

II. Legal Aspects of Laboratory Safety

The Classroom Teacher as Responsible Party

Several parties are potentially liable in the event of a charge of negligence in the science laboratory: the state, the school district, the school board, the school administration, and the teacher. Among these, the classroom teacher is most likely to be placed in the position of being the accountable person. It makes little difference whether you teach in the elementary classroom, middle school classroom, high school classroom, or outdoor education facility. The classroom teacher is ultimately responsible for the welfare of the student.

FOUR ELEMENTS OF LEGAL NEGLIGENCE

- a legal duty of one person to another, as teacher to student
- a breach of this duty
- personal injury or monetary damage caused by the breach of duty
- legal breach judged to be proximate cause of injury or damage

The classroom science teacher has basic responsibilities related to the legal concept of negligence. These include—

- exercising good judgment in planning, conducting, and supervising instruction,
- maintaining laboratory and safety equipment necessary to carry out instruction safely, and
- documenting that appropriate safety instruction has taken place.

A. What Constitutes a Negligent Act?

Legal action against a teacher stems from the presumption that he or she is the expert in the laboratory and, as such, has the responsibility to ensure that exercises and operations are carried out in a prudent and safe manner. Liability exists to the extent that an injury can be shown to be the result of some action or inaction on the part of the teacher.

1. **Negligence:** A teacher may be deemed negligent if he or she allows a foolish or imprudent act to be committed; is careless in performing a demonstration; neglects a pre-existing unsafe condition; or neglects to warn of any hazards associated with an exercise, operation or demonstration.
2. **Degree of Negligence:** A teacher may be found fully, partially, or not at fault at all depending upon how the court judges culpability among the following:
 - a. The degree to which the teacher is judged to have been able to prevent or foresee the results of the action.
 - b. The student's injuries were a result of the student's own action.
 - c. The accident came about as the result of circumstances over which the teacher had no control or could not reasonably have been able to foresee.
 - d. The extent to which the teacher's actions were reasonable and prudent.

B. Negligence in Tort Law

1. Four elements must exist for a liability tort to be brought:
 - a. A legal duty of one person to another, as a teacher's duty to protect the students in his or her charge
 - b. A breach of this duty existing between two parties
 - c. Personal injury or monetary damages directly caused by the breach in legal responsibility
 - d. Legal breach of responsibility judged to be the proximate cause of the injury or damage
2. Such a breach may arise in one of three ways:
 - a. *Misfeasance*: the defendant acts in an improper manner.
 - b. *Nonfeasance*: the defendant did not act at all when he or she had a duty to act.
 - c. *Malfeasance*: the defendant acts with a bad motive or inflicts deliberate injury.

C. Avoiding Negligent Acts

The following steps are recommended to avoid negligence and forestall claims of negligence. These actions must be documented in case of future legal action. This documentation could include such items as a signed rules agreement, results of a safety quiz, pre-laboratory tests with safety questions, a plan book with notation of the safety rules covered for each laboratory activity on the day the activity was done, safety rules written into a notebook prior to performing the exercise or operation, and safety rules clearly indicated on any laboratory instruction sheets given to the students.

A reasonable and prudent teacher –

1. provides prior warning of any hazards associated with an activity.
2. demonstrates the essential portions of the activity.
3. provides active supervision.
4. provides sufficient instruction to make the activity and its risks understandable.
5. ensures that all necessary safety equipment is available and in good working order.
6. has sufficient training and equipment available to handle an emergency.
7. ensures that the place of the activity is as safe as reasonably possible.

D. Federal Laws

The design, construction and operation of elementary and secondary school science classrooms and laboratories are affected by a number of federal laws and the regulations of several federal agencies. Administrators and teachers must be aware of the requirements imposed by these laws and regulations. Each numbered

paragraph below concerns a law or an agency whose requirements must be met by schools. Although there are areas of overlap, these paragraphs should act as a general statement on the specific areas that are the responsibility of each agency. The abbreviation "CFR" stands for Code of Federal Regulations.

1. **Americans with Disabilities Act (ADA)**

Public schools are required to comply with provisions of the Americans with Disabilities Act of 1990. Students with disabilities are entitled to a level of laboratory experience appropriate to the individual student.



URL 3

► See the publication of the Committee on Chemists with Disabilities, American Chemical Society, *Teaching Chemistry to Students with Disabilities*.

2. **Occupational Safety and Health Administration (OSHA)**

In 1970 the U.S. Congress passed the Occupational Safety and Health Act. The act requires that certain precautions be observed and certain actions taken to protect the health and safety of employees on the job. Teachers are considered employees under the act, but students are not covered. Nevertheless, the prudent teacher will conduct the science classroom in such a manner that the regulations are followed by all occupants. Following OSHA precautions for all classroom or laboratory occupants is good safety practice. Such practice may also help to establish a prima facie defense in the event of a liability litigation.



URL 1



URL 66

a. **Bloodborne Pathogens.** Concerns about workplace exposures to blood-borne pathogens led the Occupational Safety and Health Administration (OSHA) to issue regulation 29CFR 1910.1030 in 1991. Employers are required to prepare a plan to control blood-borne pathogen exposure, including the adoption of universal precautions to prevent exposure to blood-borne pathogens such as HIV and Hepatitis B. This statute applies not only to blood but to other body fluids.

► See Chapter IX.D.1.d, Body Fluids and Bloodborne Pathogens.

b. **Hazard Communication Standard (Right to Know).** In 1983 the Federal Hazard Communication Standard (29CFR 1910.1200) became law. Basically, this law requires employers whose employees use toxic substances to provide these employees with (1) material safety data sheets (MSDS) that describe the properties, safe handling, and health hazards of the toxic materials; (2) labeling of all toxic substances with product name and a hazard warning; and (3) annual training on the hazards of toxic substances, safe handling procedures, and how to read MSDS.

c. **Occupational Exposures to Hazardous Chemicals in Laboratories.** This legislation (29CFR 1910.1450) requires all employers who are engaged in laboratory use of hazardous chemicals to appoint a chemical hygiene officer and develop a chemical hygiene plan. The plan should detail how each employee will be protected from overexposure to hazardous materials and describe specific work practices and procedures in the laboratory to

minimize employee risk. Students are not considered employees under this law. However, this standard is based on the assumption that safety experts agree on a set of standards and practices for laboratory work that should be integrated into the chemical hygiene plan. This body of knowledge becomes the standard by which a teacher is judged for negligence.

3. **Environmental Protection Agency (EPA)**

The Environmental Protection Agency regulates the disposal of hazardous wastes, including wastes from academic laboratories. One or more sections of the following parts of 40CFR are of interest to teachers: 261-2, 266, 268, 302, 311, 355, 370, and 372.



URL 1



URL 30

4. **Department of Transportation (DOT)**

Whenever reagent chemicals or hazardous wastes are transported (except between buildings of a single campus), the materials must be packaged in accordance with DOT regulations. Sections 171-77 of 49CFR contain information relevant to school science programs.



URL 1



URL 25