Chemical Hygiene Plan

ARKANSAS STATE UNIVERSITY
CHEMICAL HYGIENE PLAN
Purpose and Scope: The purpose of the program outlined in this plan is to set forth procedures, engineering
controls, personal protective equipment (PPE) and work practices that are capable of protecting all employees
from recognized hazards posed by hazardous chemicals used within the facility. This plan covers all faculty,
staff and students (collectively referred to as employees) that work within the facility.
General Principles: Minimize all chemical exposures. Avoid underestimation of risk posed by hazardous
chemicals. Provide adequate ventilation using engineering controls. Observe Permitted Exposure Limits (PELs)
and Threshold Limit Values (TLVs) where these are prescribed. Comply with appropriate Chemical Hazard
Protocol(s).
Chemical Hygiene Responsibilities:
- EHS Director : Develop and implement appropriate chemical hygiene policies and practices. Promulgate
current legal requirements concerning regulated substances. Determine the required levels of protective
apparel and equipment. Review/ update the Chemical Hygiene Plan annually. Respond to researcher
queries regarding new procedures/ chemicals. Monitor new procedures and determine appropriate
employee protection. Ensure employee exposures do not exceed PELs. Monitor exposure if there is
suspicion of levels of exposure in excess of action level or PEL (available on the MSDS for the
substance) for a given substance. Notify employee of monitoring results within 5 working days or
receipt. Establish and maintain for each employee an accurate record of any measurements taken to
monitor exposure or of any medical consultation or examination given as a result of exposure. Ensure
that the records are available to that employee. If initial monitoring indicates levels in excess of OSHA
PEL, then work with that substance must stop until such time that measures are taken (through
engineering controls or work practices) to reduce employee exposure level below the PEL for that
substance. Additional monitoring must be done after the new measures to show that employee exposure
level is then below the PEL before work with substance can resume.. Provide chemical hygiene training
to all new employees and students per 40CFR1910.1450(f)(2).
- Facility Manager: Monitor procurement, use and disposal of chemicals used in the lab. Ensure

that
facilities and training for any material being ordered are adequate. Perform regular, formal chemical
hygiene and housekeeping inspections including routine inspections of emergency equipment.
- Faculty/Supervisors: Ensure that the staff and students know and follow the chemical hygiene rules and
project-specific protocols, that PPE is available and in working order, that staff and students know the
location of the chemical hygiene plan and where to find a SDS for the substances with which they may
come into contact, and that appropriate training has been provided. Keep a copy of all SDSs that are
shipped with the substance from the supplier. Provide an inventory of all hazardous chemicals to EHS
annually before June 15. Check chemical fume hood for proper operation monthly; request annual hood
certification by Arkansas State University EHS
- Staff/Students: Plan and conduct each operation in accordance with the chemical hygiene program and
project-specific protocols. Develop and maintain good personal chemical hygiene habits. Review the
SDS of a chemical before working with it. Never remove or deface the label on a container containing a
hazardous substance.

The Laboratory Facility: Each laboratory should be equipped with a fire extinguisher, chemical fume hood,
emergency eyewash and drench shower where appropriate as determined by the EHS Director. All work
conducted and the scale of the work must be appropriate to the physical facilities available. A minimum of 6
room air changes per hour is required. The EHS Director, or his designee, shall certify chemical fume hoods
annually to ensure a minimum face velocity of 100 lfpm. Hoods shall be used as work areas, not storage areas.

Storage of chemicals should reflect compatibility and common sense. Access to exits, emergency equipment
and utility controls shall never be blocked.

Chemical Hygiene Rules:

- Avoid “routine” exposure. Do not smell or taste chemicals. Use a hood if the TLV (available on the
SDS) of a substance is <50 ppm.
- Do not apply cosmetics, eat, drink, smoke or chew in laboratories. Do not store or handle food or beverages in laboratories.
- Use appropriate PPE. At a minimum, all persons, including visitors, when in a laboratory in which chemicals are in use or a chemical process is in progress, shall wear eye or face protection.
- Avoid inappropriate apparel (loose clothing, sandals, etc.) horseplay and pipeting by mouth.
- Do not work alone in the building; do not work alone in the laboratory if the procedures being

conducted
are hazardous. Post an appropriate sign on the door and leave the lights on whenever an ongoing operation is left unattended.
- Deposit hazardous waste in and appropriately labeled, closed container; waste characterization, label and
container are provided by the EHS Director or his designee. Do not discharge hazardous waste to the
sewer.
- In the event of a spill, the priority of actions shall be: personnel decontamination, spill containment,
cleanup.
- Keep laboratories clean and uncluttered. Label all containers containing chemicals.
- If a substance is produced in the lab for use outside of the lab by another user, then the facility manager
must comply with the Hazard Communication standard (29CFR1910.1200) for that substance.
- Particularly Hazardous Substances (carcinogens, reproductive toxins and acute toxins) shall be handled
per specific protocols approved by the EHS Director.
- All manipulation of free nanoparticles MUST be performed in a HEPA-filtered bag in/out chemical fume hood, exhausted glove box, biological safety cabinet or an exhausted enclosure specifically designed for handling nanoparticles. Contamination of the exhaust system must be avoided in order to
protect maintenance personnel; a bag in/out HEPA filter MUST be in place between the work enclosure
and the building’s ductwork.

Training: All employees shall be trained to the standards required by 29CFR1910.1450(f)(4), which includes:
- Methods and observations that may be used to detect the presence or release of a hazardous chemical
(such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or
odor of hazardous chemicals when being released, etc.). The physical and health hazards of chemicals in
the work area. The measures employees can take to protect themselves from these hazards, including
specific procedures the employer has implemented to protect employees from exposure to hazardous
chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

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