

Biology Lab Safety Rules and Information

Health and safety are paramount values in science classrooms, laboratories and field activities. You are expected to learn, understand and comply with ACC environmental, health and safety procedures and agree to follow the ACC science safety policy. You are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be immediately dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities. Specific safety training will take place before most activities. If you are late and miss this training, you will not be able to participate in the activity. You can read the complete ACC science safety policy at: http://www2.austincc.edu/sci_safe/.

Emergencies

- If there is a fire, major chemical spill or other emergency call the ACC Police Dispatch as soon as possible. Tell the officer your campus and exact location in the building.
Location of nearest ACC phone: _____
ACC POLICE DISPATCH: 222 (from an ACC phone)
223-7999 (from a mobile or other phone)
- If evacuation is necessary, go to the designated rally point away from this building.
Directions to nearest exit: _____
Location of rally point: _____

Safety Equipment and Information:

- Information about chemicals used in this laboratory can be found in Material Safety Data Sheets (MSDSs) and in a chemical inventory located _____.
- The emergency gas shut-off for this lab is located: _____.
Shut off the gas immediately if gas nozzles or valves are damaged, or if there is a fire.
- Fire extinguishers are located: (1) _____.
(2) _____.
To use a fire extinguisher, pull the pin in the handle and squeeze the handle while pointing the nozzle at the base of the flame.
- Fire blankets are located: (1) _____.
(2) _____.
If you are on fire, stop, drop and roll. Let someone else to get the fire blanket.
- A safety shower is located _____.
If you spill a significant quantity of chemical, especially an acid or base on yourself immediately stand under the shower and pull the handle. Disrobe. The instructor will evacuate the room and close the doors for your privacy. Someone of your gender will stay to help you. Stand under the shower for at least 20 minutes. You will be given clothing after the shower.

- An eyewash is located _____.
If a chemical is splashed or rubbed into your eyes you must use an eyewash for at least 20 minutes with your eyes held open. Someone will help you with this.
 - If a person is experiencing electrical shock from touching wires or equipment, use a belt or other non-conducting material to pull them away from the electrical source.
 - First aid kits are located: (1) _____.
(2) _____.
- Only minor cuts and burns will be treated in the lab. Serious injuries must be treated in a medical facility. Emergency Medical Services (EMS) will be called if you are injured and are unable to take yourself to a medical facility.

Dress code and personal protective equipment (PPE)

- While in the lab you must wear closed-toed shoes.
- In lab activities involving chemicals, you must wear long pants or skirts (below the knee) or a lab apron/coat (provided).
- You must wear goggles or safety glasses marked ANSI Z87.1 when directed to do so by the lab instructor or lab safety instructions. You must bring your protective eyewear with you to every lab class. If you forget your eyewear and the lab room does not have a pair to loan to you, you will not be able to participate in the lab and may forfeit your lab grade for that day. ACC cannot guarantee that loaned safety glasses or safety goggles are uncontaminated by microbes or chemicals.
- Wearing contact lenses in the lab is strongly discouraged. Students wearing contact lenses must wear safety goggles instead of safety glasses.
- You must tie back any long hair in labs involving open flames.
- Gloves are provided and can be worn for any lab activity. Your instructor will inform you when gloves are required rather than optional.
- For your safety, we recommend that you:
 - avoid wearing loose clothing, especially long, loose sleeves.
 - wear natural fiber clothing because synthetic material melts onto skin in a fire.
 - remove watches, rings, and bracelets during lab activities involving chemicals.

Waste disposal

- For chemical wastes, there are (i) flammable, (ii) inorganic, and (iii) solid waste containers located _____.
- For other wastes, there are containers for
 - biohazards - located _____
 - glass - located _____
 - other trash - located _____
- You must precisely follow the waste disposal procedures. Never dispose of anything in lab without prior direction from the instructor.

Lab conduct

- DO NOT
 - horse around or perform unauthorized experiments.
 - eat, drink, or chew (tobacco or gum)
 - bring drinks or food (even in closed containers) into the lab.
 - pipet by mouth.
 - taste chemicals, or directly smell chemical fumes.
- You shall follow all procedures in manuals, in handouts, and as given by the instructor.
- You must store backpacks, coats, and other personal items (located _____). We recommend that you bring as few items to lab as possible.
- Report broken glass and chemical spills to your instructor immediately.

Lab hygiene

- You must clean up your individual work area/equipment and community work areas/equipment (e.g., sinks, balances).
- You must put lids back on bottles and containers immediately after use.
- Do not put excess chemicals back into original containers.
- Only dispose of chemicals and waste as directed by the instructor.
- Wash hands prior to leaving lab.
- Always assume the chemicals used in lab are corrosive or irritating. Any time chemicals come in contact with your skin, wash the affected area immediately.

Labeling

- You must label containers/test tubes if you are using more than one container per lab.
- Inform your instructor immediately if a label is damaged in any way.
- Read all labels and pay special attention to hazard information.

Disease

Blood-borne diseases, such as HIV and hepatitis, can be transmitted from person to person through contact with human blood. Follow the Universal Precautions whenever exposure to human body fluids is possible:

- Consider all body fluids (saliva, blood, urine, feces, vomit) as potentially infected.
- Do not touch or come into contact with anyone else's body fluids.

Chemical Hazard Labels

A typical chemical hazard label conveys two types of information: the type of hazard (flammable, toxic, reactive, or corrosive) and the level of hazard (see chart below). NFPA labels are in the form of a subdivided diamond with four colors. HMIS labels are in the form of colored horizontal bars. The type of hazard is represented by a color, and the level of the hazard is represented by a number.

1. Types of hazard - Each type of hazard is associated with a color:

red	fire hazard, flammability
blue	health hazard, toxicity
yellow	reactivity
white : NFPA diamond HMIS bar	other specific hazard (example: acid, corrosive) protective equipment (PPE)

2. Level of hazard - The numbers indicate the level of severity of the hazard:

0	minimal
1	slight
2	moderate
3	severe, serious
4	extreme

3. Here are two examples of hazard labels for Benedict's Solution:

HEALTH HAZARD

4 Deadly
3 Extreme danger
2 Hazardous
1 Slightly hazardous
0 Normal material

FIRE HAZARD

Flash Points
4 Below 73 F
3 Below 100 F
2 Below 200 F
1 Above 200F
0 Will not burn

SPECIFIC HAZARD

Oxidizer
Acid
Alkali
Corrosive
Use NO WATER
Radiation Hazard

REACTIVITY

4-May detonate
3-Shock and heat may detonate
2-Violent chemical change
1-Unstable if heated
0-Stable

HEALTH 2

FLAMMABILITY 0

REACTIVITY 0

PERSONAL PROTECTION C

PPE code letter C means safety glasses, gloves and an apron

Other types of hazard warning labels:

- biohazard
- radioactivity

