

ENVIRONMENTAL HEALTH & SAFETY

PFW EHS

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HAZARD COMMUNICATION AWARENESS TRAINING

Your Right To Know

PURDUE
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FORT WAYNE

WHY IS THIS TRAINING REQUIRED?

Working with hazardous materials may not be a regular part of your job. However, it is essential that you have basic information about hazardous materials because you may encounter them when they are used in your work area or if you enter areas where they are in use.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

Purdue Fort Wayne follows the requirements of OSHA's Hazard Communication Standard.

This standard ensures that all chemical hazards are evaluated and this information is disseminated to employees by: safety data sheets, labels, and employee training

Major requirements of OSHA's Hazard Communication Standard:

- Identification of chemical hazards by manufacturers and importers
- Development of written program describing an institution's compliance strategy
- All hazardous chemicals are labeled or other form of warning provided
- SDSs are available for hazardous chemicals
- Training is provided to employees handling hazardous chemicals



OVERVIEW

- Hazardous materials, which include chemical, biological, and radiological agents, are routinely handled in campus research laboratories.
- Hazardous chemicals are handled in most areas on campus.
- Individuals handling hazardous materials must understand the risks posed by these materials as well as how to protect themselves from hazards.
- While not mandated by OSHA, safety education for office and home office settings is also important.








CHEMICAL HAZARD COMMUNICATION

- Chemicals and chemical products are the most common hazards on campus.
- Hazardous chemicals include laboratory reagents, solvents, cleaners, glues, fuel, and other flammable/combustible liquids.
- A chemical is considered hazardous if it possesses one or more health or physical hazard characteristics
- Two types of chemical health effects:
 - Acute health effects- develop immediately when exposure occurs
 - Chronic health effects- develop slowly and may worsen over time (months or years following the exposure)

| Hazardous Characteristics and Effects of Chemicals | |
|--|--------------------------------------|
| Physical Hazards | Health Hazards |
| Explosive | Toxic |
| Reactive | Carcinogenic |
| Flammable | Mutagenic |
| Oxidizer | Corrosive/Irritant to tissues |
| Cryogenic Liquid | Sensitizer |
| Gas Under Pressure | Asphyxiant |
| Corrosive to Metal | Aspiration Hazard |

TYPES OF HAZARDS

The tables below show the most common health and physical hazard characteristics and the pictograms associated with them.

| Physical Hazards | | |
|---|----------------|--------------------------------|
| Icon | GHS class | Signal Words |
|  | Explosive | <i>Danger or Warning</i> |
|  | Oxidizer | <i>Danger or Warning</i> |
|  | Flammable | <i>Danger or Warning</i> |
|  | Corrosive | <i>Warning only (physical)</i> |
|  | Compressed Gas | <i>Warning only</i> |

| Health Hazards | | |
|---|---------------|-----------------------------|
| Icon | GHS class | Signal Words |
|  | Corrosive | <i>Danger only (health)</i> |
|  | Toxic | <i>Danger only</i> |
|  | Health Hazard | <i>Danger or Warning</i> |
|  | Irritant | <i>Warning only</i> |
|  | Environmental | <i>Warning only</i> |

ROUTES OF ENTRY

- In order for a chemical to cause harm, it must gain entry into the body.
- The most common ways for chemical exposure to occur in an occupational setting are **inhaling** an airborne chemical and the **absorption** of a chemical through the skin.
- Less common routes of exposure are inadvertent **ingestion** of a chemical and **skin punctures** with a contaminated object.
- We typically protect ourselves from chemical exposure by handling chemicals in areas with adequate ventilation and wearing protective gloves.



SYMPTOMS OF OVER-EXPOSURE

Symptoms of over-exposure vary by chemical but common signs of chemical over-exposure include:

- Dizziness or light-headedness
- Difficulty breathing, coughing or wheezing
- Tearing eyes or runny nose
- Nausea
- Skin reddening, irritation or blistering



If chemicals are in use in your area and you develop signs or symptoms of chemical over-exposure, immediately contact your supervisor or EHS to initiate an investigation.

ODOR IS NOT A GOOD INDICATOR OF EXPOSURE!



The odor threshold of chemicals varies widely.

- Some chemicals have a very low odor threshold. Their presence can be detected even when very little of the chemical is actually present- well below the level of causing adverse health effects.
- Other chemicals cannot be detected in the air even when toxic levels are present.

DO NOT RELY ON ODOR DETECTION TO DETERMINE THE SAFETY OF AN ENVIRONMENT!

CHEMICAL CONTAMINATION

If you become contaminated or splashed with a hazardous chemical:

- Immediately strip off contaminated clothing and personal protective equipment
- Flush the contaminated body area with large amounts of water
- Wash the affected area with soap and water
- Inform your supervisor

If you feel you have inhaled a hazardous chemical, you should:

- Secure the chemical
- Immediately remove yourself to fresh air
- Inform your supervisor
- Obtain medical attention if necessary.



WORKING WITH HAZARDOUS CHEMICALS

Everyone who handles a hazardous chemical must know the appropriate safeguards to follow, including:

- How to properly store and handle the material
- Personal protective equipment (PPE) to wear



If you handle hazardous chemicals while performing your job, your supervisor will review the proper handling and storage requirements as well as appropriate personal protective equipment.

SAFETY DATA SHEETS (SDSs) & LABELS

Safety Data Sheets (SDSs) are health and safety documents created by a chemical manufacturer or distributor that contain pertinent information about a given chemical, including handling and storage requirements. This information may also be on the label of hazardous chemicals.

Hazardous chemical labels should always contain:

- Chemical or product name
- Hazardous properties
- Manufacturer's name
- Hazardous property pictograms

The Safety Data Sheet is the **best** source for information about a chemical's hazardous properties, appropriate storage and handling practices, and how to respond to exposure or emergency situations.

An SDS must be available for each hazardous chemical on site and the chemical name on the product label must match the name on the SDS.



ENTERING LABORATORIES, CLINICAL AREAS, OR SHOPS

Some employees who work in office settings must occasionally enter research laboratories, clinical areas, or shops.

When entering these spaces, employees must know how to conduct themselves in order to avoid injury as well as to avoid exposure to or contamination from hazardous materials that may be present.

In the case of patient care areas, employees must avoid exposing others to illnesses they may harbor.

LABORATORIES



When entering a laboratory or other research space, it is important that you and the objects you are carrying do not touch or contact contaminated surfaces or objects.

Follow laboratory procedures:

- Long pants/skirt and closed toed shoes must be worn at all time
- Safety glasses may be required
- Do not touch any containers
- Do not touch any equipment labeled as radioactive or biohazardous
- Do not touch or place anything on the benchtop
- Do not place anything in a chemical fume hood or biological safety cabinet
- Do not use sinks



When entering laboratory spaces, introduce yourself to lab staff, explain why you are there, and learn about the hazards present in the lab. Try not to startle anyone working in the lab.

CLINICS

When entering clinical areas, be mindful that patients may be present. Infection control and patient privacy are extremely important.

Follow procedures when entering clinical spaces:

- Wash hands before entering clinical spaces
- Do not sneeze/cough into hands
- Do not enter space if you are sick
- Cover all unhealed cuts or abrasions
- Only enter patient care areas when patients are not present
- Patient information is confidential and should not be viewed
- Avoid touching waste containers or equipment labeled as biohazardous unless wearing gloves
- If you wear gloves, remove and dispose of them before leaving the area and wash your hands
- Do not touch or move chemical waste



SHOPS

When entering shops, be aware that specialized power equipment may be in use.

Follow procedures when entering shops:

- wear safety glasses
- do not wear shorts, loose clothing, or open-toed shoes
- do not operate any of the equipment
- do not startle or approach anyone operating equipment- wait until they have completed their task



HOME & OFFICE SAFETY

Home-based work has become more common and many Purdue Fort Wayne employees work primarily in office settings. We strive to ensure, so far as is reasonably practicable, the health and safety of employees, regardless of work location. The following information provides tips and guidance for home and office working environments.

WORK ENVIRONMENT

- Illumination level and location should be suitable to your tasks. Lighting level should be sufficient to avoid eye strain.
- Natural and artificial light sources should not create glare on computer screens or working surfaces.
- Consider ventilation and thermal comfort.
- Keep walkways clear of clutter and trip hazards. (Avoid trailing electrical cords.)
- There should be no damaged flooring (uneven tiles, pulled up carpet).
- Do not overload power outlets.



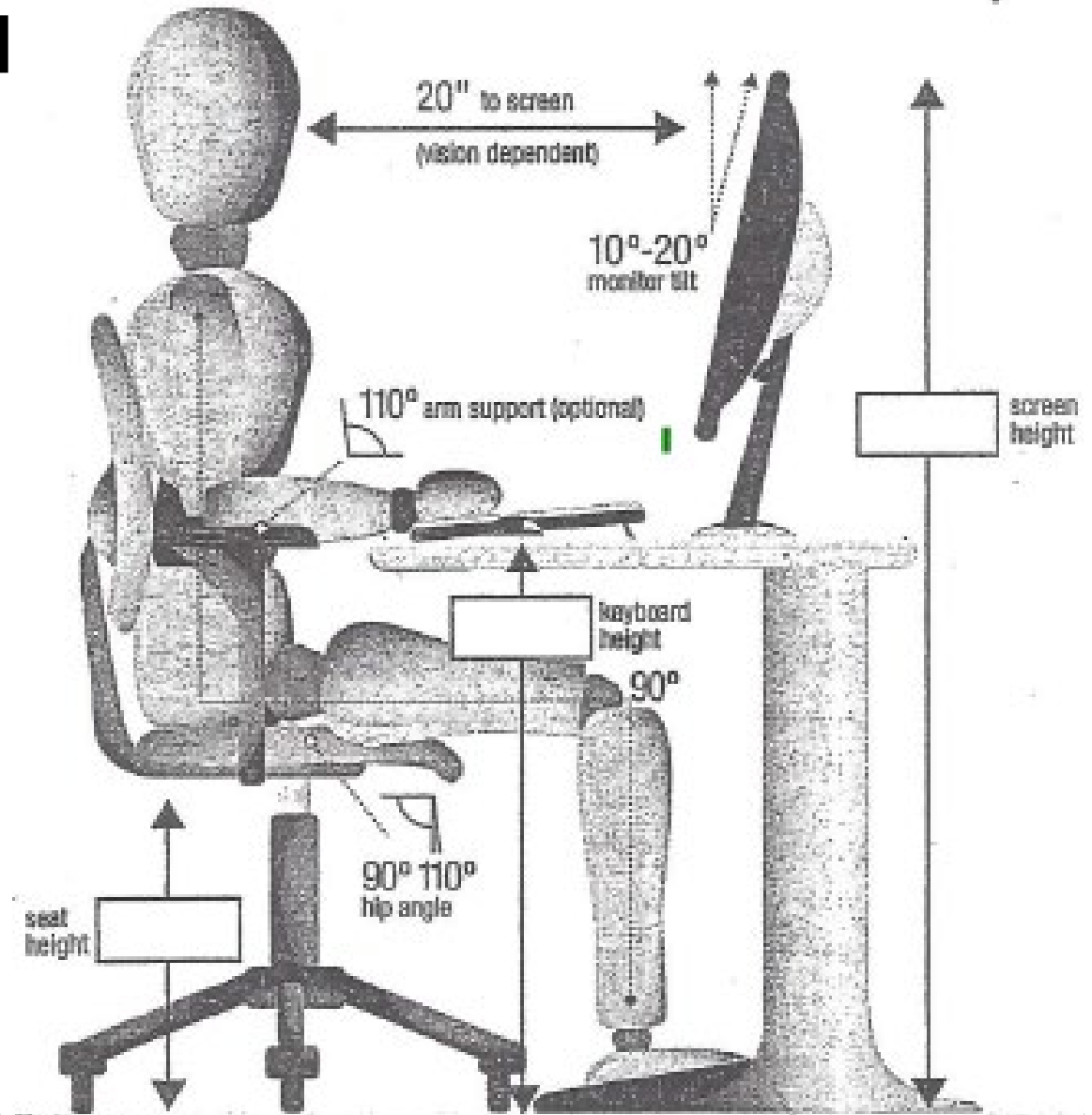
ERGONOMICS

- Location, height and other characteristics of furniture and computer/s should be suited to your task.
- Set up your workstation correctly.
 - Consult with Environmental Health & Safety if you have concerns about workstation configuration.
- Sitting posture is upright or slightly reclined, maintaining slight hollow in lower back.
- Make sure wrists are not resting on a hard surface while typing.
- Use your hand to hold the telephone receiver or wear a headset (no cradling).
- Take breaks every 30 minutes of keyboarding.
- Stand and stretch at least once per hour.



IDEAL WORKING POSITION

- Arms hanging relaxed from shoulders
- Elbows bent at 90° angle
- Hands in a straight line with forearms
- Head should be in line with the body
- Wrists straight or at slight downward angle while typing
- Knees bent at 90° angle
- Thighs parallel with floor
- Top 1/3 of monitor at eye level
- Monitors at comfortable distance to avoid eye strain



THANK YOU!

Hazard Communication Awareness Training presented by Environmental Health & Safety (EHS), formerly Radiological & Environmental Management (REM), at Purdue Fort Wayne!

If you have any questions or concerns after viewing this training, please feel free to contact EHS.

CONTACT US



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