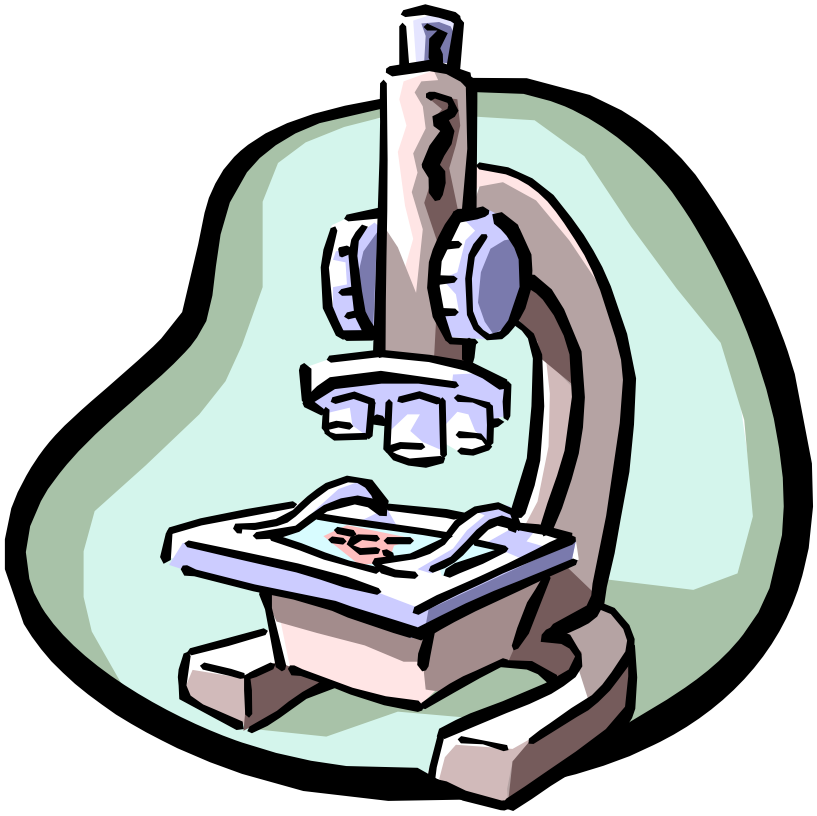
PITT COUNTY SCHOOLS



CHEMICAL HYGIENE PLAN

Grades 6-12

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CHEMICAL HYGIENE PLAN
Grades 6 - 12

1.0 PURPOSE

It is the goal of Pitt County Schools to ensure that teachers and students have science instruction free from unnecessary injury or health problems and to meet all pertinent safety and environmental regulations.

This program is intended to establish appropriate procedures and protective measures for Pitt County Schools teachers and students in all science laboratory classes.

This program also details Pitt County Schools standard of acceptable operation regarding laboratory procedures, chemical procurement, labeling and storage, availability, inspection, and maintenance of laboratory facilities and protective equipment, and employee information.

2.0 SCOPE

2.1 On January 31, 1990, The Occupational Safety and Health Administration (OSHA) promulgated the final rule for occupational exposures to hazardous chemicals in laboratories. The basis for this standard is the determination that laboratories typically differ from industrial operations in their use and handling of hazardous chemicals and that a different approach than that found in OSHA's substance specific health standards is warranted to protect workers.

Because schools contain facilities and programs that meet the laboratory use and laboratory scale criteria in the final standard, they must be covered under a Chemical Hygiene Plan.

2.2 Coverage includes all Pitt County Schools science teachers.

3.0 RESPONSIBILITIES

3.1 Principals

a) Responsible for the oversight and adherence of teachers to the laboratory safety program within their respective schools.

b) Request the proper maintenance or replacement of facilities and equipment to insure the health and safety of staff and students.

c) Ensure that science teachers use appropriate instructional techniques and curricular materials.

d) Provide, with the assistance of the faculty, alternative educational experiences for students whose conduct pose hazards.

3.2 Safety Coordinator / Chemical Hygiene Officer – Mike Whitford

a) Responsible for evaluating and revising this procedure annually or as regulations change.

b) Assist and support the Science Curriculum Coordinator and science teachers in determining maintenance and facility needs based on safety and environmental regulations.

c) Assist and support the Science Curriculum Coordinator and science teachers in ensuring that appropriate safety equipment is in place, storage facilities are appropriately organized and functioning properly, and approved safety practices are shared with all teachers.

d) Provide technical assistance to schools and employees on laboratory safety.

e) Manage laboratory inspections and maintain appropriate records.

f) Coordinate, with assistance from science teachers, the proper disposal of chemical and biological wastes.

g) Conduct periodic inspections of laboratories to ensure compliance with the Chemical Hygiene Plan.

h) Assist science teachers in attaining Material Safety Data Sheets (MSDS) when requested.

3.3 Science Curriculum Coordinator – Karen Quick

a) Assist and support the science teachers in modifying teaching strategies when necessary to improve laboratory safety.

b) Maintain a list of banned chemicals not appropriate for 6-8 schools and 9-12 schools.

c) Assess and approve all chemical purchase orders for the science program.

3.4 Science Department Chairs

a) Coordinate all purchases to insure that orders are not duplicated, that only the amount of a chemical necessary for a one-year laboratory program is ordered, and that extremely hazardous materials are not ordered.

b) Ensure that employees have access to the Chemical Hygiene Plan, Material Safety Data Sheets (MSDS), and other reference materials.

3.5 Science Teachers

a) Responsible for recognizing unsafe conditions and eliminating or reporting such conditions to the Principal.

b) Serve as a model for safe classroom procedures.

c) Instruct students about the potential hazard(s) of an activity and the appropriate procedures for safely completing the activity.

d) Ensure that students and parents sign the Student Laboratory Safety Contract (SF-001).

Note – Science teachers should retain the Safety Contracts for a period of three years, after which time they can be discarded.

e) Ensure that all equipment used by students is functioning properly.

f) Ensure that student activities are appropriate for their background and maturity and that safety equipment is available.

g) Utilize appropriate classroom management techniques to reduce the risk of student exposure to potential hazards.

h) Ensure that all students follow instructions, utilize appropriate procedures, and practice safe behavior.

i) Ensure that students are not allowed to perform unsupervised demonstrations.

j) Maintain a current inventory of existing chemicals available, including Material Safety Data Sheets (MSDS's) for their respective classrooms.

k) Place Material Safety Data Sheets (MSDS's) in a red or yellow folder near the door when using a chemical.

l) Ensure that all safety equipment is functioning properly.

m) Conduct monthly inspections on all safety equipment, including eye wash stations.

3.6 Students

While students are not covered under the provisions of the laboratory standard, students should be made aware of chemical health and safety hazards in classroom situations and should be provided with information and equipment to protect themselves from those hazards. Teachers should provide student training at the beginning of each course in which hazardous chemicals are used, and specific safety instructions should be provided at the beginning of each laboratory period.

a) Responsible for following all safety instructions presented by the teacher and abiding by laboratory rules of conduct.

b) Wear all safety equipment as required and specified by the science teacher.

c) Read, understand, and sign the Student Laboratory Safety Contract (SF-001).

4.0 TRAINING REQUIRED

4.1 All science teachers and affected staff must read and understand this procedure.

4.2 At the beginning of each year, the Science Department Chair at each high school and middle school should provide an orientation about the Chemical Hygiene Plan to teachers who will be working in a science laboratory. The orientation will include the following:

4.2.1 Distribution of the written Chemical Hygiene Plan to each middle school and high school science teacher. If these employees have copies already, any changes or updates of information will be provided.

4.2.2 Locations of the chemical inventory and Material Safety Data Sheets (MSDS) at the school.

4.2.3 Procedure for reporting accidents.

4.2.4 Procedure for reporting unsafe conditions.

4.2.5 Procedure for acquiring and disposing of chemicals.

4.2.6 A reminder of the list of chemicals prohibited in science laboratories.

4.2.7 The Total Science Safety System: North Carolina Edition CD-ROM can also be used for training purposes. The CD-ROM is located in all 6-12 schools. Contact the Science Curriculum Coordinator if a CD-ROM is needed.

4.3 Employees will sign off on the Documentation of Chemical Hygiene / Science Safety Training form (SF-026). Submit this document to the Safety Coordinator.

5.0 PROGRAM AVAILABILITY

Pitt County Schools Chemical Hygiene Plan will be readily available to employees. A copy of the Chemical Hygiene Plan will be kept by the Safety Coordinator, Grades 6-12 Principals, and the Science Curriculum Coordinator. In addition, a copy of the Chemical Hygiene Plan can be seen on Pitt County Schools website.

6.0 ANNUAL PROGRAM REVIEW

The Safety Coordinator will review and update the Chemical Hygiene Plan annually. A copy of the updated Chemical Hygiene Plan will be submitted to the North Carolina State Board of Education by January 31st of each school year.

7.0 CHEMICAL HAZARD CONTROL

All chemicals must be used with caution. Some chemicals may be explosive, combustible, poisonous, caustic, or corrosive, and exposure to may cause acute (immediate) or chronic (long term) health problems.

7.1 Chemical Purchasing

7.1.1 Prior to ordering any chemical, the need should be verified, based on the desired use of the chemical. **Amounts ordered should not exceed what is expected to be used in one year.**

7.1.2 When ordering a chemical be sure to request the latest Material Safety Data Sheet (MSDS) from the vendor.

7.1.3 Before new chemicals are ordered or used, science teachers should anticipate the chemical's hazards, handling, proper storage, and disposal.

7.1.4 Certain chemicals have severe hazards that far outweigh any instructional benefits that might result from their use. Chemicals listed on the Prohibited Chemicals List (SF-025) may not be stored, handled, or used in any laboratory in Pitt County Schools without specific approval from the Science Curriculum Coordinator and then only under tightly controlled conditions.

7.1.5 High-risk chemicals shall not be purchased if an effective instructional program can be carried out without them.

7.1.6 Time-sensitive chemicals should be purchased only in quantities sufficient for one year.

7.1.7 All chemical purchase orders shall be assessed and approved by the Science Curriculum Coordinator prior to ordering.

7.1.8 Chemicals requiring the use of a respirator as Personal Protective Equipment (PPE) shall not be purchased.

7.1.9 Any household chemical used within a laboratory requires a Material Safety Data Sheet (MSDS).

7.2 Chemical Inventory

The science department chair for each school should complete a chemical inventory. Use the Chemical Inventory form (SF-003) included in the appendix. The chemical inventory shall:

- Contain the date of the inventory
- Identify the school's name
- Identify the room numbers
- Identify the teachers
- Identify the chemicals by name
- Specify the estimated amount of each chemical present

7.2.1 The chemical inventory or inventory update should be completed each year within the first 2 months of school.

7.2.2 When the chemical inventory is complete, the science teacher shall insert it as the first page in the room's Material Safety Data Sheet (MSDS) book.

7.3 Chemical Storage – General

7.3.1 **The chemical storage room shall remain locked at all times.** Unauthorized removal or use of chemicals must be prohibited.

Note – ONLY SCIENCE TEACHERS AND PRINCIPALS SHALL HAVE A KEY TO STORAGE ROOMS.

7.3.2 Chemicals should be stored according to compatibility types. Alphabetical storage is unsafe.

7.3.3 Large containers shall be stored on or near the floor.

7.3.4 Shelf assemblies shall be firmly secured to walls. Free standing, shelf assemblies will not be acceptable.

7.3.5 All shelves shall be provided with anti-roll lips or rods of at least 1" to prevent bottle roll-off.

7.3.6 Chemicals that are caustic, corrosive, or volatile should be stored below waist level.

7.3.7 Only small containers should be stored on high shelves.

7.3.8 No hazardous chemical should be stored above eye level.

7.3.9 Chemicals shall not be stored within the fume hood.

7.3.10 Food shall not be stored in a laboratory refrigerator or taken into a chemical storage area.

7.3.11 Flammable materials shall be stored in a dedicated flammable storage cabinet.

7.3.12 Corrosive materials shall be stored in a dedicated acid storage cabinet.

7.4 Chemical Storage – Specific Hazard Classes

7.4.1 Flammable Liquids

7.4.1.1 Store in a cool place away from heat, sun, or sources of ignition.

7.4.1.2 Adequate ventilation should be provided to prevent vapor buildup.

7.4.1.3 Use approved storage cabinets or safety cans for flammable liquids.

7.4.1.4 Store flammable liquids away from: oxidizers, chemicals capable of spontaneous heating, explosives, and ignition sources.

7.4.2 Corrosive Chemicals

7.4.2.1 Separate acids from bases.

7.4.2.2 Separate oxidizing acids (ex. nitric acid) from other acids.

7.4.2.3 Corrosive chemical cabinets should be non-corroding.

7.4.2.4 Corrosives should not be stored at or above eye level.

7.4.2.5 Inorganic acids should be stored separate from organic acids.

7.4.2.6 Store corrosive chemicals away from: toxic materials, active metals (ex. sodium and magnesium), substances that release corrosive, toxic or flammable fumes on reaction, organic materials, flammable substances, and uncoated structural material.

7.4.3 Toxic Chemicals

7.4.3.1 Store toxic chemicals away from heat, moisture, and fire hazard areas.

7.4.3.2 Protect from acid and fume contamination.

7.4.3.3 Store toxic chemicals away from: acids and other corrosives, reactive chemicals, fire hazards, heat, and moisture.

7.4.4 Reactive Chemicals

7.4.4.1 Protect from extremes of temperature and rapid changes in temperature.

7.4.4.2 Store oxidizers away from flammable or combustible materials, and away from reducing agents such as zinc and alkaline earth metals.

7.4.4.3 Store peroxide-forming chemicals in airtight containers and label with receiving and disposal dates.

Note – These chemicals can form explosive peroxides which can be detonated by shock or heat.

7.4.4.4 Store light-sensitive chemicals in amber bottles.

7.4.4.5 Store reactive chemicals away from: organic materials, flammable materials, corrosives, and toxic materials.

7.4.5 Water and Air-Sensitive Chemicals

7.4.5.1 Store in a waterproof, fire-resistant cabinet or room.

7.4.5.2 Store away from: water and moist air, solutions of aqueous acids and bases, flammable storage area, and reactive chemicals.

7.5 Chemical Labeling

7.5.1 It is the responsibility of the science teacher to ensure that all chemicals and any container that contains a chemical are properly labeled. Unknown chemicals are expensive to sample and dispose of.

Note – Newly purchased chemicals usually have adequate identification of the material on their label. However, this is not always the case.

7.5.2 All labels must indicate the name of the material, contact information for the manufacturer, precautionary statements, and all hazard warnings appropriate for employee safety.

7.5.3 Labels shall not be removed or altered.

7.5.4 Additional labels may be affixed, but they should not obscure the original label.

7.6 Chemical Usage – General Procedures

7.6.1 When working with caustic or corrosive liquids, gases, vapors, or aerosols, splash resistant chemical goggles that meet ANSI Z87.1 are required.

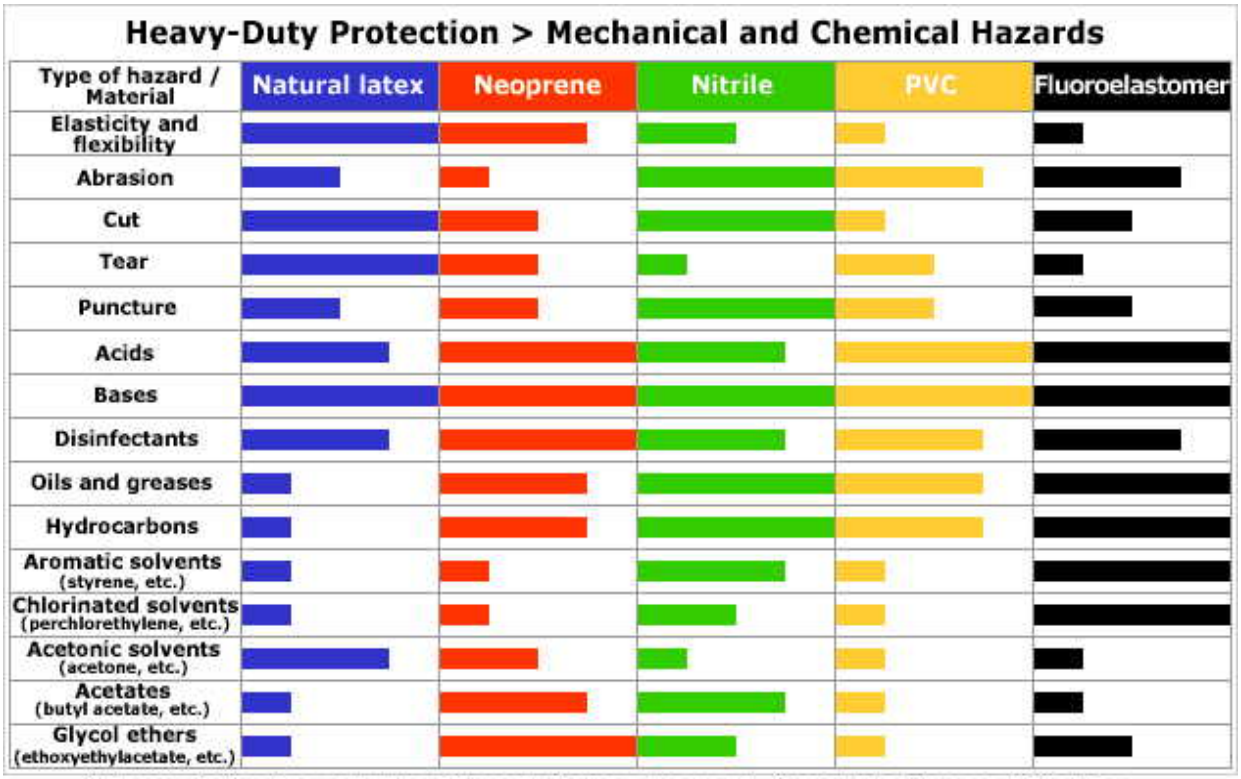
7.6.1.1 Goggles should seal around the eyes to prevent entrance of splashed liquids.

7.6.1.2 Depending upon the chemical composition and amount or recommendations on a MSDS, face shields may be required.

7.6.2 Contact lenses offer no protection against eye injury and cannot be substituted for safety glasses and goggles. Safety glasses with side shields or tight-fitting safety goggles must be worn over contact lenses.

7.6.3 It is recommended that labs utilize sterilization cabinets for safety goggles and safety glasses.

7.6.4 All persons should wear non-permeable gloves when handling chemicals or conducting experiments. Use the following basic chart from MAPA Gloves or visit Ansell's website for their more advanced Chemical Resistance Guide.



The longer the line, the greater the resistance to the hazard concerned. These tables give general indications. For more precise details, consult the MAPA Professional Technical Documentation.

7.6.5 A properly operating fume hood should be used for all chemical reactions that may generate toxic fumes, vapors, or dusts.

7.6.5.1 Do not conduct experiments in the fume hood with the sash fully open. The fume hood operates most effectively when the sash is at the designated operating height. Additionally, the sash acts as a physical barrier between you and the contents of the hood.

7.6.5.2 Do not place equipment or chemicals very close to the openings at the rear of the fume hood, or very close to the front of the fume hood as this will interrupt even airflow.

7.6.6 Chemicals that are highly caustic or corrosive should be used only if an eyewash fountain is available and functioning properly.

7.6.7 If highly caustic or corrosive chemicals are to be used in large enough amounts to splash on a major portion of the body, a functioning safety shower should be available.

7.6.8 Students and teachers should never work alone when mixing chemicals.

7.6.9 Do not begin a lab if safety equipment is not available or is malfunctioning.

7.6.10 Eating and drinking are prohibited in laboratories.

7.6.11 Avoid inhalation of chemicals. Do not sniff to test chemicals.

7.6.12 Do not taste chemicals for any purpose.

7.6.13 Before leaving a laboratory ensure that all gas, water, and electrical services are turned off.

7.6.14 Never allow the open end of a heated test tube to be pointed toward anyone.

7.6.15 Confine or tie back long hair, loose clothing, and loose jewelry.

7.6.16 Open-toed shoes are prohibited in the laboratory.

7.6.17 Study the chemical's MSDS; know the symptoms of exposure for the chemical being used and the precautions necessary to prevent exposure.

7.7 Chemical Usage – Procedures for Specific Chemical Hazards

7.7.1 Toxic Chemicals

7.7.1.1 Use non-permeable gloves when handling containers of toxic chemicals. Wash affected areas immediately if the chemicals are exposed to skin.

7.7.1.2 If the PEL or TLV for a substance is less than 50 ppm or its LC_{50} is less than 200 ppm, the substance should only be handled in a properly functioning fume hood.

7.7.1.3 Know the signs and symptoms of exposure to toxic substances. Review emergency response procedures.

7.7.2 Flammable Chemicals

7.7.2.1 Store flammable liquids in approved flammable storage cabinets.

7.7.2.2 When working with flammable chemicals, be certain there are no open flames, hot surfaces, sparks, or other sources of ignition near enough to cause a fire or explosion in the event of a vapor release or liquid spill.

7.7.2.3 Assure that fire extinguishers are in the area.

7.7.3 Corrosive Chemicals

7.7.3.1 Eye protection and appropriate apron and gloves should always be used when handling corrosive materials. An eyewash and safety shower or drench hose must be readily accessible to areas where corrosives are used and stored.

7.7.3.2 If possible, carry bottles of acids or bases in protective carriers to reduce possibility of breakage or spills.

7.7.3.3 Acid or base exposure demands immediate attention. Exposure can occur through direct skin contact, ingestion, inhalation of vapors, or skin exposure to mists in the air.

7.7.3.4 Splashes should be washed off immediately with plenty of water for 15 minutes. Remove all affected clothing and seek medical help.

7.7.3.5 Mineral acids (ex. sulfuric, nitric, hydrochloric) are reactive with metals, generating flammable hydrogen gas.

7.7.3.6 When performing dilutions always pour acid into water, never the reverse.

7.7.3.7 Completely neutralize a spill (baking soda for acid spills, vinegar for base spills) before cleaning up the area with plenty of water.

7.7.4 Reactive Chemicals

7.7.4.1 Oxidizers: Know the reactivity of the materials involved in the reaction. Ensure that there are no extraneous materials in the area, which could become involved in a reaction. Use shields or other methods for isolating the process if the reaction is expected to be violent.

7.7.4.2 Water Reactive: Safe handling of water reactive materials depends on the specific materials and the conditions of use and storage. See the MSDS for specific instructions.

7.7.4.3 Pyrophoric (ignites spontaneously upon contact with air): Pyrophoric chemicals should be used and stored in inert environments.

Note – Often the flame is invisible.

7.7.4.4 Peroxidizable (materials which react with air to form explosive peroxides): Peroxides can explode with impact, heat, or friction. Peroxides can form even when the container has not been opened. Date all Peroxidizables upon receipt and upon opening.

Note – Do not open any container, which has obvious solid formation around the lid.

7.7.4.5 Light Sensitive: Light sensitive materials can form new compounds that may be hazardous, or may cause pressure build-up in containers. Store in a cool, dark place in amber colored bottles.

7.7.5 Allergens and Sensitizers

A variety of allergens may be encountered in the laboratory. Exposure of skin or the respiratory tract to these agents may cause dermatitis, asthma, or other responses. The special problem with allergic responses is one of sensitization, and difficulties arise because the cause of the allergic response may not be readily identifiable. Usually there is no physical reaction at the time of initial exposure, but this is the point where sensitization occurs. The reaction takes place upon a subsequent exposure to the allergen.

Because of the wide variety of chemicals that may produce allergic responses or adverse reactions in sensitive individuals, and because of the varying response of individuals to such substances, it is essential to minimize exposure of eyes, hands and forearms, and respiratory system by working with adequate ventilation and appropriate protective apparel, resistant to permeation by the chemical.

7.8 Mercury

7.8.1 Per the School Children's Health Act of 2006, Pitt County Schools does not allow the usage or storage of any mercury or mercury-containing devices.

7.8.2 To have mercury-containing devices properly disposed of, contact the Safety Coordinator.

8.0 SAFETY EQUIPMENT

8.1 Eyewash stations are required for all laboratories as a safety precaution. Eyewash stations should be capable of providing a steady low-pressure (30 psi) flow of water for a minimum of 15 minutes.

8.1.1 The eyewash station shall be installed such that there is less than a 10 second walking distance from the location of the hazard.

8.1.2 Eyewash outlet heads shall remain covered to prevent airborne contamination and damage.

8.1.3 Eyewash outlet heads should be located 33" – 45" above the floor.

8.1.4 Eyewash stations are to be inspected monthly by science teachers. An inspection card is to be attached to each eyewash station and signed by the teacher after an inspection. If an inspection card is needed contact the Safety Coordinator.

8.1.4.1 When all spaces have been filled in on the inspection card, submit the completed inspection card to the Safety Coordinator. The Safety Coordinator will supply blank inspection cards as needed.

8.2 Safety showers shall be provided where strong caustics, corrosives, or skin-absorbable poisons are utilized. ANSI standard Z358.1 recommends the following specifications for safety showers:

8.2.1 Showers should be located such that there is less that a 10 second walking distance from the location of the hazard.

8.2.2 Showers should be located away from electrical apparatus, power outlets, or panels.

8.2.3 Showerheads should be located 82" – 96" above the floor.

8.2.4 A floor drain for the showers is highly recommended.

8.2.5 The shower valve should be operated by a chain, triangle, or rod and chain arrangement that is no higher than 69" above floor.

8.2.6 The shower should be capable of delivering a flow-rate of 20 gallons per minute.

8.2.7 Showers are to be inspected <u>monthly</u> by science teachers. An inspection card is to be attached to each shower and signed by the teacher after an inspection. If an inspection card is needed contact the Safety Coordinator.

8.2.7.1 When all spaces have been filled in on the inspection card, submit the completed inspection card to the Safety Coordinator. The Safety Coordinator will supply blank inspection cards as needed.

8.3 Fire extinguishers should be located, installed, and maintained in accordance with the NFPA 10 standard. In most laboratories, the best extinguisher is a 10-lb ABC fire extinguisher. However, some chemicals may require an additional fire extinguisher such as a CO^2 fire extinguisher.

8.3.1 The Safety Coordinator is responsible for annual fire extinguisher inspections and hydrostatic testing.

8.4 Fire blankets are required for all laboratories and shall be mounted in a visible and readily accessible area.

8.5 Spill cleanup kits or spill control materials (sand, etc) are required for all laboratories.

8.6 All MSDS's shall be alphabetized by name, contained in a red or yellow binder, labeled as "Material Safety Data Sheets" or "MSDS", and affixed on the wall in a readily accessible location near an exit.

8.7 Fume hoods should be installed in all laboratories where flammable/toxic vapors or airborne particles are released or generated.

8.7.1 A face velocity of between 80 – 120 fpm (feet per minute) is recommended.

8.7.2 Since hoods are routinely used for potentially explosive mixtures of flammable vapors and air, all electrical connections such as switches, lights, and motors should be explosion proof.

8.7.3 Ductless fume hoods are not recommended.

9.0 LABORATORY REQUIREMENTS

9.1 Laboratory construction and renovation shall meet all applicable OSHA, NEC, ADA, and NC-DPI rules and guidelines.

9.2 Each laboratory should have two exits. Exits into adjoining classrooms and, where usable, windows may be counted.

9.3 The laboratory should be designed to accommodate the recommended number of students.

9.4 Electrical outlets on work surfaces where spillage of fluids is expected shall be GFCI.

9.5 Provisions should be made to protect gas, water, and electrical outlets from vandalism by students. These services should be available only to students participating in laboratory activities.

9.6 Ventilation for all laboratories shall conform to the NFPA 45 standard. Laboratories without conventional windows should have a source of "makeup air".

9.6.1 Laboratory air should not be re-circulated to other parts of the building by the heating or air conditioning system.

9.6.2 Air pressure in the laboratories should be slightly negative with respect to the rest of the building.

9.6.3 Fumes and vapors within the chemical storage room should be removed to a safe area outside the building. A safe area is defined as having:

- Low probability of fume or vapor re-entry through air conditioning, heating, or ventilation system.
- Low probability of human exposure in the area.

9.6.4 Substances that emit fumes or gases should not be stored in an unventilated chemical storage room. Some fumes and vapors present additional hazards and require additional storage precautions.

9.7 Work surfaces/lab tables should be of a nonporous chemical resistant material.

9.8 Master controls shall be provided and clearly labeled for gas, electricity, and water. In the event of fire, electrical shock, flooding, or explosion, the teacher should be able to shut down the services and initiate emergency procedures.

9.9 All laboratories shall have a telephone or other communication means for use in emergencies.

10.0 CHEMICAL STORAGE ROOM REQUIREMENTS

10.1 All storage areas that contain poisonous, corrosive, caustic, or explosive materials must be provided with a secure lock system.

Note – ONLY THE SCIENCE TEACHER AND PRINCIPAL SHALL HAVE A KEY TO THE CHEMICAL STORAGE ROOM).

Note – Deadbolt locks or hasp locks are not permitted as they may inadvertently trap someone inside.

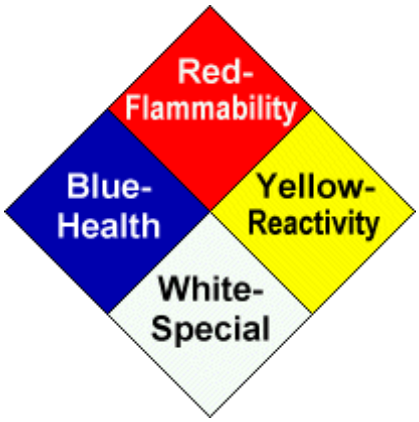
10.2 Flammable storage cabinets should be constructed in accordance with the requirements of the NFPA 30 standard.

10.3 High school laboratories should have a storage room constructed and ventilated in accordance with the NFPA 30 and NFPA 45 standards.

10.4 The floors in chemical storage rooms should be constructed of chemical resistant materials.

11.0 SIGNS

11.1 All science stockrooms should be marked with a small NFPA sign on the entrance doors. The NFPA 704 System uses a numerical diamond to rate as described on the following page.



Rating Summary

Health (Blue)

4	**Danger**	May be fatal on short exposure. Specialized protective equipment required
3	**Warning**	Corrosive or toxic. Avoid skin contact or inhalation
2	**Warning**	May be harmful if inhaled or absorbed
1	**Caution**	May be irritating
0		No unusual hazard

Flammability (Red)

4	**Danger**	Flammable gas or extremely flammable liquid
3	**Warning**	Flammable liquid flash point below 100° F
2	**Caution**	Combustible liquid flash point of 100° to 200° F
1		Combustible if heated
0		Not combustible

Reactivity (Yellow)

4	**Danger**	Explosive material at room temperature
3	**Danger**	May be explosive if shocked, heated under confinement or mixed with water
2	**Warning**	Unstable or may react violently if mixed with water
1	**Caution**	May react if heated or mixed with water but not violently
0	**Stable**	Not reactive when mixed with water

Special Notice Key (White)

W	Water Reactive
Oxy	Oxidizing Agent

11.2 Location signs for exits, evacuation routes, safety showers, eyewash stations, fire blankets, and other safety equipment shall be posted.

12.0 FIRE PREVENTION AND EMERGENCY RESPONSE

12.1 All aisles and exits must be clear at all times.

12.2 ABC fire extinguishers shall be installed in each laboratory based on the NFPA 10 standard.

12.3 If a fire is not manageable then evacuate and leave the fire fighting to the emergency responders. Use the following steps if the fire is not manageable:

- Activate the fire alarm and evacuate the area.
- Shut off the gas and electrical power to the laboratory using the master control switches.
- Close all windows and doors, if possible.
- Students with clothing fires should be pushed to the floor and rolled to extinguish the flames, or wrapped in a fire blanket.
- Notify essential school administration and obtain medical assistance as soon as possible.

13.0 ANIMALS

13.1 Animals must be fed and their facilities cleaned at appropriate intervals. This schedule must be maintained on weekends and school holidays.

13.2 Hands should be washed and sterilized after any contact with an animal or its environment.

13.3 Access to animal care facilities should be limited to those individuals directly responsible for the animals.

13.4 Appropriate protective equipment such as rubber gloves should be worn when handling animals or dissecting specimens.

13.5 The following animals should not be allowed in schools:

- Wild animals
- Poisonous animals
- Stray animals
- Baby chickens and ducks
- Aggressive animals
- Reptiles and amphibians
  (Not recommended for children under 12)

13.6 Teachers should check with students to ensure that the animals are not an allergen.

13.7 Birds should not be allowed to fly free in a classroom.

14.0 PLANTS

14.1 Hands should be washed after contact with plants.

14.2 Do not use plants that present hazards from oils (ex. poison ivy), hazards if eaten (ex. mushrooms), or hazards from saps.

14.3 Teachers should check with students to ensure that the plants are not an allergen.

15.0 MICROORGANISMS AND BIOTECHNOLOGY

15.1 Use only sterile equipment. All equipment and work surfaces should be properly cleaned and disinfected.

15.2 Use appropriate handling procedures to ensure that microorganisms are not released into the environment as aerosols (ex. mold spores).

15.3 Prohibit mouth pipetting.

15.4 Prohibit cultures of pathogenic microorganisms.

15.5 Treat all agents as if they are pathogens.

15.6 Students and instructors should never have anything in their mouth while working with bacterial and viral cultures.

15.7 Students and instructors should wash their hands thoroughly before and after conducting laboratory work.

15.8 The use of human blood and body fluids or tissues is prohibited for classroom laboratory activities.

16.0 RADIATION SAFETY

16.1 Prohibit all activities that could contribute to direct viewing of a laser beam.

16.2 Staff and students should wear eye protection that is certified “for use with laser” whenever a laser is producing radiation outside the visible spectrum.

16.3 Remove all unneeded reflective surfaces such as jewelry when conducting experiments or demonstrations utilizing lasers.

16.4 Terminate the laser beam in a non-reflective light-absorbing surface.

17.0 CHEMICAL DISPOSAL

17.1 Chemicals that are no longer used in the instructional program or pose a hazard should be removed from the school.

17.1.1 Science Teachers should contact the Safety Coordinator for chemical disposal.

17.1.2 Containers to be disposed should be labeled indicating their contents.

17.2 Chemicals should not be poured in drains at Chicod, Falkland Elementary, or Northwest Elementary. These schools are connected to septic tank systems (wastewater field systems) and some chemicals can damage the septic system process or the environment.

18.0 DEFINITIONS

Acute Health Effects – Acute health effects result from a single exposure to a chemical. (ex. hydrogen cyanide is a highly toxic substance; acute exposure at relatively low doses can result in death)

ADA – Americans with Disabilities Act

Allergen – An agent capable of producing an immunologic reaction.

ANSI – American National Standards Institute. ANSI is an organization that develops national consensus standards for a wide variety of devices and procedures.

Biohazard – Infectious agents that present a risk or potential risk to the health of humans or other animals, either directly through infection or indirectly through damage to the environment.

Carcinogen – A substance that may cause cancer in animals or humans.

Chronic Health Effects – Chronic health effects result from long-term exposure to a substance. (ex. liver cancer from inhaling low levels of benzene over several years)

Combustible Liquid

Class II – Flash point equal to or greater than 100° Fahrenheit, but less than 140° Fahrenheit. (ex. paint thinner and diesel fuel)

Class IIIA – Flash point equal to or greater than 140° Fahrenheit, but less than 200° Fahrenheit. (ex. home heating fuel)

Class IIIB – Flash point equal to or greater than 200° Fahrenheit. (ex. motor oil)

Corrosive – A substance that, according to the DOT, causes visible destruction or permanent changes in human skin tissue at the site of contact or is highly corrosive to steel.

DOT – Department of Transportation. The federal agency that regulates the labeling and transportation of hazardous materials.

EPA – Environmental Protection Agency. The federal agency responsible for administration of laws to control and/or reduce pollution of air, water, and land systems.

Explosive – A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Flammable Liquid

Class IA – Flash point less than 73° Fahrenheit boiling point less than 100° Fahrenheit. (ex. petroleum ether and pentane)

Class IB – Flash point less than 73° Fahrenheit, boiling point equal to or greater than 100° Fahrenheit. (ex. gasoline and toluene)

Class IC – Flash point equal to or greater than 73° Fahrenheit, but less than 100° Fahrenheit. (ex. xylene)

Flammable Solid – A non-explosive material that is capable of producing fire as a result of friction or heat retained from production.

Flash Point – The minimum temperature at which the liquid produces a sufficient concentration of vapor above it that it forms an ignitable mixture with air. The source of ignition need not be an open flame, but could equally be, for example, the surface of a hot plate, or a steam pipe.

GFCI – Ground Fault Circuit Interrupter. Used to prevent injury from contact with electrical equipment by shutting off power before damage caused by a ground fault can occur. Required in locations where one might be in contact with a grounded surface and an electrical source, particularly adjacent to a water supply.

Hazardous Chemical – Any chemical that presents a physical or health hazard to an employee.

Hazard Warning – Words, pictures, and/or symbols on a product showing a physical or health hazard.

Health Hazard – A chemical that is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

IDLH – Immediately Dangerous to Life or Health. A very hazardous atmosphere that can cause serious injury or death.

Incompatible – The term applied to two substances to indicate that one material cannot be mixed with the other without the possibility of a dangerous reaction.

Laboratory – For the purpose of this program a laboratory will constitute any room or area in which science related experiments or demonstrations take place and adjoining chemical storage areas.

LC_{50} – The concentration of an air contaminant that will kill 50 percent of the test animals in a group during a single exposure.

LD_{50} – The dose of a substance or chemical that will kill 50 percent of the test animals in a group within the first 30 days following exposure.

Material Safety Data Sheet (MSDS) – A document which describes pertinent information related to the use of a chemical product, including its physical and health hazards, the permissible exposure level, precautions for safe handling, spill cleanup, emergency and first aid procedures, personal protective equipment needs, and the name and telephone number of who can be contacted to obtain emergency procedures or other related information.

NC-DPI – North Carolina Department of Public Instruction

NEC – National Electric Code

NFPA – National Fire Protection Association. An organization whose aims are to promote and improve fire protection and prevention.

OSHA – Occupational Safety and Health Administration. A federal agency under the Department of Labor that publishes and enforces safety and health regulations.

Oxidizer – A chemical other than a blasting agent or explosive, that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

PEL **–** Permissible Exposure Limit. The maximum allowable exposure that an employee can be exposed to over an 8-hour Time-Weighted Average.

Physical hazard – A chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids);

oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

PPM – Parts Per Million. Used to specify the concentration (by volume) of a gas or vapor at low concentration, or a dissolved material at high dilution.

Pyrophoric – A chemical that ignites spontaneously in air at less than 130° F.

Reactive – A chemical which as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

Systemic – Spread throughout the body and affecting many or all body systems or organs.

TLV – Threshold Limit Value. The maximum permissible concentration of a material, generally expressed in parts per million in air for some defined period of time (often 8 hours, but sometimes for 40 hours per week over an assumed working lifetime).

Toxicity – The potential of a substance to exert a harmful effect on humans or animals and a description of the effects and conditions or concentration under which the effect takes place.

Water Reactive – A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

19.0 REFERENCE DOCUMENTS

Biehle, James T., LaMoine L. Motz, and Sandra S. West. (1999). **NSTA Guide to School Science Facilities.** Arlington, VA: National Science Teachers Association.

Guardian Equipment. (2009). **ANSI Z358.1-2009 Compliance Checklist.** Available online.

National Fire Protection Association. **NFPA 10 Standard for Portable Fire Extinguishers**.

National Fire Protection Association. **NFPA 30 Flammable and Combustible Liquids Code**.

National Fire Protection Association. **NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals**.

North Carolina Occupational Safety and Health Administration. **Occupational Safety and Health Standards for General Industry:** *29 CFR 1910.106, Flammable/Combustible Liquids.* Raleigh, NC: N.C. Department of Labor.

North Carolina Occupational Safety and Health Administration. **Occupational Safety and Health Standards for General Industry:** *29 CFR 1910 Subpart I, PPE Standards.* Raleigh, NC: N.C. Department of Labor.

North Carolina Occupational Safety and Health Administration. **Occupational Safety and Health Standards for General Industry:** *29 CFR 1910.151, Medical and First Aid.* Raleigh, NC: N.C. Department of Labor.

North Carolina Occupational Safety and Health Administration. **Occupational Safety and Health Standards for General Industry:** *29 CFR 1910.157, Portable Fire Extinguishers.* Raleigh, NC: N.C. Department of Labor.

North Carolina Occupational Safety and Health Administration. **Occupational Safety and Health Standards for General Industry:** *29 CFR 1910.1200, Hazard Communication.* Raleigh, NC: N.C. Department of Labor.

North Carolina Occupational Safety and Health Administration. **Occupational Safety and Health Standards for General Industry:** *29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories.* Raleigh, NC: N.C. Department of Labor.

APPENDIX

1. Parent-Student Laboratory Safety Contract (SF-001)
2. Chemical Hazards (SF-002)
3. Chemical Inventory (SF-003)
4. Prohibited Chemicals List (SF-025)
5. Documentation of Chemical Hygiene / Science Safety Training (SF-026)
6. Chemical Hygiene / Science Safety Inspection (SF-027)

Pitt County Schools

PITT COUNTY SCHOOLS
STUDENT LABORATORY SAFETY CONTRACT

I agree to do my part to maintain a safe laboratory environment for others and myself. I realize that I must obey these rules to insure my own safety, and that of my fellow students and instructors. I am aware that any violation of this safety contract that results in unsafe conduct in the laboratory may result in being removed from the laboratory. I understand and will abide by the following rules:

1. Dress appropriately so as not to cause injury to others and myself. Confine long hair, loose clothing, and jewelry.

2. Behave in such a manner so as not to pose a potential injury to others and myself.

3. Follow the prescribed safety rules for the laboratory or the particular science activity being conducted.

4. Stay within the limits of the science activity to prevent an unsafe situation.

5. Follow instructor's directions.

6. Wear eye protection, gloves, and other personal protective equipment as required.

7. Wash hands before leaving the laboratory.

_____ _____
(Student's Name) (Date)

I have read the above rules. I support Pitt County Schools effort to achieve a safe laboratory and will encourage my child to uphold his/her part of the above agreement. In order to assure student safety, it is important that the above rules are followed. Failure to do so may result in your child being removed from the laboratory.

_____ _____
(Parent's/Guardian's Name) (Date)

Pitt County Schools

CHEMICAL HAZARDS

This list is not inclusive of all potential chemical hazards but is intended to acquaint teachers and administrators with a sample of known chemical hazards. School personnel are expected to protect students from these hazards through proper handling, usage, and storing of these chemicals. If appropriate facilities and equipment do not exist to safely use such chemicals, it is recommended that said chemicals be removed from the school. SINCE CHEMICALS ARE CONSTANTLY BEING TESTED FOR HEALTH EFFECTS, PLEASE REFER TO THE MATERIAL SAFETY DATA SHEETS AVAILABLE FOR ALL CHEMICALS FOR CURRENT HEALTH HAZARD INFORMATION.

GROUP A - SELECT CARCINOGENS

Chloroform: POISON; affects heart muscle, liver, and kidneys

Chromium: Suspected carcinogen; hexavalent compounds can cause skin ulcers and are dermatitoxic by inhalation

Chromium IV Oxide: (chromium trioxide) Suspected carcinogen, mutagen, teratogen

Cobalt: Suspected carcinogen

Lead Arsenate: POISON

Lead Chromate VI: Possible carcinogen; toxic by inhalation and ingestion

Nickel: FLAMMABLE; Allergen

Phenol: POISON; Suspected carcinogen; strong tissue irritant readily absorbed through the skin

Potassium Chromate: POISON

Salenium: POISON; Suspected carcinogen

Sodium Arsenite: POISON; Suspected human carcinogen

Trichloroethylene: TOXIC to central nervous system

Uranium: RADIOACTIVE; FIRE HAZARD; Suspected carcinogen; ignites spontaneously in air

Uranyl Nitrate: EXPLOSIVE; severe fire and explosion risk in contact with organic compounds; TOXIC; Suspected carcinogen

Pitt County Schools

GROUP B - HIGHLY TOXIC (POISONS)

Aluminum Chloride: (Anhydrous) Strong skin irritant; reacts violently with water to give HCL

Ammonium Vanadate: TOXIC

Antimony Chloride: TOXIC and CORROSIVE, strong irritant to eyes and skin

Antimony Potassium Tartrate: TOXIC

Barium Compounds: All barium compounds are TOXIC by ingestion and are also skin irritants

Butanol: TOXIC; irritant to skin and eyes

Calcium Cyanide: Highly TOXIC; decomposes in moist air, water, and weak acids to form hydrogen cyanide

Catechol (pyrocatechol): TOXIC; allergen; threshold limit value - air 1 ppm

Chlorobutanol (chloretone): TOXIC; affects central nervous system

Chloretone (chlorobutanol): TOXIC; affects central nervous system

Chromic Acid: FIRE HAZARD: OXIDIZER, forms explosive mixtures with organic compounds; Corrosive to skin

2,4-Dinitrophenol: Highly TOXIC; absorbed by skin; may cause dermatitis and liver damage; dust inhalation can be fatal; EXPLOSIVE

Ether: FLAMMABLE; EXPLOSIVE due to peroxide formation; Strong narcotic

Hydrobromic Acid: TOXIC; CORROSIVE; irritant; reacts with water to produce toxic and corrosive fumes

Hydrochloric Acid: TOXIC; CORROSIVE; Causes damage to lungs, eyes, and skin.

Hydrogen sulfide: FLAMMABLE; Strong irritant and asphyxiant

Iodine Crystals: Highly TOXIC by ingestion and inhalation; strong irritant to eyes and skin

Lead Compounds: Highly TOXIC by ingestion and inhalation

Pitt County Schools

Magnesium Chlorate: TOXIC; OXIDIZER; forms flammable and explosive mixture with organic compounds

Mexitylene: TOXIC

Nitric Acid: CORROSIVE; STRONG OXIDIZER

1-Phenyl-2-Thiourea: TOXIC

Potassium Oxalate: TOXIC by inhalation and ingestion; CORROSIVE

Phenyl Salicylate (salol): TOXIC

Sodium Fluoride: TOXIC to central nervous system

Sodium Permanganate: TOXIC; OXIDIZER; forms FLAMMABLE and EXPLOSIVE mixtures with organic compounds

Sodium Silicofluoride: Strong tissue irritant

Sodium Sulfide: TOXIC; strong tissue and skin irritant; FIRE HAZARD

Sodium Thiocyanate: TOXIC

Stannic Chloride: CORROSIVE; yields hydrochloric acid on heating

Toluene: TOXIC to central nervous system; FLAMMABLE; forms EXPLOSIVE mixture with air

Pitt County Schools

GROUP C - EXPLOSIVES AND FLAMMABLES

Acetone: EXTREMELY FLAMMABLE; Irritant; Affects Central Nervous System

Ammonium Nitrate: STRONG OXIDIZER

Chromic Acid: OXIDIZER; FIRE HAZARD; forms EXPLOSIVE mixture in contact with organic materials

Cyclohexane: FIRE HAZARD

2,4-Dinitrophenol: EXPLOSIVE; severity increases with drying; TOXIC

Ether: FLAMMABLE; forms EXPLOSIVE mixture with air, EXPLOSIVE due to formation of peroxides with aging; TOXIC

Gasoline: FLAMMABLE; forms EXPLOSIVE mixture with air

Gunpowder: EXPLOSIVE

Hydrogen Sulfide: TOXIC; FLAMMABLE gas

Lithium: FIRE HAZARD; severe EXPLOSION risk (reactivity) with water, nitrogen, acids, or oxidizers

Magnesium: FIRE HAZARD

Magnesium Chlorate: TOXIC; OXIDIZER; dangerous fire risk in contact with organic materials

Mercuric Nitrate: TOXIC; OXIDIZER; forms FLAMMABLE and EXPLOSIVE mixtures with organic materials

Methyl Ethyl Ketone: TOXIC; FLAMMABLE; forms EXPLOSIVE mixture with air

Methyl Methacrylate: TOXIC; FLAMMABLE; forms EXPLOSIVE mixture with air

Pentane: TOXIC; FLAMMABLE; forms EXPLOSIVE mixture with air

Petroleum Ether: TOXIC; FLAMMABLE; forms EXPLOSIVE mixture with air

Potassium: FIRE HAZARD: can ignite spontaneously with air; violent reaction with water; OXIDIZER; forms EXPLOSIVE peroxides while aging and can explode when handled or cut; must be stored under liquid hydrocarbons

Pitt County Schools

Potassium Chlorate: TOXIC; OXIDIZER; forms EXPLOSIVE mixture with organic compounds

Pyridine: TOXIC; FLAMMABLE; forms EXPLOSIVE mixture with air

Sodium: FLAMMABLE solid; violent reaction with water; severe caustic irritant to tissue; must be stored under liquid hydrocarbons

Sodium Chlorate: OXIDIZER; forms FLAMMABLE EXPLOSIVE mixtures with organic compounds

Sodium Permanganage: TOXIC; OXIDIZER; forms FLAMMABLE EXPLOSIVE mixture with organic compounds

Sodium Sulfide: Unstable compound; FIRE HAZARD; TOXIC

Strontium Nitrate: OXIDIZER; forms FLAMMABLE EXPLOSIVE mixture with organic compounds

Thermite and related compounds (mixture of iron oxide and powdered aluminum): FIRE HAZARD; once used for incendiary bombs

Titanium Trichloride: TOXIC; OXIDIZER: forms FLAMMABLE mixture with organic materials

2,2,4-Trimenthylpentane: FLAMMABLE; forms EXPLOSIVE mixture with air; moderately TOXIC by inhalation and ingestion

Pitt County Schools Chemical Inventory

SCHOOL: **Teacher's Name:** **Room Number:** **Date Completed:**

Chemical Name	**Size Container**	**Type Container** **G** (Glass) **P** (Plastic) **C** (Cardboard) **O** (Other, list)	**Request Removal** **Y** (Yes) **N** (No)	**Condition/ Comments**
1. Example: Water	*52 oz*	*G*	*N*	*Good, not opened.*

Pitt County Schools

PROHIBITED CHEMICALS

No science department shall USE or STORE the following chemicals

Explosives / Flammables

Acetyl Chloride
Benzoyl Peroxide
Carbon Disulfide
Diisopropyl Ether
Ethyl Ether
Perchloric Acid
Picric Acid
Potassium Metal
Sodium
Sodium Peroxide
Strontium

Carcinogens

1,2 Dibromo-c-chloropropane
1,2-dichlorethane
1,3-butadiene
1,4-dioxane
2-acetylaminofluroene
3,3'-Dichrolorobenzidine and Its Salts
4-aminodiphenyl
4-diemthylaminoazobenzene
4-nitrobiphenyl
Acetamide
Acridine Orange
Acrylonitrile
Alpha Naphthylamine
Ammonium Bichromate
Ammonium Chromate
Ammonium Dichromate
Aniline and Salts
Anthracene
Antimony Oxide
Arsenic & All Compounds
Asbestos
Benzene
Benzidine
Beryllium Carbonate
Beta-napthylamine
Beta-propiolactone
Bis (chlroromethyl) Ether
Cadmium
Carbon Tetrachloride
Chloroform
Cobalt Powder
Coke Oven Emissions
Colchicine
Ethylene Oxide
Formaldehyde
Indigo Carmine
Inorganic Arsenic
Lead Arsenate
Lead Diacetate
Lead (VI) Chromate
Methyl Chloromethyl Ether
Methylene Chloride
N-nitrosodimethylamine
Nickel(II) Acetate
Osmium Tetraoxide
Pyrogallic Acid
Silver(I) Nitrate
Sodium Arsenate
Sodium Azide
Sodium Dichromate Dihydrate
Sodium Nitrate
Sodium Nitrite
Thioacetamide
o-Toluidine
Urethane
Vinyl Chloride

Pitt County Schools

Moderate and Highly Toxic Substances

Adrenaline
Barium Hydroxide
Chlorine
Colchicine
Chromium III Compounds
Chromium Powder
Cyanides
Ethidium Bromide
Hydrofluoric Acid
Mercury
Mercuric Chloride
Mercuric Iodide
Mercuric Nitrate
Mercuric Oxide
Mercuric Sulfate
Nickel Powder
Nicotine
Osmium Tetraoxide
Phosphorous (White)
Phosphorous Pentoxide
Potassium Cyanide
Potassium Periodate
Silver Cyanide
Silver Oxide
Sodium Cyanide
Thiourea

Corrosive / Irritating Substances

Antimony Trichloride
Bromine
Hydrogen Peroxide (30%)
Hydroquinone
Lead Carbonate
Phthalic Anhydride
Potassium Chromate
Potassium Permanganate
Sulfuric Acid Fuming
Toluene

Pitt County Schools

Pitt County Schools
Documentation of Chemical Hygiene / Science Safety Training

School/Site:_____ **Date**:_____

1.	**26.**
2.	**27.**
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Please Return To Mike Whitford – Safety Coordinator

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Pitt County Schools

CHEMICAL HYGIENE / SCIENCE SAFETY INSPECTION

School: _____ **Room Number:** _____

Laboratory / Classroom

The following items should be observed during the inspection		
1. Room is well lit:	Yes ☐	No ☐
2. Room has adequate ventilation:	Yes ☐	No ☐
3. Telephone is available and functions properly:	Yes ☐	No ☐
4. Appropriate exits are available:	Yes ☐	No ☐
5. Fire extinguisher(s) is available and charged:	Yes ☐	No ☐
6. Fire blanket is available:	Yes ☐	No ☐
7. Eyewash/safety showers are available and properly functioning:	Yes ☐	No ☐
8. Eyewash's protective caps are in place:	Yes ☐	No ☐
9. Fume hood(s) is provided and properly functioning:	Yes ☐	No ☐
10. Inside fume hood(s) is kept clean and clear:	Yes ☐	No ☐
11. The chemical storage room is locked when not in use:	Yes ☐	No ☐
12. Chemical containers are properly labeled:	Yes ☐	No ☐
13. MSDS's are readily available for all chemicals:	Yes ☐	No ☐
14. Adequate spill absorbent material is available:	Yes ☐	No ☐
15. PPE is provided, used, and maintained when needed:	Yes ☐	No ☐
16. Proper housekeeping practices are in place:	Yes ☐	No ☐
17. Location signs for exits, evacuation routes, safety showers, eyewash stations, fire extinguishers, and other safety equipment is posted:	Yes ☐	No ☐

Pitt County Schools

CHEMICAL STORAGE ROOM

The following items should be observed during the inspection		
1. Exits are identified and accessible:	Yes ☐	No ☐
2. Utility and safety equipment access is not blocked:	Yes ☐	No ☐
3. Proper housekeeping practices are implemented:	Yes ☐	No ☐
4. Chemicals are stored within the manufacturer's suggested shelf life:	Yes ☐	No ☐
5. All chemical containers are properly labeled:	Yes ☐	No ☐
6. Chemical containers are in good condition:	Yes ☐	No ☐
7. Shelves are firmly attached:	Yes ☐	No ☐
8. Shelves are provided with anti-roll lips or rods of at least 1":	Yes ☐	No ☐
9. Large and/or heavy items are stored on bottom shelving:	Yes ☐	No ☐
10. Room has adequate ventilation:	Yes ☐	No ☐
11. Flammables are properly stored in a flammable safety cabinet:	Yes ☐	No ☐
12. Corrosives are properly stored in an acid storage cabinet:	Yes ☐	No ☐

Notes and/or Observations:

Name: _____ **Title:** _____

Date: _____