical storage areas to ensure compliance with labeling, temperature control, and proper segregation of incompatible chemicals.

Chemical Handling and Usage

Ensuring safe practices during chemical handling and usage is vital for protecting health and preventing accidents.

- **Personal Protective Equipment (PPE)**: Ensure that all personnel using chemicals are equipped with appropriate PPE, such as gloves, goggles, lab coats, and respirators. The selection of PPE should depend on the chemical's hazard classification.
- **Proper Techniques**: Train all personnel in safe handling techniques, such as using chemical fume hoods when working with volatile chemicals, and avoid eating or drinking in areas where chemicals are used.
- **Chemical Dispensing**: Use proper techniques and equipment when dispensing chemicals to avoid spills or exposure. Always check labels and SDS for any special precautions required during use.
- **Exposure Monitoring**: For chemicals with known health risks, use appropriate exposure monitoring equipment (e.g., air sampling devices) to ensure that personnel are not exposed to hazardous levels.

Key Action: Conduct periodic refresher training for chemical handling and usage to ensure personnel are up to date on safety protocols.

Waste Disposal

Chemical waste must be handled and disposed of in compliance with all applicable environmental regulations.

- **Waste Categorization**: Identify and categorize chemical waste according to its characteristics (e.g., hazardous, non-hazardous, recyclable). Separate different types of waste to prevent dangerous reactions.
- **Labeling**: Waste containers must be labeled with the chemical name, hazard symbols, accumulation start date, and specific disposal instructions.

- **Collection and Storage**: Collect waste in sealed containers that are compatible with the chemical contents. Store waste in designated, secure areas away from active laboratories and chemical storage areas.
- **Disposal Coordination**: Partner with a licensed hazardous waste disposal contractor to ensure proper disposal of chemicals. Keep records of waste disposal including quantities, types, and final disposition.

Key Action: Conduct regular waste disposal audits to ensure compliance with environmental laws and university policies.

Training and Education

Ongoing education and training are critical for maintaining a safe working environment.

- **Initial Training**: All personnel who handle chemicals must receive initial training on safe chemical handling, the use of PPE, emergency procedures, and the interpretation of SDS.
- **Annual Refresher Training**: Provide annual training updates to ensure staff and students are familiar with new chemicals, regulations, or updated safety protocols.
- **Specialized Training**: Offer specialized training for personnel working with particularly hazardous materials, such as carcinogens, flammable liquids, or radioactive substances.

Key Action: Keep detailed records of all training sessions, including attendance, topics covered, and materials used.

Emergency Response

Preparedness for chemical emergencies is critical to minimize the impact of incidents.

- **Spill Response**: Develop spill response protocols based on the chemicals used on campus. Ensure that spill kits, neutralizers, and other response equipment are available and accessible.
- **First-Aid Measures**: Ensure that first-aid kits and eyewash stations are available near chemical storage and use areas. Train personnel on how to administer first aid in case of exposure.
- **Evacuation Plans**: Establish clear evacuation routes and procedures in case of chemical emergencies. Ensure all personnel know the nearest exit points and safe assembly areas.
- **Emergency Contacts**: Maintain an up-to-date list of emergency contacts, including local fire departments, poison control, and emergency response teams.

Key Action: Conduct annual emergency response drills involving chemical spills or exposure scenarios to ensure preparedness.

Inspections and Audits

Regular inspections help identify potential safety hazards and ensure compliance with the CMP.

- **Routine Inspections**: Inspect chemical storage areas, laboratories, and waste disposal sites for compliance with safety standards. Check for proper labeling, chemical segregation, and storage conditions.
- **Audit and Reporting**: Conduct periodic audits of chemical inventories and usage logs. Report discrepancies or issues immediately to the SECC for corrective action.
- **Regulatory Inspections**: Prepare for inspections by regulatory agencies, ensuring all necessary documentation is readily available and compliance is maintained.

Key Action: Keep records of all inspections, noting any deficiencies and the corrective actions taken.

Regulatory Compliance

Stay informed and up-to-date with applicable chemical safety regulations.

- **Legislation Monitoring**: Regularly review changes to OSHA, EPA, and other regulatory guidelines that may affect chemical management.
- **Documentation**: Maintain complete records of compliance activities, including chemical purchases, SDS, waste disposal, and training logs. These records should be available for inspection by regulatory agencies.
- **Report Submissions**: Ensure timely and accurate submission of reports to relevant agencies as required, such as chemical inventory reports or hazardous waste disposal records.

Key Action: Subscribe to regulatory updates and attend conferences or workshops to stay current on chemical safety requirements.

*By following this comprehensive Chemical Management Plan, Bowie State University can ensure a safe and compliant environment for all individuals who work with chemicals. The university is committed to protecting its staff, students, and the environment by upholding the highest standards of chemical safety and adhering to all regulatory requirements.