

Survey to measure the impact of Laboratory Safety Training on the Culture of Safety

Instructions: This survey is intended to measure the impact of research laboratory safety training on the culture of safety in the laboratory. The survey is administered anonymously to allow you to answer freely and honestly. The survey is broken into five sections. Each section will be preceded with specific instructions.

Section 1 – Demographics

Instructions: This section is intended to help us understand your background in science and laboratory safety. Specific instructions and the number of options that you may select will be specified in each question.

Number of College Science Courses Completed (*Select only one*)

- a. None
- b. Course(s) in progress
- c. Completed one or more course(s)
- d. 4-year Degree (BS/BA) in Science Completed
- e. Advanced Degree (MS/PhD) in Science Completed

Major/College (*Please select the single best fit for your major field of study*)

- a. Agriculture and/or Natural Resources
- b. Arts
- c. Business
- d. Engineering and/or Math
- e. Humanities and/or Social Sciences (Education, Psychology, Sociology, etc.)
- f. Physical Science (Biology, Chemistry, Geology, Physics, etc.)
- g. Health Science (Medicine, Dentistry, Veterinary, Nursing, etc.)

Previous Laboratory Safety Training (*select all that apply*)

- a. None
- b. As part of a high school science class
- c. As part of a college science course
- d. Formal Research laboratory safety training

Have you ever experienced an accident, injury, or illness as a result of working in a laboratory? (*Select all that apply*)

- a. Never
- b. Minor (no medical attention required nor caused property damage)
- c. Severe (you needed medical attention or it resulted in property damage)
- d. Witnessed a severe incident
- e. Experienced a “Near Miss” to myself that could have resulted in a severe incident

Section 2 - Student Evaluation of Training (SET)

Instructions: Please rate each statement about your most recent laboratory safety training experience.

Responses in this section are measured on a 7-point scale from “Strongly Agree” to “Strongly Disagree”.

Place a single check mark in the box that most accurately reflects your opinion.

	Strongly Agree	Agree	Somewhat agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
I felt welcome in seeking help/advice in or outside of the course							
The sharing of ideas and knowledge was not encouraged							
I learned something that I consider valuable							
The instructor(s) showed a genuine interest in his/her students							
The material covered in this course was disjointed and failed to interrelate							
The background and origin of ideas/concepts developed in class were presented							
The instructor(s) went out of his/her way to help students							
Students were given meaningful answers to questions							
The key points of the course were unclear or vague							
My interest in the importance of working safely has increased as a consequence of this course							

Section 3 - Attitude Toward Safety

Instructions: Please rate each statement in this section on a 7-point scale from “Strongly Agree” to “Strongly Disagree”. Place a single check mark in the box that most accurately reflects your opinion.

	Strongly Agree	Agree	Somewhat agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
I look out for the safety of my colleagues							
When accidents or near misses occur they are seldom reported to the Lab Manager or PI							
I feel that it is important that ALL safety measures are completed before starting an experiment							
Wearing gloves and a lab coat is only necessary when working with hazardous materials							
I have no responsibility for the health and safety of other persons in my lab							
I am always provided what I need to ensure safety in the lab							
Individuals in my lab would be hesitant to report unsafe behavior to a supervisor							
Accidents, injuries, and near misses in my lab are seen by the group as opportunities for change							
I feel it is important to review the literature for safety procedures /techniques for activities in my lab							
I feel that unless a chemical is really dangerous it is acceptable to discard it down the drain or into the garbage							

Section 4 - BEHAVIOR

Instructions: The object of this section is to determine the likelihood of certain actions in a given situation. This is NOT a test of whether you remember what you were taught as “the safest option”. Please read each scenario carefully. Remember there are no “Right” or “Wrong” answers, just options. All answers will be kept confidential to protect your privacy and to allow complete honesty in your answers.

(Scenarios are found on the next page)

Please take your time and carefully consider the likelihood of each option.

Scenario 1

You are working alone in you lab when you find a 4-L amber glass bottle sitting on another persons lab bench labeled as “Experiment 113bdj”. This container is audibly venting gas from around the lid. Please review the following possible **immediate** responses and mark the likelihood of your attempting each of the given options.

	Highly likely	Likely	Somewhat likely	Neutral	Somewhat unlikely	Unlikely	Highly unlikely
Open the lid to relieve the pressure							
Pick up the container and move it to the hood							
Go find the person responsible for the bottle and have them deal with it							
Report the condition to your supervisor							

Scenario 2

You are conducting an experiment that you have never done before (nor has anyone that you know personally), using chemicals that you are not familiar with. This experiment calls for heating a chemical that you know very little about, but believe that it could be flammable and appears to have a high vapor pressure (it evaporates quickly). This procedure was meticulously detailed in a very well written study that you recently read in a highly respected and peer reviewed journal. Based on this information what is the likelihood for your addressing this situation with the provided possible actions?

	Highly likely	Likely	Somewhat likely	Neutral	Somewhat unlikely	Unlikely	Highly unlikely
Write up a step by step procedure and have it certified by the EH&S office							
Work with your PI or Department Head to develop an SOP for you							
Run the experiment, using equipment and methods as close to those described in the paper as possible with the supplies available in your lab							
Read the SDS for the new chemical(s) before running the experiment							

Scenario 3

You are preforming a time sensitive procedure using a series of very expensive chemicals that include a highly volatile, extremely toxic substance. Because of these recognized hazards, you are doing the experiment in a chemical fume hood. After about an hour, you begin to feel “ill” so you leave the lab to walk around and get a bit of "fresh air". After being out of the lab for a short time you begin to feel better, so you return to work. Almost immediately upon returning to the fume hood, you begin to feel ill again. Given this scenario, the time sensitivity of the experiment, the amount of effort and expense to set up the experiment how likely would you be to do each of the following options?

	Highly likely	Likely	Somewhat likely	Neutral	Somewhat unlikely	Unlikely	Highly unlikely
Quench (stop) the reaction, close the fume hood and call to have the fume hood evaluated and fixed.							
The reaction is almost complete so it will be OK to “tough it out” and finish the experiment							
Call a fellow lab mate to stand beside you at the fume hood to see if they notice any problems while you complete the experiment							
Leave the reaction and the laboratory immediately. Contact your PI and ask what you should do							