Safety Incidents Unplanned – Security Incidents Planned!

SAFE SCIENCE: BE PROTECTED

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INTRODUCTIONdrroysafersci

INTRODUCTION

Understand that when we prepare for safety, we are anticipating incidents which are unplanned. That is, safety accidents do not intentionally happen. On the other hand, preparing for security, we are trying to anticipate incidents which are planned! Security incidents happen intentionally by individuals acting in a terrorist manner. Over the past years, some school districts have fallen victim to terrorism. Security had already been addressed in many school districts across the United States as a result of 20 April 1999 Columbine High School terrorist actions and workplace violence.

This article is to provide some strategies on making science laboratories and the schools in which they are located not only safer, but also more secure. This is of special importance, given that hazardous materials and other dangerous artifacts/chemicals found in science laboratories can be the focus of terrorists. Even with the top priority of addressing the current COVID-19 pandemic, laboratory security also should not be off the radar

REGULATORY STANDARDS

The lab is an exciting place but it can be a dangerous place if the rules are not followed.

National health and safety agencies have tried to help employers make the workplace safer for employees and students. The Occupational Safety and Health Administration (OSHA) has developed the Hazard Communications Standard, the Laboratory Standard, the Bloodborne Pathogens Standard, Emergency Action Plans, Hazardous Materials, and others, providing direction for employers to develop and maintain a safer and securer working environment for all employees.

Additional safety and security support comes from such agencies as the Environmental Protection Agency (EPA), National Institutes of Health (NIH) and the Centers for Disease Control & Prevention (CDC).

Science teachers and supervisors as specialists need to work in concert with administrators in attempting to provide a safer and securer working environment for students, faculty and administrators.

HELPING TO MAKE THE LABORATORY SAFER

There are a number of ways to help make it safer and securer for school labs, preparations rooms and storerooms. To help raise levels of awareness relative to safety and security, consider the following areas of focus and necessary actions:

A. Entrances, Exits, Stairways and Hallways – All means of egress should be clear and unobstructed to allow for safe evacuation if necessary. Proper signage should be posted as appropriate.

B. Laboratory Access – All access doors to laboratories should be posted as "laboratories." All doors should remain closed and locked when unattended. Only certified science teachers should have access to laboratories when hazardous materials/equipment are present. Only certified science teachers and administrators/facilities maintainers/custodians should have keys to laboratories, storerooms and preparation rooms. Never allow students entry or opportunities to work in a lab without appropriate adult supervision!

C. Safety Equipment Operation – All showers and eye wash equipment must be inspected and in operational order in areas housing or using hazardous materials. A minimum of monthly inspections should be required. Also, weekly flushing protocols must be followed for 1-3 minutes.

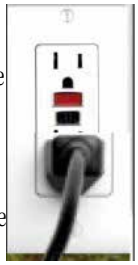
D. Personal Protective Equipment – Indirectly vented chemical splash goggles, safety glasses with side shields, nitrile or vinyl gloves, non-latex aprons, etc., should be easily accessed and are in good condition. They also need to be sanitized after each use.

E. Fire Suppression Equipment – appropriately rated fire extinguishers (ABC type and D type where combustible metals are present) should be available in the laboratories, storerooms and preparation rooms. The extinguishers should be appropriately inspected and located for easy access. All science employees should annually be trained in the use of the extinguishers providing this is permitted via Board of Education policy.

F. Pressurized Gas – All pressurized gas cylinders must be placed in an upright position and properly secured. Appropriate signage and cylinders per square footage must be adhered to. Small flammable gas cylinders must be stored

in flammable liquid cabinets. No other flammables are to be stored in that same cabinet.

G. Electrical Energy – All circuits in science laboratories, preparation and storerooms should have ground fault circuit interrupter protection (GFCI), in addition to easily accessible master shutoff switches with appropriate signage.



H. Gas Energy – All laboratories, preparation and storerooms should have master gas shutoffs with appropriate signage.

I. Water – Master water shutoff valves should be easily accessible with appropriate signage.

Water Shut off valve

J. Fume Hoods – Fume or exhaust hoods should have periodic inspections for appropriate operation such as face velocity. The hood's stage should not be used as a storage area for hazardous chemicals, lab ware or any other items. The NFPA requires an annual inspection of fume hoods by certified technicians.

K. Hazardous Chemical Storage – All hazardous chemicals should be properly labeled, dated and stored in a secured location. The areas housing hazardous chemicals should have restricted access and a high level of security.

L. Laboratory Hygiene – No drinking, eating, smoking, etc. should be permitted in the laboratory, save exceptions approved by the chemical hygiene officer.

M. Appliances – All appliances such as refrigerators, microwaves, ovens, etc., should be appropriately labeled for intended use; e.g., food for human consumption only or hazardous chemicals and biological only.

N. Ventilation – Laboratory and preparation rooms should have "negative pressure" relative to corridors. Per NFPA standards, ventilation must be continuous and on-going. It also should not be recycled to other parts of the facility.

O. Housekeeping – Appropriate housekeeping must be secured to reduce or eliminate trip/fall hazards, provide adequate clearance of sprinkler systems (18 inches), provide access to emergency equipment, have an unobstructed means of egress, etc.

P. Emergency Lighting – Emergency lighting should be available to assist evacuation in power outages as appropriate. The lighting should be inspected periodically to ensure operation.

Q. Evacuation Plans – Evacuation plans should be posted in appropriate sites, in addition to emergency numbers. All laboratories, preparation rooms and storerooms should have communication access in cases of emergency.

HELPING TO MAKE THE LABORATORY SECURER!

The school building facility must also have security needs addressed. This is the first "line of defense." These simple recommended procedures will not guarantee a 100% secure workplace. However, they will raise everyone's level of awareness and help the building become more secure – both physically and psychologically! The recommended procedures include:

A. Designated Reception Area – The building should have a designated entrance and receptionist area to control access. All remaining entrance doors should be locked.

B. Visitors – Once signed in, visitors should be escorted to designated work areas by employees.

C. Employees – All employees should employee wear prominently displayed photo identification.

D. Strangers – Employees should challenge any unaccompanied stranger(s) in the workplace.

E. Mail – Employees should be trained and be provided with personal protective equipment (e.g., vinyl gloves) to sort mail. Protocols should be in place to deal with suspicious items.

F. Lock down/Evacuation Procedures – Employers should develop both lock down and evacuation procedures for employees and students. Appropriate drills should be exercised. Administrators need to check with their local fire marshal, the authority of local jurisdiction, for mandatory drill procedures.

OSHA requires emergency preparedness plans for employees in its 29 CFR Part 1010.30 and 29 CFR Part 1910.165 standards (Available at www.OSHA.gov). These standards mandate that employers provide emergency action plans and fire prevention plans. These plans are only an example of proactive preparation. Readers should consult their own government's standards or regulations. OSHA's include:

A. Emergency escape procedures and escape route assignments.

B. Procedures for employees who remain behind to operate essential operations.

C. Procedures to account for all employees after an evacuation is completed.

Safety, continued page 6

Safety, continued from page 5

D. Rescue and medical duties for employees with those responsibilities.

E. Procedures for reporting fires or other emergencies.

F. Names and titles of persons to contact for explanations or further instructions.

Another great resource is The Federal School Safety Clearinghouse and SchoolSafety.gov.

SchoolSafety.gov includes:

A. The School Safety Readiness Tool, an assessment that assists users in evaluating their respective school's safety posture across ten foundational elements of school safety. After completing the assessment, users are provided an action plan with task prioritization, options for consideration, aligned resources, and grant opportunities specific to individual needs;

B. A Secure Information Sharing Platform for designated school personnel to share school safety ideas, practices, plans, and tactics in a protected environment; and

C. A wide array of resources and best practices on key school safety topics to assist with building awareness within the school community to promote vigilance and build capacity to respond to incidents.

D. COVID-19 Resources for Schools is another resource which can help make it safer/securer for schools. See Internet site in Resources below.

FINAL THOUGHT

Remember - "AAA" - Awareness, Assessment and Action are keys to safety and security – be prepared!

LIVE LONG AND PROSPER SAFELY!

RESOURCES:

Occupational Safety and Health Administration – http://www.osha.gov

U.S. Environmental Protection Agency http://www.epa.gov/ - https://www.schoolsafety.gov

COVID-19 Resources https://www.schoolsafety.gov/covid-19-resources-schools -

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