

CHEMICAL HYGIENE PLAN

GENERIC PLAN FOR SCHOOLS

FLINN
SCIENTIFIC, INC.

Editor's Note

As you read about the Laboratory Standard and your need to develop a chemical hygiene plan, you will probably shake your head and say, "Great! Just what I need, another governmental regulation to comply with."

If only one sentence could be used to describe the new Laboratory Standard it would be "to protect employees and students from being overexposed to hazardous laboratory chemicals." The key to satisfying the Laboratory Standard is to have good ventilation in your science laboratories and chemical storage area. Good ventilation drastically reduces the chance that you or your students will be overexposed to hazardous chemicals.

As we travel across the United States visiting schools, we know laboratory and chemical storeroom ventilation is a major problem. The solutions to this problem do not have to cost your district thousands of dollars! Flinn Scientific, Inc. has economical solutions to help you solve your ventilation problems. Take a few moments and call us at 1-800-452-1261.

—*Flinn Scientific, Inc.*

Disclaimer

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Chemical Hygiene Policy Statement

Chemical Hygiene Officer Appointment

In compliance with the Federal Laboratory Standard _____ (School Name) realizes our responsibility for the protection of our employees. We hereby institute the enclosed Chemical Hygiene Plan to assist us in our safety program.

_____ (School Name) hereby appoints _____ (Hygiene Officer's Name) to be our Chemical Hygiene Officer. We acknowledge the Chemical Hygiene Officer has the knowledge and authority to implement and enforce our Chemical Hygiene Plan.

Although we _____ (School Name) are designating _____ (Name of Chemical Hygiene Officer) as our Chemical Hygiene Officer, we realize the success or lack of success of our Chemical Hygiene Plan rests with all of our employees. The ultimate responsibility of the Chemical Hygiene Plan rests with the School Board and the School District Superintendent.

School Principal or Superintendent

Date

Note: Depending on the district, the chemical hygiene officer may be located at the school or district level.

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Chemical Hygiene Plan

Introduction

All private schools and most public schools have to comply with various Hazard Communication or “Right to Know” laws. For public schools, check with Flinn Scientific or your state OSHA to determine if your state requires a Chemical Hygiene Plan. These laws were written for industrial production facilities, and did not address the specific safety concerns found in a laboratory setting. In 1990, the Occupational Safety and Health Administration (OSHA) instituted “The Laboratory Standard”—Occupational Exposure to Hazardous Chemicals in Laboratories. This new “Laboratory Standard” has been designed to address the specific safety needs of the laboratory.

The Laboratory Standard ensures that employees who work in a laboratory setting will be protected from any chemical exposure that exceeds permissible exposure limits and that employees will be educated as to the hazardous nature of the chemicals they use in the laboratory. To achieve this goal, the Laboratory Standard requires the school district to appoint a chemical hygiene officer to develop, implement, and monitor a chemical hygiene plan. The goal of this booklet is to save you time by providing you with a Flinn generic chemical hygiene plan written specially for schools that you can use to develop your own school district’s chemical hygiene plan.

School District Responsibilities

The school board and the school district superintendent have ultimate responsibility to ensure the institution complies with the Laboratory Standard. Several of these tasks are:

- 1) Record all employee exposures to hazardous chemicals.
 - a) Record all chemical exposures and use monitoring instruments to get hard data*. Obtain and keep up-to-date information provided by a medical examination resulting from a chemical exposure.
 - b) Keep these records and allow employees access to their personal records, including all employee exposure and medical records.

**Do not get alarmed. This provision is included in the Lab Standard, but clearly states you only have to monitor exposure levels if you know you routinely have an exposure level which is above the permissible exposure level (PEL) and an OSHA Standard exists for the chemical which requires monitoring. If you have no reason to believe you have exceeded a PEL, you do not have to monitor exposure levels.*

- 2) Train employees to:
 - a) Understand the hazards of chemicals they use in the laboratory.
 - b) Recognize signs and symptoms associated with overexposure to hazardous chemicals.
 - c) Properly use personal protective equipment (fume hoods, respirators, goggles, etc.)
 - d) Protect themselves from chemical exposure by following good laboratory procedures.
 - e) Understand the content of the Chemical Hygiene Plan.

- 3) Provide access to all employees of
 - a) MSDS (Material Safety Data Sheets) for all hazardous materials.
 - b) Previous exposure records (if any).
 - c) The Laboratory Standard and Chemical Hygiene Plan.
 - d) Permissible exposure limits of hazardous chemicals used in the laboratory. (Consult your *Flinn Scientific Catalog/Reference Manual*.)
 - e) Their own personal medical records (if any).
- 4) Upon receipt of a chemical:
 - a) Make sure you have the MSDS (and make them accessible to the employees).
 - b) Make sure the label is proper and contains the minimum amount of information.
 - 1) Chemical name or identity of contents.
 - 2) Concentration
 - 3) Hazard information including target organs.
 - 4) Name and address of the manufacturer or name of preparer and date of preparation.

Note: You must also follow these steps for all chemicals and chemical solutions made and stored in your laboratory or chemical storeroom.

The Chemical Hygiene Plan — An Overview

The Chemical Hygiene Plan is the major ingredient of the Laboratory Standard. Your school district should develop and carry out a written Chemical Hygiene Plan that is capable of:

- 1) Protecting employees from health hazards associated with hazardous chemicals in the laboratory.
- 2) Keeping chemical exposures below established permissible exposure limits. (Consult your *Flinn Scientific Catalog/Reference Manual* for specific chemical permissible exposure limits.)

The Chemical Hygiene Plan must be readily available to employees. The school district shall review and evaluate the effectiveness of the Chemical Hygiene Plan at least annually and update it as necessary. The Chemical Hygiene Plan should include each of the elements shown on the following page and should include specific measures the employer will take to ensure laboratory employee protection.

Before you adopt any Chemical Hygiene Plan, first consult your state-regulating agency. Modifications or alterations may have to be made to have your Chemical Hygiene Plan conform to your state's specific regulations.

Chemical Hygiene Plan Overview

I. Standard Operating Procedures

- A) General Employee Rules and Procedures
- B) General Laboratory Rules and Procedures
- C) Personal Hygiene Guidelines
- D) Protective Clothing Requirements
- E) Housekeeping Rules
- F) Spill and Accident Procedures
- G) Chemical Storage Rules and Procedures
 - 1) Compressed Gas Handling Instructions
 - 2) Flammable Chemical Handling Instructions
 - 3) Corrosive Material Handling Instructions
- H) Procedure—Specific Safety Rules and Guidelines (Including Severely Toxic and Carcinogenic Substances)
- I) Prior-Approval-Required Procedures
- J) Safety Equipment Inspection

II. Employee Training

III. Exposure Evaluations

IV. Medical Evaluations

V. Monitoring

VI. Emergency Evacuation Plan

VII. Reprint of the Laboratory Standard

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Chemical Hygiene Plan

I. Standard Operating Procedures

A) General Employee Rules and Procedures

- 1) Minimize all chemical exposures.
- 2) Skin contact or inhalation of chemicals should be avoided.
- 3) Avoid underestimation of chemical hazards and risks.
- 4) Develop a firm goggle policy. Wear appropriate eye protection at all times. Chemical splash goggles must be worn any time chemicals, glassware or heat are used in the laboratory.
- 5) Never work alone in the laboratory, chemical storage or prep areas.
- 6) Flammable liquids require special attention. Never use these materials near any source of ignition, spark or open flame.
- 7) Never perform a first-time chemical demonstration in front of your class. Always perform first-time demonstrations in front of other instructors to evaluate the safety of the demonstration.
- 8) Never store chemicals over, under, or near a sink.
- 9) Only authorized personnel should be allowed in the chemical storeroom.
- 10) Have a 100% wool fire blanket easily accessible in case of an accident or fire.
- 11) Know the locations for all personal safety and emergency equipment—eyewash, shower, fire extinguisher and spill control materials. All safety and emergency equipment must be placarded.
- 12) Train all students on how to use all safety devices in the laboratory (e.g., eyewash, fire extinguisher, etc.) and teach all students and employees to find the safety devices quickly in an emergency.
- 13) Know appropriate procedure in the event of a power failure.
- 14) Know where and how to use master utility controls to shut off gas, electrical and water supplies.
- 15) Use a safety shield whenever an explosion or implosion might occur.
- 16) Read all chemical labels prior to use.
- 17) Know and understand the hazards of the chemical as stated in the MSDS and other references.
- 18) Maintain an MSDS library for all chemicals used or stored in the facility.
- 19) Use protective safety equipment to reduce potential exposure, i.e., gloves, respirators, fume hood, etc.
- 20) Do not smell or taste chemicals.

- 21) Know how to properly store all chemicals in their compatible chemical families. (Consult the *Flinn Scientific Catalog / Reference Manual* for details.)
- 22) Know proper procedures for transporting chemicals around the school.
- 23) Know and implement proper disposal procedures before ordering or using any chemical.
- 24) Know appropriate emergency procedures, evacuation routes, and fire emergency notification.
- 25) Know the proper procedure for contacting the authorities: when to contact, who to contact (school officials, nurse, 911), and how to contact (phone or intercom).
- 26) Know and understand the personal hygiene practices outlined in the Chemical Hygiene Plan.

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B) General Laboratory Rules and Procedures

- 1) Create a written first aid policy; whether it says to treat, contact school nurse or call a physician. Your first aid policy must be written down.
- 2) Post emergency telephone numbers in the classroom/laboratory. Have a telephone or some means of emergency communication in the laboratory.
- 3) The laboratory should be well-ventilated (a ventilation fan that can remove the air a minimum of eight air changes per hour). Air for laboratory ventilation shall directly flow into the laboratory from non-laboratory areas and out to the exterior of the building. Ventilation must be checked a minimum of every three months. (See Federal Register, Vol. 55, No. 21, p 3332 4–f.)
- 4) All laboratories must have an eyewash capable of treating both eyes continuously for 15 minutes with copious quantities of potable water.
- 5) All teachers, employees, and students must be taught how to use the eyewash quickly in case of an emergency.
- 6) Eyewash effectiveness and operation should be inspected and activated at least every three months. Promptly repair any eyewash that does not meet the water flow requirements of ANSI Z358.1.
- 7) Safety showers or body drenches should be provided. Showers should be inspected and activated at least every six months. Promptly repair any shower or body drench that does not meet the water flow requirements of ANSI Z358.1.
- 8) Have appropriate types and sizes of fire extinguishers. ABC dry chemical fire extinguishers are appropriate for laboratories. Carbon dioxide fire extinguishers are not appropriate for laboratories. A Class D fire extinguisher should be available when working with flammable solids. Fire extinguishers should be visually inspected monthly and maintained every six months. (Check local fire codes.)
- 9) All laboratories must have a 100% wool fire blanket available for spills and fire suppression.
- 10) An approved eyewash station, fire blanket, and fire extinguisher should be within 10 seconds (about 25 feet) of the chemical stores area.
- 11) Neutralizing chemicals, such as a spill kit, dry sand, Kitty Litter, and other spill control materials should be readily available.
- 12) All safety items must be visible and placarded.
- 13) In the event of an accident, when time allows, fill out an accident report describing the event in detail.
- 14) Read all labels carefully—the names of many chemicals look alike at first glance.
- 15) Be thoroughly familiar with the hazards, safety precautions, and disposal procedures before using any chemical. Study the MSDS and label before using any chemical substance.
- 16) Unlabeled products should not be stored anywhere in the school.
- 17) All exits must be clearly marked.
- 18) Keep all aisles clear and uncluttered.
- 19) Access to exits, emergency equipment, and master utility controls must never be blocked.

- 20) Have an alternative evacuation route in the event your primary route becomes blocked.
- 21) Practice your emergency plans.
- 22) Do not use chipped, etched or cracked glassware. Glassware, which is chipped or scratched, presents a serious breakage hazard when heated or handled.
- 23) Do not drink from lab glassware or other lab vessels.
- 24) No food in the laboratory. Do not eat, drink, or chew gum in the laboratory.
- 25) Do not apply cosmetics in areas where laboratory chemicals are present.
- 26) Do not run in the laboratory.
- 27) No horseplay, practical jokes, or pranks are allowed in the laboratory.
- 28) Do not operate electrical equipment with wet hands.
- 29) Never pipet by mouth.
- 30) Thermometers must never be used as a stirring rod.
- 31) Avoid the use of contact lenses in the laboratory. If contact lenses must be worn, the science teacher must be informed so special precautions can be taken.
- 32) Never perform unauthorized laboratory experiments.
- 33) Dispose of all chemicals properly. All disposal procedures used should conform to state and local regulations.
- 34) All accidents or near accidents (close calls) should be carefully analyzed with the results distributed to all who might benefit.
- 35) Laboratories and storerooms must undergo annual inspection.
- 36) _____

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- 40) _____

C) Personal Hygiene Guidelines

- 1) Do not apply cosmetics, eat, chew gum, or drink in the laboratory.
- 2) The use of tobacco products in the laboratory is prohibited.
- 3) Do not pipet by mouth—always use a pipet bulb or other appropriate suction device.
- 4) Clean work area thoroughly before leaving the laboratory.
- 5) Wash hands thoroughly after any chemical exposure and before leaving the laboratory.
- 6) Never smell chemicals directly; always waft the odors to your nose using your hand.
- 7) Foodstuffs, opened or closed, become part of your chemical supplies when brought into the laboratory, chemical prep, or storage area.
- 8) Never taste any substance to determine its identity.

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D) Protective Clothing Requirements

- 1) Appropriate eye protection must always be worn by teachers, students, and visitors. Chemical splash goggles must be worn any time chemicals, glassware or heat are used in the laboratory.
- 2) All eye protection must meet ANSI Z87.1 Standard.
- 3) Wear eye protection and face shields when dealing with extremely corrosive liquids, (i.e., full strength acids and bases).
- 4) Goggles should be cleaned/sterilized between uses.

- 5) Wear gloves that offer protection for all hazards you may find in the lab. Check for holes every time you wear your gloves.
- 6) Always wear a full-length lab coat or a chemical-resistant apron when performing experiments, preparing chemical solutions, and during cleanup in the lab.
- 7) Do not wear open-toed shoes or sandals of any kind. Wear low-heeled shoes and always wear socks in the laboratory.
- 8) Wear a respirator with the appropriate cartridge if you feel you might exceed permissible exposure limits as specified in the MSDS.
- 9) Do not wear shorts—wear long pants.
- 10) Do not wear loose or baggy clothing—especially long sleeves. Secure all loose clothing.
- 11) Tie back long hair.
- 12) Avoid the use of contact lenses in the laboratory. If contact lenses must be worn, the science teacher must be informed so special precautions can be taken.
- 13) Do not wear hanging jewelry.
- 14) Secure a long or loose necktie.
- 15) Do not wear an absorbent watchstrap.
- 16) Inspect all protective safety equipment before use. If defective, do not use.
- 17) _____

- 18) _____

E) Housekeeping Rules

- 1) Keep all chemicals in a locked chemical prep and storage area. If chemicals are moved to the classroom for lab, they must be returned to their proper storage location at the end of the day's laboratory periods.
- 2) Waste materials require proper containers and labels.
- 3) Do not store items in the fume hood. The storage of items in the fume hood is a fire hazard and decreases the efficiency of the fume hood.
- 4) Label all chemicals, even solutions. The label must include:
 - a) Chemical name or identity of contents
 - b) Concentration
 - c) Hazard information including target organs
 - d) Name and address of the manufacturer or name of preparer and date of preparation

- 5) Access to exits, emergency equipment, and master utility controls should never be blocked.
- 6) Clean up all spills properly and promptly.
- 7) Work and floor surfaces should be cleaned regularly and kept free of clutter.

- 8) _____

- 9) _____

- 10) _____

F) Spill and Accident Procedures

- 1) Remember “**NEAR**”

Notify—Call for help.

Evacuate—Get everyone to a safe location.

Assemble—Assemble and take attendance of all students and employees.

Report—Fill out a detailed accident report after the emergency is over.

- 2) Clean up spills immediately and thoroughly. Follow approved spill cleanup procedures—spills should only be cleaned up by approved personnel.
- 3) A bucket of dry sand should be available to aid in providing traction on a slippery floor after a spill.
- 4) To make it easier to clean up, transport, and dispose, an absorbing agent, such as Kitty Litter, should be used to absorb a liquid spill.
- 5) Neutralizer for both acid and base spills should be available in the event of a chemical spill.
- 6) A 100% wool fire blanket will contain and control a spill and its vapors if no other spill control materials are available.
- 7) _____

G) Chemical Storage Rules and Procedures

- 1) Post emergency telephone numbers in the classroom/laboratory. Have a telephone or some means of emergency communication in the laboratory.
- 2) Keep an updated inventory of all chemicals, their amounts and location. Stored chemicals should be examined annually for replacement, deterioration and chemical integrity. Your entire Chemical Hygiene Plan is based on the proper updated inventory always being available.
- 3) Establish a procedure to update the chemical inventory by updating the quantity of each chemical as it is used or restocked. This procedure should be used by all teachers to ensure that the chemical inventory is always up to date.
- 4) Label all chemical solutions you make with the identity of the contents, date, concentration, hazard information, and your name.
- 5) Label all chemicals with the purchase date. This will allow anyone to determine the age of a substance at a later date.
- 6) Establish a separate, secure, and locked storage area for chemicals.
- 7) Do not allow incoming shipments of chemicals to be opened and transported by school personnel other than qualified science teachers. The special and expensive shipping containers used are frequently discarded and may prove valuable for chemical storage. The required MSDS sheets may also be misplaced or become separated from their respective chemical.
- 8) All chemicals should be stored in chemically compatible families (see *Flinn Scientific Catalog/Reference Manual* for details).
- 9) Determine the maximum amount of a chemical needed for two to three years of instruction and only order and store this amount.
- 10) Store corrosives in appropriate corrosives cabinets.
- 11) All flammable materials should be stored in an approved flammables storage cabinet.
- 12) Do not store chemicals under a fume hood.
- 13) Avoid storing chemicals on shelves above eye level.
- 14) The storage area and cabinets should be labeled as to identify the hazardous nature of the products stored within. This will allow fire department officials to quickly see a potentially hazardous area.
- 15) Shelving above any work area, such as a sink, should be free of chemicals or other loose miscellany.
- 16) Shelving sections should be secured to walls or the floor to prevent tipping of entire sections.
- 17) Shelves should be equipped with lips to prevent containers from rolling off.
- 18) Chemicals should not be stored on the floor except in approved shipping containers.
- 19) The chemical storage area should be ventilated by at least four changes of air per hour. Isolate the chemical storage exhaust from the general building ventilation system. Since organic vapors are heavier than air, the exhaust system must draw vapors from the floor.

- 20) Never store food in a laboratory refrigerator. Never store flammables in refrigerators unless the refrigerator is explosion proof. A spark from the compressor, thermostat, lightbulb, or electrical switch in a household refrigerator or freezer can ignite vapors that build up inside.
- 21) Store all poisons inside a locked cabinet.
- 22) Only authorized personnel are allowed in the chemical storage area. Students should never be allowed in this area.
- 23) Avoid exposing chemicals to heat or direct sunlight.
- 24) _____

- 25) _____

Storage Requirements—Compressed Gas Handling Instructions

- 1) Compressed gases should be handled as high-energy sources, and therefore, as potential explosives.
- 2) Always protect the cylinder valve stem.
- 3) Avoid exposure of cylinders to heat. Do not store gas cylinders in direct sunlight.
- 4) Never lubricate, modify, force, or tamper with a cylinder valve.
- 5) Cylinders of toxic, flammable, or reactive gases should be used only under a fume hood.
- 6) Do not extinguish a flame involving a combustible gas until the gas is shut off—otherwise it can reignite—possibly causing an explosion.
- 7) Gas cylinders must be secured in place. The best way to secure a cylinder is with a chain that is securely attached to a wall. The gas cylinder must be protected from falling since this may damage or dislodge the valve.
- 8) _____

Storage and Handling Requirements—Flammable Chemicals

- 1) Store all flammables in a dedicated flammables cabinet.
- 2) Keep the flammable storage area cool, between 55 °F and 80 °F, at all times.
- 3) Store flammable materials away from all sources of ignition.

- 4) Store all flammable and combustible materials away from all oxidizers.
- 5) Never store flammables in refrigerators unless the refrigerator is explosion proof.
- 6) Avoid storing any chemicals, especially flammable materials, in direct sunlight.
- 7) A chemical storeroom that contains flammable materials should be equipped with an ABC fire extinguisher, fire blanket, and smoke detector.
- 8) Dispense flammable liquids from an operating fume hood.
- 9) _____

- 10) _____

Storage and Handling Requirements—Corrosive Materials

- 1) Store corrosives in appropriate corrosives cabinets.
- 2) If possible, keep certain items in the original shipping package, e.g., small containers (less than 500 mL) of acids and bases in the special and expensive Saf-Cube®.
- 3) Working with corrosive materials requires special eyewear. Wear chemical splash goggles when working with corrosives. Also, consider wearing a chemical splash face shield when handling corrosive materials.
- 4) If your corrosives cabinet has metal shelf clips, inspect these clips every three months. These shelf clips rust easily and may break, leading to a collapsed shelf. They require special attention.
- 5) Do not store glacial acetic acid and nitric acid next to each other in the corrosives cabinet.
- 6) Label all prepared acid solutions with the name, concentration, hazard warning and date before storing them.
- 7) Always use plastic or rubber bottle carriers if transporting acids from one room to another.
- 8) Dispense concentrated acid from a fume hood.
- 9) _____

- 10) _____

H) Procedure—Specific Safety Rules and Guidelines (for extremely hazardous chemicals)

- 1) Use extremely hazardous chemicals only when their use is of educational value. If a chemical is commonly used in other laboratory activities, you can generally say it has educational value.
- 2) Use a fume hood when the permissible exposure limit for a chemical is less than 50 ppm as indicated on the chemical's MSDS.
- 3) Use carcinogens, mutagens, teratogens, and allergens only under a fume hood.
- 4) Handle toxic, corrosive, flammable, and noxious chemicals under a fume hood.
- 5) Do not expose flammable liquids to open flame, sparks, heat, or any source of ignition, except under controlled laboratory conditions.
- 6) Only use flammable solids (sodium, potassium, lithium, etc.) in very small quantities. Use a safety shield when igniting flammable solids.
- 7) Water-reactive solids (sodium metal, potassium metal, etc.) should be stored under dry oil.
- 8) Use extreme caution when handling finely divided (dust-like) material. Finely divided materials may form explosive mixtures with air.
- 9) Open cans of ether (ethyl ether) should be properly disposed of after use and not stored unless absolutely necessary.

- 10) _____

- 11) _____

- 12) _____

- 13) _____

I) Prior Approval Procedures

There may be some procedures which require prior approval before an instructor attempts to perform them. These procedures must be determined by cooperation and communication between the Science Department and the Chemical Hygiene Officer.

- 1) _____

- 2) _____

- 3) _____

J) Safety Equipment Inspection

There are many safety items necessary for compliance with the Laboratory Standard. They include, but are not limited to:

- 1) Eyewashes/Showers
- 2) Fire extinguishers
- 3) Goggles
- 4) Respirators

One of the most important sections of the Laboratory Standard states that all safety equipment in the facility must always be in good operating condition. While the Laboratory Standard requires some safety equipment and highly recommends other equipment, the standard is very clear on the point that if you have a piece of safety equipment, it must be functional at all times. This statement applies to all safety equipment, required or recommended.

- 1) Goggles must always be clean and functional.
- 2) Laboratory ventilation must meet the standard of eight air changes per hour and must be tested quarterly.
- 3) Fire extinguishers must be of the right type, dry chemical ABC, and they must be regularly inspected.
- 4) Eyewashes must be functional and flushed at least once a month.
- 5) Emergency showers or body drenches should be functional and tested at least once every six months.
- 6) Fume hoods must be operational at the level of 70–100 linear feet per minute as measured by a velometer. Fume hoods should be tested every three months.

7) A respirator must be fit tested and the appropriate cartridges must be available.

All of the above items and all safety equipment must be inspected every three months at the minimum. Any safety equipment failing this quarterly inspection or reported to be out of order at any time must be repaired immediately. Any safety equipment found to be out of order is a serious violation of the Laboratory Standard. Remember to document the inspection, including the date and initials of the inspector.

II. Employee Training

_____ (School Name) provides ongoing training sessions for our employees. Our training includes:

- A) Content and location of this Chemical Hygiene Plan and The Laboratory Standard.
- B) Potential hazards involved in using chemicals.
- C) Signs and symptoms of overexposure to chemicals. How to detect potentially harmful exposures before they are harmful.
- D) Location and availability of chemical Material Safety Data Sheets (MSDS).
- E) Understanding of the permissible exposure limits (PELs) used in the school.
- F) The proper use and location of all safety equipment.
- G) The proper storage and labeling of laboratory chemicals.

III. Exposure Evaluation

It is the communicated policy of _____ (School Name) to investigate all suspected overexposures to chemicals in a prompt and timely fashion.

In the event of an overexposure, after the immediate event, all chemicals and circumstances involved in the overexposure will be documented. This information should be used to change safety practices to further improve lab safety. It is the school's obligation to maintain these files and make them accessible to the employees.

Signs of overexposure are numerous; they include:

- A) Accidental breakage of a hazardous material container.
- B) A skin rash or irritation resulting from contact with a chemical.
- C) Caustic splash to eyes, face or body.
- D) Symptoms such as nausea, dizziness, and others.

If monitoring of the air is determined to be necessary, the results of the monitoring must be made available to the employees within two weeks.

IV. Medical Evaluations

It is the policy of _____ (School Name) to make medical consultation and examination available to our employees when:

- A) Any sign or symptom of an overexposure to a chemical is present.
- B) Monitoring has indicated an overexposure to a chemical has occurred.
- C) There has been a spill or uncontrolled release of chemical fumes.

The school will provide the physician with the names of the chemicals used, circumstances of the exposure, and all signs and symptoms of the exposure.

The medical examinations dealing with the overexposure must be documented and other employees working under the same conditions must be notified. All documentation must be kept on file and accessible by other employees working in this area.

All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay.

V. Monitoring

Monitoring will be necessary for substances regulated by a standard only if there is reason to believe that exposure levels for that substance routinely exceed the PEL for that substance. If you have no cause to suspect a hazard or an exposure, no monitoring is necessary.

If monitoring is performed and this initial monitoring shows no evidence of exposure, the monitoring may be discontinued. If initial monitoring indicates an exposure, steps must be taken immediately to reduce the exposure to permissible limits. Monitoring must then be performed periodically to verify that the steps to reduce the exposure have been effective. Monitoring may be terminated after complying with the applicable standard for the hazardous material.

All monitoring results and activities shall be fully accessible and in full knowledge of the employee(s).

VI. Emergency Evacuation Plan

Establish a chain of communication. John tells Sally, Sally tells Bill, Bill notifies the office, the office notifies the fire department, etc. Remember; notify before proceeding to handle the incident. It is often better to notify someone else than to proceed in addressing the problem by yourself.

Evacuation may or may not be necessary depending on the incident. Once it has been determined that evacuation is necessary, proceed in an orderly fashion as you would in a fire drill evacuation. Send everyone to a pre-designated area and then count heads to make sure everyone is out of the building.

Proper evacuation procedures must be thoroughly planned, detailed in writing, and properly communicated in advance. In case of an emergency, you will not have time to determine "What do I do next?" This evacuation plan will be part of the Chemical Hygiene Plan.

Combined MSDS/Chemventory 5.5 Program

The most complete chemical management program available. Flinn offers Chemventory and our MSDS Library in a combined software program. You save time because this program automatically links Chemventory to your MSDS Library. At the push of just one button, you know what chemicals and how much you have, and you can view or print the MSDS for a single chemical or for your entire inventory. It's that easy!

The combined program features are exactly as the individual stand-alone programs. Our MSDS Library and the Chemventory are listed below.

Catalog No.	Description	Price/Each
SE2551	Combined MSDS/Chemventory 5.5 Program	Consult Your Current Flinn Catalog/Reference Manual.
SE2552	MSDS 5.5 Program	
SE2550	Chemventory 5.5 Program	

Call us for pricing on quantity purchases of 12 or more at 1-800-452-1261.



Laboratory Safety Inspection Kit



Are your science laboratories and storage/preparation areas safe? Find out for sure by conducting a safety inspection. The Flinn Laboratory Safety Inspection Kit will identify existing and potential safety problems, provide the correct procedure or policy to solve the problem, and document the safety problems in writing to your school's administration.

The Flinn Laboratory Safety Inspection Kit consists of three key ingredients:

- *Safety inspection worksheets.* Use these reproducible forms to conduct your safety inspection.
- *Safety solution booklet.* For every question asked during the inspection, the correct policy or procedure to fix the problem is provided.
- *Safety inspection report.* A standard safety inspection report is provided as a Microsoft Word® file. The report is easily edited to meet your specific needs and will

save you hours of time. Once the report is completed, you may submit your detailed report to your school's administration for further action.

As a science teacher at your school, one of your main responsibilities is safety. It is your responsibility to identify existing and potential safety problems and notify your supervisor in writing that these problems exist. The Flinn Laboratory Safety Inspection Kit will not only help to identify existing and potential safety problems, but also help you to properly document the problems.

The overall benefit of the Flinn Laboratory Safety Inspection Kit is that your school district will have a comprehensive plan outlining what safety problems exist and how they can be solved. Problems will start to be corrected and you and your students will work in a safer laboratory setting.

Catalog No.	Description	Price/Each
AP4851	Laboratory Safety Inspection Kit	Consult Your Current Flinn Catalog/Reference Manual.

FLINN SCIENTIFIC INC.

“Your Safer Source for Science Supplies”

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