



DISTRICT TWO
HARRISON SCHOOLS

Harrison School District 2 Chemical Hygiene Plan

Updated & Approved by Steve Pecharich on
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Introduction and Overview

This Chemical Hygiene Plan (CHP) contains the district's guidelines for the management of chemicals in secondary schools with specific emphasis on science and art departments. It contains information required by the Colorado Department of Public Health and Environment (CDPHE) Consumer Protection Division, as outlined in the document *Rules and Regulations Governing Schools in the State of Colorado*. Additional information about the rules and regulations may be obtained by visiting the Division of Environmental Health & Environment's webpage at <https://cdphe.colorado.gov/school-health-safety-regulations/chemical-management-guidance-for-schools>

Section I: Annual Review

The Chemical Hygiene Plan will be reviewed and updated at least annually by the Environmental, Health and Safety Manager- Steve Pecharich, 719-920-8858.

Section II: Laboratory Hazardous Materials and Chemical Management

In accordance with district policy EBAB – Hazardous Materials and district policy EBAB-R - Hazardous Materials, the district is committed to providing a healthy and safe environment for its students and staff. In order to achieve these goals, proper chemical management and training are essential to make students and employees aware of potential hazards related to chemical use including:

- Restricting the purchase of hazardous chemicals and ensuring all staff follow purchasing procedures in order to minimize large quantities of chemicals and/or extremely hazardous chemicals from entering the school.
- Minimizing hazardous chemical use and waste generation in the classroom via microscale chemistry, green chemistry, demonstration labs, video instruction, or other forms of non-hazardous or less-hazardous curricula.
- Ensuring staff follow the Chemical Hygiene Plan, participate in training programs, and work to minimize chemical waste generation.

Section II (a): Administrative Positions and Duties

The following positions are integral in the district's chemical management process:

A. Environmental, Health and Safety Manager:

1. The EHS Manager, 719-920-8858, serves as the hazardous materials program supervisor.
2. The EHS Manager is responsible for the overall operation of all hazardous materials policies and procedures within the district.
3. The EHS Manager maintains the list of prohibited hazardous materials which will be updated at least annually.
4. The EHS Manager will maintain the SDS system for the district.

B. Building Administrator/Principal:

1. The principal is responsible for chemical management in the school and monitors employees' compliance with the Chemical Hygiene Plan (CHP).
2. The principal will appoint a hazardous materials coordinator and an alternate.
3. The principal will ensure that the science department, art department, vocational training program and hazardous material coordinator and alternate understand and adhere to the CHP.

C. Hazardous Materials Coordinators:

1. In accordance with District Policy EBAB-R - Hazardous Materials, a district employee will be appointed as the local hazardous materials coordinator. At each location, a back-up coordinator will also be designated.
2. The coordinator will be responsible for dealing with all aspects of dealing with hazardous materials at the location and will comply with all district policies and procedures and local, state and federal laws dealing with hazardous materials.
3. The coordinator will report any violations of district policy or procedures to the EHS Manager and building administrator simultaneously.
4. Each coordinator will be responsible for logging in the receipt of all hazardous materials received at that location. The coordinator will track and complete written records of the storage, use, and ultimate disposition of the hazardous materials. On or before the 30th of June each year, the coordinator will provide a copy of the current inventory log and record of disposition of all hazardous materials to the supervisor.
5. Coordinators will maintain a copy of each location's inventory and documentation of all hazardous materials. This information may be released to appropriate police, fire and emergency services authorities.
6. The coordinators will maintain a set of SDS in the area where chemicals and hazardous materials are stored and in the main office for all hazardous materials with which they have contact. These SDS will be available for review and use by every district employee. The SDS will also be available for inspection by appropriate police, fire, health and emergency services authorities.
7. Ensure staff have received appropriate training and are aware of the Chemical Hygiene Plan and other reference material.

D. Science, Art, and Vocational Teachers:

1. Understand and follow the Chemical Hygiene Plan and Attachment G – Site Specific Considerations; Appendix G-1: Art Rooms, Appendix G-2: Automotive/Sites Shops, Appendix G-3: Industrial Arts/Carpentry Shops, Appendix G-4: Maintenance/Custodial, Appendix G-5: Nutrition Services, Appendix G-6: Swimming Pools.
2. Printed hard copies of the Chemical Hygiene Plan shall, at a minimum, be located in the science, art, and master Safety Data Sheets (SDS) notebook.
3. Plan and conduct each laboratory exercise with the least toxic alternatives.
4. Use good laboratory chemical management practices.
5. Ensure students are knowledgeable of the chemical hygiene rules, required protective equipment, and safety training.
6. Teach proper chemical management to students.
7. Conduct a monthly inspection of stored chemicals for signs of leakage, poor storage practices, peeling labels, or any other problems.
8. Maintain a current copy of Safety Data Sheets (SDS).
9. Ensure all materials and wastes are labeled, used, and disposed of as required.
10. Maintain chemical spill clean-up materials in chemical storage areas.
11. Report facility problems to the principal immediately so appropriate action may be taken.

Section III: Purchasing Procedures

Staff is encouraged to purchase chemicals, on an annual basis, at the beginning of the school year. In addition to following the district's regular purchasing procedures, an employee may purchase hazardous materials only with the approval of the coordinator for use at a specific location. The

purchasing department will not process any purchase order which does not include the appropriate approval.

Hazardous materials will not be purchased through any mechanism other than a purchase order. Any unapproved purchase of hazardous materials is beyond the scope of the district employee's authority and is forbidden. Such a purchase may be grounds for termination.

The above procedures will also apply to the acceptance of any donated materials.

Prior to purchasing chemicals, the following should be done:

1. Check inventory to make sure the chemical is not already in stock.
2. Evaluate any special storage and/or handling requirements.
3. Crosscheck the CDPHE's list of prohibited, restricted, and demonstration use only chemicals. (Reference Appendices C-1, C-2, and C-2a)
 - a. **Note: under no circumstances will a chemical on the prohibited list be approved for use in district schools**
4. Chemical purchases must be limited to a maximum two-year supply (Restricted chemicals to a one-year supply) but smaller packages are preferable. Smaller packages are:
 - a. Emptied faster, resulting in less chance for decomposition of reactive compounds.
 - b. Have less breakage.
 - c. Reduce the risk of accident and exposure; large containers require material to be transferred to a small container.
5. When possible, chemicals should deliver during summer break or school holidays.
 - a. Staff are responsible for unpacking and handling chemical purchases.
 - b. All chemicals must be labeled with the date they were received and stored in the proper location.
6. SDS for chemicals ordered must be available at the time the chemical is received.
 - a. SDS must be maintained permanently and be readily available for inspection, consultation, and review.
 - b. A hardcopy of all SDS must be stored alphabetically in the SDS notebook in the main office. A second copy must be in the storage area or online in the Flinn Chemventory program.

Section IV: On-Site Hazardous Materials and Chemical Management

The coordinator, with approval from the EHS Manager, will designate an area or areas for storage of:

- a. Materials which are or might become hazardous materials.
- b. Hazardous materials which have been declared waste and are being held for disposal.

The EHS Manager may designate storage areas at each location, if appropriate, as well as a central district storage site.

When a coordinator has a hazardous material requiring disposal, the coordinator will contact the EHS Manager to arrange for storage, transfer or disposal. Materials no longer needed at one site may be available for transfer within the district to another program or location.

When such materials are not needed by another district location, operation or program, the materials may be declared as waste. Only the EHS Manager is authorized to declare a hazardous material as waste.

Staff are required to adhere to the following guidelines for chemical storage, inventory, use, safety, disposal, and spill response:

A. Storage

1. Chemicals will be stored in a designated room or rooms. The school's science department head and/or chemical coordinator will be responsible for the oversight of the chemical storage room(s).
2. Chemicals must be stored according to compatibility group, not alphabetically. Use the Flinn Chemventory labeling system to separate chemicals into organic and inorganic compatibility. (Reference Appendix E and Attachment F)
3. Label all containers with the chemical name (no formulas) and acquisition date.
 - a. Restricted and demonstration-only chemicals shall be identified on the label and shall be identified on the hard copy of the school's Chemical Hygiene Plan.
4. Conduct regular inspections of stored chemicals for signs of leakage, poor storage practices, peeling labels, or any other problems.
5. Chemicals should not be stored on the floor or above eye level.
6. Storage areas must have restricted access; no student or unauthorized staff member will be allowed in storage area unsupervised.
7. Laboratory working solutions shall be properly labeled as to the name of reagent, method in which reagent is used, the type and amount of chemicals used to prepare the reagent, date of preparation and the name of the analyst preparing the reagent. All working solutions and standards shall be examined for stability and properly discarded when found to be no longer usable.

B. Inventory

1. Chemical inventories: identify current chemical supplies; determine if there is surplus stock; determine what is to be disposed of as waste; identify chemical risks and liabilities; provide vital information to emergency responders; and are required by the CDPHE.
 - a. Chemicals identified as expired, outdated, unlabeled, unknown, surplus, unwanted, or prohibited should be designated for disposal.
 - b. Chemicals must be properly labeled and stored using the Flinn Chemventory System (organic/inorganic); any other chemicals (i.e., art) should be properly stored in secured areas and/or in corrosive or flammable cabinets as required.
 - c. Restricted and demonstration-only chemicals shall be identified on the inventory and shall be identified on the hard copy of the school's Chemical Hygiene Plan.

C. Use

1. Standard laboratory experiments can be highly hazardous and produce wastes requiring special (and often costly) disposal methods. Alternative lab exercises do exist that use a minimum quantity of the least hazardous, most easily disposable agents. The following must be followed for chemical use:
 - a. Staff, where feasible, will minimize chemical use and waste generated via microscale chemistry, green chemistry, demonstration labs, video instruction or other forms of alternative methods of non-hazardous or less-hazardous curricula. Switching to this type of instruction will dramatically reduce hazardous waste generation in the laboratory and save money in purchase and disposal costs.
 - b. Alternative science curricula should be utilized whenever possible to limit the use of hazardous chemicals and should be documented and updated as

needed. On an annual basis faculty should review their curricula to identify ways of minimizing chemical use and waste.

D. Safety

1. Schools should be equipped with the following safety equipment (as applicable):
 - a. Eye Protection that meets American National Standards Institute 1989 Z87.1 Standard *Practice for Occupational/Educational Eye and Face Protection*
 - i. Safety glasses, splash goggles, or face shields should be used when hazardous materials are used and there is a potential hazard to the eye.
 - b. Eye wash fountain (portable eye wash bottles are not permitted)
 - c. Fire extinguisher, which will be installed as required by code
 - d. Hand washing facility
 - e. Fire blanket when open flame is used
 - f. Showers (not in all facilities)
 - g. Fume hoods (not in all facilities)
2. The above items should be checked for operation by the science department head and/or chemical coordinator periodically; this checklist is Attachment D.
 - a. If items are deficient or need repair, a work order must be submitted to Operations.
 - b. Phone requests for assistance may be called in to the EHS Manager, but must be backed up with a FMX work order.

E. Waste Disposal

1. Non-hazardous or neutralized liquid chemicals may be solidified for solid waste disposal (i.e., put in the trash); non-hazardous solid waste may be disposed of in the trash.
2. Coordinators can contact the EHS Manager at 719-920-8858 to arrange for disposal of hazardous waste.
 - a. The Chemical Disposal Form (Attachment F) must be filled out.
 - b. The EHS Manager will coordinate the disposal and complete all associated paperwork.

F. Chemical Spill Response/Accidents

1. A chemical spill response kit should be available in each main chemical storage area. Staff shall refer to the chemical spill/hazardous material release protocol.
 - a. The kit should be equipped with response and cleanup materials such as:
 - Absorbent materials such as pads, booms, oil dry or kitty litter, or pillows.
 - Neutralizing agents (e.g., Neutrasorb) for acids and/or bases if high volumes of acids and/or bases are stored in the laboratory. Spills involving acids can also be neutralized with powdered sodium hydrogen carbonate (sodium bicarbonate/baking soda), or spills involving bases can be neutralized using vinegar (5% acetic acid solution).
 - Containers such as drums, buckets, and/or bags to containerize spilled material and contamination debris generated during the cleanup process.
 - PPE such as gloves, safety glasses and/or goggles, lab coat or apron, and chemical resistant booties.
 - Caution tape or some other means to warn people of a spill.
2. The form should be posted in all chemical storage areas. The form can be found in **Attachment B: Chemical Spill / Hazardous Material Release**.

Management of Chemicals

Acquisition of Chemicals

Staff must reference three chemical lists published by the CDPHE prior to purchasing chemicals. These lists can be found in Attachment C:

- *Appendix C-1: Prohibited Chemicals* – Items on this list may not be stored or used in the schools.
- *Appendix C-2: Restricted Chemicals* – Items on this list are allowed, although some have a quantity limit indicated in parenthesis after the chemical name.
- *Appendix C-2a: Restricted Chemicals (Demonstration Only)* – Items on this list may only be used by the instructor for demonstration purposes and have quantity limits in parenthesis after the chemical name. Students are not allowed to handle these chemicals.

Under no circumstances are donated hazardous materials to be received unless prior written approval for such materials has been given by the EHS Manager.

The following should be evaluated prior to purchasing hazardous materials:

- Is there a need for the material?
- Is it currently on the chemical inventory?
- What are the hazards?
- Is there a non-hazardous material or a less hazardous substitute?
- Are the quantities being purchased justifiable?
- What is the stability and shelf life of the hazards?
- Is suitable and sufficient storage available?
- Does the material require special disposal considerations?
- Is the material on the Appendix C-1 or Appendix C-2 product list?

Refer to **Section III: Purchasing Procedures** above for additional information.

General Rules and Procedures

The following are general rules and procedures for chemical use. Refer to **Section IV: On-Site Hazardous Materials and Chemical Management** for additional information on chemical use and chemical safety.

- Know the evacuation procedures in case of an emergency or safety drill during a laboratory experiment; containers must be closed, gas valves turned off, fume hoods and any electrical equipment turned off.
- Follow safe use and handling of glassware procedures. Never use glassware that is scored, chipped or broken. Dispose of glassware in an appropriate container.
- Ensure defective equipment is not used until repaired or replaced and unsafe condition is corrected.
- No eating or drinking in chemical areas.
- Follow good housekeeping in all laboratory areas. Clean up work areas and return equipment and supplies to their proper place. Clean up any debris or mess, another person may not know what the white powder on the counter contains.
- Due to the risk of accidental overexposure persons will not work with chemicals unattended.

Inventory and Tracking

Chemical inventories are one measure taken as part of a comprehensive program used to manage chemicals used in the district. Refer to **Section IV: On-Site Hazardous Materials and Chemical Management** for additional information on chemical inventory.

- Chemicals should be inventoried, segregated, labeled, and stored according to the Flinn Chemventory storage plan (see the Chemical Storage section below for further explanation). The inventories include site, room number, name of product, quantity of product, physical state, container type, and storage location. The inventory list is organized by organic and inorganic and should be posted in the chemical storeroom at each site. The chemical coordinator at each school should make sure each storage location is being inventoried and stored properly.
- In order to maintain the inventory, quantities used or purchased must be documented on the science chemical inventory list. It is not necessary to document small quantities used (such as a few milliliters or grams), but if most of the product is used or if any more is ordered, these changes must be documented. The science chemical inventory list provides spaces for teachers to indicate quantity used or quantities purchased for each product.
- In case of an emergency, it is imperative that an up-to-date inventory of all chemicals stored in the storage area be maintained and readily available in two locations, one in the storeroom and one in the main office.

Safety Data Sheets

Safety Data Sheets (SDS) contain information about the nature of the hazards of the products. Each chemical that is stored or used at your site must have an SDS. The law requires the manufacturer and/or distributor to supply an SDS with each order. The following product information is found on an SDS:

- Physical properties and health effects that make it dangerous.
- The level of personal protective equipment needed.
- Immediate first aid if you are overexposed to the product.
- Handling and storage procedures for day-to-day operations.
- How to respond to accidents involving the product.

Chemical Storage

Flinn Chemventory System

The Flinn Chemventory System, a cloud-based laboratory chemical inventory system, has been adopted by the district and should be used to properly store laboratory chemicals by separating chemicals into their organic and inorganic families and further dividing the materials into related and compatible families. All secondary schools have this resource and it should be used by all staff responsible for chemicals.

- The program comes with updated GHS (Global Harmonized System) pictograms, hazard codes, and signal word information for over 2,400 Flinn chemicals.
 - The GHS label printing feature can be used to easily track all solutions prepared in the lab.
- Flinn Chemventory should be used by the entire school where chemicals are used, including art, science, vocational education, etc.

Compressed Gas Cylinder Storage

Gas cylinders must be stored in a place to prevent them from falling and the cylinder valve stem must be protected. The cylinder must be chained to a solid object, such as a wall or cabinet and cylinder cap must be in place except when the cylinder is in use and connected to a regulator.

Dedicated Storage Cabinets

Specific hazard groups must not only be segregated into compatibility groups, but also must be stored in special cabinets designed to address that specific hazard. Flammable and corrosive liquids are required to be stored in separate cabinets designed especially for those chemicals.

- Flammable liquids must be stored in a dedicated UL rated flammable cabinet.
- Base liquids must be stored in a dedicated UL rated corrosive cabinet.
- Organic acid liquids and inorganic acids liquids must be stored in a dedicated UL rated corrosive cabinet.

Container Identification Labeling Requirements

Secondary Containers - Chemicals transferred from the original container into another container and will be used for more than one day must be properly labeled. All secondary containers used for storage must be labeled with the following:

- Name of product
- Manufacturer's name, address, and a 24- hour emergency phone number
- Any physical or health hazards
- Any necessary protective equipment or precautions necessary to work with the product
- Date
- Note: ALWAYS replace torn or damaged labels

Working Solutions

When working solutions are made, the container must be labeled with the following:

- Name of product
- Date solution was prepared
- Concentration of solution

Lab Experiment Solutions

Special consideration must be given to laboratory experiments designed for students to identify different unknown solutions. In these situations, labeling the container with the product name would defeat the purpose of the lab. Different identification systems may be used; however, when these solutions are stored, a key to the identification system must be posted in the storeroom. For example, the container may be identified as "Solution A"; therefore, the key would indicate Solution A is 1N Sodium Hydroxide.

Disposal of Hazardous Materials

There are several laws which dictate proper disposal procedures of hazardous waste.

The supervisor is responsible for all hazardous waste disposal to ensure the district follows proper and consistent methods to collect, consolidate, and properly dispose of all hazardous waste. Contact the EHS Manager whenever lab waste must be disposed of.

District Hazardous Waste Collection Facility

The district has a hazardous waste collection site registered with the State of Colorado as a conditionally exempt generator. Depending on the waste, it is recycled, sent to the landfill, or incinerated.

Non-Hazardous Waste Disposal

- Most science departments have at least one sink plumbed to an acid neutralization tank. It is acceptable to drain dispose of laboratory wastes considered non-hazardous or of low toxicity.
- Do not put combinations of chemicals down the drain at one time. Rinse a solution down the drain with a ten-fold dilution of water, then rinse the second solution down the drain with a ten-fold dilution of water.
- If the site has an acid neutralization tank, it is acceptable to drain dispose of weak concentrations of corrosive chemicals, such as acids and bases. Never drain dispose of acids and bases at the same time in order to prevent an adverse chemical reaction. The following is a list of substances which should NEVER be drain disposed (see Attachment E for sink disposal guidelines).
 - Hydrocarbons or phenolic compounds
 - Flammable or explosive substances, such as gasoline, kerosene, naphtha, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and sulfides
 - Non-water soluble products, such as vacuum pump oil, mineral oils, gels, solids
 - Cyanide substances
 - Tetrachlorethene
 - Heavy metals, such as arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver or zinc

Hazardous Waste Disposal

- If a site has any of the following items, please notify the EHS Manager for removal and proper disposal.
 - Unused chemicals: containers in poor condition or the use has become obsolete
 - Lab experiment byproducts: place the remaining mixture or any by-products produced as a result of the experiment in a container with a lid. The waste must be in a closed container and the contents identified, so it can be transported safely.
 - Lab specimens: to dispose of lab specimens, the packing fluid must be decanted from the specimens prior to disposal and should be disposed of properly per the disposal requirements. When finished with the specimens, place in a non-transparent plastic bag and double bag them (black is preferred). Seal the bag completely and place directly outside in the trash dumpster. Do not leave the specimens where students can find them, such as a trash can in the science room.
 - Broken glass: place broken glassware into a cardboard box, seal with tape and identify broken glass on the box. The box and contents can be placed into the trash receptacle for disposal.

Spill Response

Each chemical storage area is equipped with a spill kit containing floor dry and baking soda. See Attachment A for the Emergency Information Posting, which lists SDS information and poison control information. In the event of an accidental release of a chemical, remove any other chemicals located near or around the spilled material, if possible, to do so safely, and place floor dry on the spilled chemical.

Non-Corrosive/Non-Flammable Material Spill

If the spilled material exhibits a reacting characteristic such as the production of gas, vapor, heat evolution, bubbling, etc., do not attempt to remove any chemicals in the area. Proceed to evacuate the immediate area. The subsequent steps will be followed in situations involving a spill:

- Evacuate all personnel from the incident area and restrict access to the spill.
- Notify the principal/site administrator, who will notify the school resource officer and stress that there is a suspected hazardous material spill.
 - The school resource officer will notify the appropriate emergency response personnel and the EHS Manager.
- If the school resource officer is unavailable and the area is deemed unsafe, evacuate the building and call 911.
- Do not attempt to clean up or further disturb the material.

Flammable Material Spill

Be aware if the spill is of a known flammable material, there are certain actions that should be taken in order to stabilize the incident area to ensure the emergency situation does not intensify. A flammable material spill presents a potentially volatile environment in which a fire/explosion could result. The subsequent steps are to be followed in the event of a flammable material spill:

- Evacuate all personnel from the incident area and restrict access to the spill.
- Notify the principal/site administrator, who will notify the school resource officer and stress that there is a suspected hazardous material spill.
 - The school resource officer will notify the appropriate emergency response personnel and the EHS Manager.
- If the school resource officer is unavailable and the area is deemed unsafe, evacuate the building and call 911.
- Restrict ignition sources, such as open flames.
- Do not key your two-way radio or cell phone or touch the light switches in the incident area; doing so could create an ignition source.
- Do not attempt to clean up or further disturb the material.

Acid/Base Spill

If the spill involves an acid, place baking soda on the spill material to neutralize.

Acids and bases are corrosive materials, which have a tendency to react violently with each other and with other materials to produce hazardous gases, and sometimes extreme heat, so it is important to isolate the area. Staff must avoid the incident area due to the nature of acids/bases being highly irritating and corrosive to skin. The subsequent steps will be followed in situations involving corrosive material spills:

- Evacuate all personnel from the incident area and restrict access to the spill.

- Notify the principal/site administrator, who will notify the school resource officer and stress that there is a suspected hazardous material spill.
 - The school resource officer will notify the appropriate emergency response personnel and the EHS Manager.
- If the school resource officer is unavailable and the area is deemed unsafe, evacuate the building and call 911.
- Instruct the custodian to turn off the building ventilation system to prevent exhausting the vapors throughout the building.
- Do not attempt to clean up or further disturb the material.

Science Safety Equipment

The following outlines the science safety equipment and procedures. Refer to **Section IV: On-Site Hazardous Materials and Chemical Management** for additional information on safety equipment available at each site.

Eye Protection

Eye protection that meets the American National Standards Institute (ANSI) 1979 Z87.1 Standard must be worn by all students participating in, observing, or in close proximity to any experiment or activity which could result in eye injury. Eye protection glasses, goggles, face shields, and similar eye protection devices shall be issued clean and properly sanitized and stored in a protected place. Wipes approved for sanitization may be used to sanitize eye protection devices. Goggles should be worn whenever liquid chemicals are used.

Eye Wash Fountains/Safety Showers

The first response (prior to medical treatment) for a student or teacher who has hazardous material in their eyes or on their face is to flush the affected area with water to dilute chemicals, wash off debris, and irrigate the eyes. It is very important to hold the eyelids open and roll the eyeballs so that water can flow over all surfaces of the eyeballs and in the folds surrounding them.

An eye/face wash station that can wash both eyes simultaneously is required in every science laboratory and preparation room where hazardous materials are used. The eyewash station must be visibly marked, unobstructed for immediate use and **flushed weekly**. Inspection tags on each station must be filled out as required.

Attachments and Appendices

Attachment A

Emergency Information Posting

Emergency Information Posting

The following information must be posted in areas using hazardous chemicals.

Use the following first aid procedures for accidental poisoning or exposure from chemicals:

- Take the person to the nurse's office immediately;
- The nurse should contact the poison control center and they will need to know:
 - ✓ Age of the victim
 - ✓ Name of the poison/chemical ingested
 - ✓ Amount of material ingested or degree of exposure
 - ✓ Time of ingestion or exposure
 - ✓ Condition of victim
 - ✓ Any first aid that has been performed

Refer to the Safety Data Sheet (SDS) of the chemical ingested for additional information and basic first aid procedures and health hazards of the chemical.

Poison Control Center Information

Rocky Mountain Poison and Drug Center

Emergency Phone Number: 800-222-1222 or 303-739-1127

Address: 990 Bannock Street, Fourth Floor, Denver, CO 80204

Attachment B

Chemical Spill / Hazardous Material Release

Chemical Hygiene Plan (CHP) – Laboratory, Classroom, or Shop Specific Plan

Chemical Spill / Hazardous Material Release

Instructor/Staff Procedures

- Evaluate possible hazardous exposure to individuals.
- Avoid direct contact of released material/chemical.
- If chemical has contacted skin or eyes, flush for at least 15 minutes.
- Contact main office.
- Locate Safety Data Sheet (SDS).
- Do not attempt to clean up spilled chemical without reviewing the SDS and obtaining proper protective equipment.
- Secure the area and keep students and staff away.

Custodial Procedures

- If chemical hazards have been identified through the label and/or SDS, proceed with clean-up.
- Keep students and staff away from spill.
- Only attempt clean-up if proper protective equipment is available.
- If spill is too large to handle properly, contact main office.

School Administrative Procedures

- If spill is too large for staff to adequately handle, call 911 for Hazardous Materials Spill Team.
- Shut off mechanical ventilation system to that area.
- If students or staff are injured, send copy of chemical's SDS along with victim to hospital.
- If chemical spill is severe, initiate building evacuation.
- Notify the **Environmental, Health, and Safety Manager at 719-920-8858.**
- If injury or property damage occurs, contact the **Risk/Insurance Manager at 719-579-2011**

Chemical Hygiene Plan (CHP) - Laboratory, Classroom, or Shop Specific Plan

This CHP template is based on best practices and safe work procedures required for the safe operations of laboratories, classrooms, shops and other areas of the school that utilize chemicals. This document can be customized and completed with information specific to the chemicals used and procedures conducted within an individual classroom, laboratory, or area of the school using hazardous materials.

Each area of the school with distinct, separate chemical use must develop and maintain an individual CHP specific to that area. For example, a separate CHP must be developed and maintained for a science classroom or laboratory and a separate CHP must be developed and maintained for an art classroom because each area utilizes different chemicals and procedures.

In areas of the school where the same chemicals and practices are shared, such as in a science area with several classrooms, only one template will need to be completed for that area. In these areas, classrooms engaging in work with chemical practices that differ slightly, such as experiments conducted in a chemistry laboratory and those conducted in a biology laboratory, a CHP can be shared by the area but must be further customized by the addition of laboratory specific information. This may include specific standard operation procedures (SOPs), hazard assessments, and any other written (or referenced) lab-specific operation procedures or protocols that address the individual hazards and how to mitigate the risks.

The following instructions detail how this CHP should be used and customized by each classroom, laboratory, or shop:

1. Review this template CHP.
2. Evaluate the chemical practices in your classroom to determine if a separate or shared CHP is required. If a shared CHP will be used, coordinate with other faculty to complete the CHP for your area(s).
3. Complete Tables 2-8 with information specific to your laboratory, classroom(s), shop(s), etc.
 - Ensure that information for all classrooms and laboratories sharing a CHP are indicated.
4. Review, and update (if necessary), the contents of the CHP at least annually. Record the date the annual CHP review and any updates that are made to the CHP in Table 4.
5. Train all staff that use the CHP on the contents of the CHP before any work with hazardous chemicals occurs. Retrain all faculty and staff at least annually. Document and record the date of the initial and annual refresher trainings on Table 3.
6. *Optional:* Insert standard operation procedures (SOPs) for the use of Restricted Chemicals under Tab 1.
7. *Optional:* Insert any additional SOPs for other chemicals and experiments or procedures under Tab 2.
8. *Optional:* Insert all other additional documented safety rules, equipment protocols, procedures, etc., under Tab 2.
 - Tab 2 may also be used to insert user guides/manuals or operating instructions for equipment and safety equipment items (e.g., eyewash fountains, safety showers).
9. *Optional:* Insert completed student safety contracts in Tab 3.

10. *Optional:* Insert any miscellaneous correspondence from your local public health or fire agency such as approved regulation variances, copies of inspection reports, enforcement letters, compliance agreements, plans of action, etc., under Tab 4.
11. Ensure that a copy of the CHP is maintained in 2 separate locations: near where the chemicals are stored and on file in a location away from the areas where chemicals are stored (e.g., front office of school).
12. Provide a copy of the CHP to the local fire department and local emergency planning committee upon request.

Chemical Hygiene Plan (CHP)

Harrison High School Specific Plan p. 1 of 4



Please read the instructions before completing tables 1-8 below.

Table 1. School information		
School Name:	School Address:	School Phone Number:
Harrison High School	2755 Janitell Rd Colorado Springs, CO 80906	719-579-2080

Table 2. Classrooms, laboratories, shops, or areas of school addressed by this Chemical Hygiene Plan (CHP)		
<i>Please indicate which specific classroom(s) or areas of the school this CHP template has been completed for (e.g. chemistry classroom 123, art room 123, advanced chemistry classrooms, wood shop, etc.).</i>		
Classroom(s) and room number(s):	Instructor Names:	Department:
		Science Dept
		Art Dept
		Shop Building

Harrison High School Specific Plan p. 2 of 4

Table 3. Documentation of CHP training and annual CHP refresher training for faculty <i>Name and signature of all CHP users is required.</i>				
<i>I have read and understand the content of this CHP:</i>				
Name:	Signature:	Date:	Refresher Completed by: (Staff initials)	Date of annual refresher:
	Building administrator will secure signatures of instructional staff			
	EHS Manager will secure signatures from operations department staff			

Harrison High School Specific Plan p. 3 of 4

Table 4. CHP Annual Review and Update				
Dates of completion for annual review and update of this CHP:				
9/27/22	3/6/23			
Signature of person(s) reviewing and updating the CHP on dates above:				
Steve Pecharich				

Table 5. Important Phone Numbers and Contact Information	
<i>Please include contacts such as the school health and safety specialist, facilities manager, hazardous waste removal vendor, etc.</i>	
1. All Emergencies: 911 or Alternative Phone Number, if applicable:	
2. Poison Control: Rocky Mountain Poison and Drug Center	Phone: 1-800-222-1222
3. Contact: Steve Pecharich, EHS Manager	Phone: 719-920-8858
4. Contact: Colorado Springs Fire Department	Phone: 719-385-5950
5. Contact:	Phone:

Harrison High School Specific Plan p. 4 of 4

Table 6. Locations of Important Safety Items	
A copy of this CHP will be located in the following area away from the toxic or hazardous substances addressed by the CHP (e.g. school front office):	
Front office, www.hsd2.org	
Locations of First Aid Kits:	
Locations of Emergency Chemical Spill and Cleanup Kits:	
Storage room	
Locations of Safety Data Sheets (SDS):	
Binder in storage room	Front office or building engineer office

Table 7. Chemical Procurement		
<i>The following individual(s) are designated as having primary responsibility for approving, ordering and accepting chemicals for this classroom(s) or laboratory:</i>		
Name (Print or Type):	Signature:	Date:
Tara Jacobson, Science Dept. Lead Harrison HS		
Art Dept. Lead Harrison HS		
Vocational Ed Lead Harrison HS		

Table 8. Student Safety Contract			
<i>Please provide the course name/title, the faculty member distributing the Student Safety Contract (contract), and the dates when the contracts were distributed.</i>			
Course Name/Title:	Name of faculty member distributing contracts:	Dates when contracts were distributed:	Faculty initials:
	***Student safety contracts are administered each year and retained on site		

Chemical Hygiene Plan (CHP)

Sierra High School Specific Plan p. 1 of 4

Laboratory, Classroom, or Shop Specific Plan



Please read the instructions before completing tables 1-8 below.

Table 1. School information		
School Name:	School Address:	School Phone Number:
Sierra High School	2250 Jet Wing Drive Colorado Springs, CO 80916	719-579-2090

Table 2. Classrooms, laboratories, shops, or areas of school addressed by this Chemical Hygiene Plan (CHP)		
<p><i>Please indicate which specific classroom(s) or areas of the school this CHP template has been completed for (e.g. chemistry classroom 123, art room 123, advanced chemistry classrooms, wood shop, etc.).</i></p>		
Classroom(s) and room number(s):	Instructor Names:	Department:
		Science Dept
		Art Dept

Sierra High School Specific Plan p. 2 of 4

Table 3. Documentation of CHP training and annual CHP refresher training for faculty <i>Name and signature of all CHP users is required.</i>				
<i>I have read and understand the content of this CHP:</i>				
Name:	Signature:	Date:	Refresher Completed by: (Staff initials)	Date of annual refresher:

Sierra High School Specific Plan p. 3 of 4

Table 4. CHP Annual Review and Update				
Dates of completion for annual review and update of this CHP:				
Signature of person(s) reviewing and updating the CHP on dates above:				
Steve Pecharich				9/27/22

Table 5. Important Phone Numbers and Contact Information	
<i>Please include contacts such as the school health and safety specialist, facilities manager, hazardous waste removal vendor, etc.</i>	
6. All Emergencies: 911 or Alternative Phone Number, if applicable:	
7. Poison Control: Rocky Mountain Poison and Drug Center	Phone: 1-800-222-1222
8. Contact: Steve Pecharich, EHS Manager	Phone: 719-920-8858
9. Contact: Colorado Springs Fire Department	Phone: 719-385-5950
10. Contact:	Phone:

Sierra High School Specific Plan p. 4 of 4

Table 6. Locations of Important Safety Items	
A copy of this CHP will be located in the following area away from the toxic or hazardous substances addressed by the CHP (e.g. school front office):	
Front office	
Locations of First Aid Kits:	
Locations of Emergency Chemical Spill and Cleanup Kits:	
Storage room	
Locations of Safety Data Sheets (SDS):	
Binder in storage room	Binder at front desk or building engineer office

Table 7. Chemical Procurement		
<i>The following individual(s) are designated as having primary responsibility for approving, ordering and accepting chemicals for this classroom(s) or laboratory:</i>		
Name (Print or Type):	Signature:	Date:
Sierra HS Science Lead		
Sierra HS Art Lead		

Table 8. Student Safety Contract			
<i>Please provide the course name/title, the faculty member distributing the Student Safety Contract (contract), and the dates when the contracts were distributed.</i>			
Course Name/Title:	Name of faculty member distributing contracts:	Dates when contracts were distributed:	Faculty initials:
	***Student safety contracts are administered each year and retained on site		

Chemical Hygiene Plan (CHP)

TEMPLATE

Laboratory, Classroom, or Shop Specific Plan



Please read the instructions before completing tables 1-8 below.

Table 1. School information		
School Name:	School Address:	School Phone Number:

Table 2. Classrooms, laboratories, shops, or areas of school addressed by this Chemical Hygiene Plan (CHP)		
<i>Please indicate which specific classroom(s) or areas of the school this CHP template has been completed for (e.g. chemistry classroom 123, art room 123, advanced chemistry classrooms, wood shop, etc.).</i>		
Classroom(s) and room number(s):	Instructor Names:	Department:

Table 3. Documentation of CHP training and annual CHP refresher training for faculty <i>Name and signature of all CHP users is required.</i>				
<i>I have read and understand the content of this CHP:</i>				
Name:	Signature:	Date:	Refresher Completed by: (Staff initials)	Date of annual refresher:

Table 4. CHP Annual Review and Update				
Dates of completion for annual review and update of this CHP:				
Signature of person(s) reviewing and updating the CHP on dates above:				

<p>Table 5. Important Phone Numbers and Contact Information</p> <p><i>Please include contacts such as the school health and safety specialist, facilities manager, hazardous waste removal vendor, etc.</i></p>	
11. All Emergencies: 911 or Alternative Phone Number, if applicable:	
12. Poison Control: Rocky Mountain Poison and Drug Center	Phone: 1-800-222-1222
13. Contact: Steve Pecharich, EHS Manager	Phone: 719-920-8858
14. Contact: Colorado Springs Fire Department	Phone: 719-385-5950
15. Contact:	Phone:

<p>Table 6. Locations of Important Safety Items</p> <p>A copy of this CHP will be located in the following area away from the toxic or hazardous substances addressed by the CHP (e.g. school front office):</p>	
<p>Locations of First Aid Kits:</p>	
<p>Locations of Emergency Chemical Spill and Cleanup Kits:</p>	
<p>Locations of Safety Data Sheets (SDS):</p>	

Template

Table 7. Chemical Procurement		
<i>The following individual(s) are designated as having primary responsibility for approving, ordering and accepting chemicals for this classroom(s) or laboratory:</i>		
Name (Print or Type):	Signature:	Date:

Table 8. Student Safety Contract			
<i>Please provide the course name/title, the faculty member distributing the Student Safety Contract (contract), and the dates when the contracts were distributed.</i>			
Course Name/Title:	Name of faculty member distributing contracts:	Dates when contracts were distributed:	Faculty initials:

Attachment C

CDPHE Chemical List

Combined Prohibited and Restricted Chemical List

Combined Prohibited and Restricted Chemical Lists

This document is a combined and alphabetized list of the Prohibited and Restricted Chemicals as defined and listed in the Rules and Regulations Governing Schools in the State of Colorado, 6 CCR 1010-6, Appendices A, B, and B2. This combined list can be used as a supplement to the Rules and Regulations and as a quick reference format when conducting such activities as a chemical inventory or during the chemical procurement process.

Shelf life descriptions are provided for each chemical to assist in evaluating a timeframe for safe chemical use and storage. In general, chemical shelf life descriptions are as follows: **POOR** - less than 1 year; **FAIR** - 1 to 3 years; **GOOD** - 3 to 5 years; and **EXCELLENT** or **INDEFINITE** - greater than 5 years. Additional oversight for chemicals with a shelf life of less than 3 years is important to ensure that they are not stored or used past their shelf life or expiration date, at which point they may become unstable and dangerous. Completion of Table 2 on the Restricted Chemical Variance Application Form is required for any chemicals with a shelf life of less than 3 years and/or those chemicals that are known to have issues with container integrity or other hazards associated with their use and storage in a school environment. Please see "Limited Shelf Life – Table 2 Required?" column on this list before completing the variance application form.

Please note that the hazard information and shelf life descriptions provided for the listed chemicals is not intended to address all safety concerns. Before attempting to work with any new chemical, review and comply with information provided on the Safety Data Sheet (SDS).

In addition to this document, please refer to the Rules and Regulations Governing Schools in the State of Colorado, 6 CCR 1010-6, available at <https://www.colorado.gov/pacific/cdphe/colorado-health-safety-regulations-schools>.

NAME	CHEMICAL CLASS	FORMULA	CAS #	Hazard	Shelf Life	Limited Shelf Life - Table 2 Required?	Storage Configuration
1-Naphthol (alpha Naphthol)	Restricted	C ₁₀ H ₇ OH	90-15-3	toxic	Indefinite	NO	NA
2,2,4-Trimethylpentane	Restricted	C ₈ H ₁₈	540-84-1	highly flammable; toxic	Limited; refer to expiration date on label	YES	O-3 Flam Cabinet
2-Butanol (sec-Butyl Alcohol)	PROHIBITED	C ₂ H ₅ CH(OH)CH ₃	78-92-2	may form explosive peroxides upon concentration	NA	NA	O-2 Flam Cabinet
2-Butanone (Methyl Ethyl Ketone or MEK)	Restricted	CH ₃ COC ₂ H ₅	78-93-3	highly flammable; may form explosive peroxides	Good	NO	O-4 Flam Cabinet
2-Chlorophenyl Isocyanate	Restricted	C ₇ H ₄ ClNO	3320-83-0	poison; highly flammable	Fair	YES	NA
Acetal (1,1-Diethoxyethane)	PROHIBITED	C ₆ H ₁₄ O ₂	105-57-7	may form explosive peroxides upon concentration; toxic	NA	NA	O-4 Flam Cabinet
Acetaldehyde (Ethanal)	PROHIBITED	CH ₃ CHO	75-07-0	may form explosive peroxides upon concentration; possibly carcinogenic to humans; highly flammable	NA	NA	O-3 Flam Cabinet
Acetamide	Restricted	CH ₃ CONH ₂	60-35-5	possibly carcinogenic to humans	Poor; deliquescent	YES	O-2 Flam Cabinet
Acetanilide (n-Phenylacetamide or Acetamidobenzene)	Restricted	CH ₃ CONHC ₆ H ₅	103-84-4	combustible; irritant	Indefinite	NO	O-2 Flam Cabinet
Acetic Acid	Restricted	CH ₃ COOH	64-19-7	flammable; corrosive	Good	NO	O-1 Flam Cabinet
Acetic Anhydride	Restricted	(CH ₃ CO) ₂ O	108-24-7	water-reactive; corrosive; flammable	Good	NO	O-1 Flam Cabinet
Acetone	Restricted	CH ₃ COCH ₃	67-64-1	highly flammable; inhalation hazard	Good	NO	O-4 Flam Cabinet
Acetyl Halides (e.g., Acetyl Fluoride, Acetyl	PROHIBITED			respiratory irritant, toxic;	NA	NA	O-4 Acid Cabinet

Chloride, Acetyl Bromide, Acetyl Iodide)				violent reaction with water; dangerous fire risk			
Acetyl Nitrate	PROHIBITED	CH3CONO3	591-09-3	shock sensitive	NA	NA	NA
Acetylcholine Bromide	Restricted	C7H16BrNO2	66-23-9	toxic; irritant	Good	NO	O-9
Acridine Orange	Restricted	C17H19N3	10127-02-3	irritant	Fair (48 months)	YES	O-9
Acrolein	PROHIBITED	CH2CHCHO	107-02-8	flammable and reactive; may be fatal if ingested, inhaled, or absorbed through the skin	NA	NA	O-3 Flam Cabinet
Acrylic Acid (Propenoic Acid)	PROHIBITED	H2CCHCO2H	79-10-7	may form explosive peroxides; reactive; corrosive	NA	NA	O-1 Flam Cabinet
Acrylonitrile	PROHIBITED	CH2CHCN	107-13-1	may form explosive peroxides; possibly carcinogenic to humans; flammable; reactive	NA	NA	O-7 Flam Cabinet
Adipoyl Chloride	Restricted	ClOC(CH2)4COCl	111-50-2	corrosive	Poor	YES	O-1
Alcohols (Allylic, Benzylic) Note: Alcohols are referred to as allylic or benzylic if the hydroxyl group is bonded to an allylic carbon atom (adjacent to a C=C double bond) or a benzylic carbon atom (next to a benzene ring), respectively. (e.g., 3-penten-2-ol; 2-propen-1-ol (allyl alcohol), 1-phenylethanol, phenylmethanol (benzyl alcohol), diphenylmethanol (diphenylcarbinol), triphenylmethanol (triphenylcarbinol)).	PROHIBITED			may form explosive peroxides upon concentration	NA	NA	O-2 Flam Cabinet
Alizarin Red	Restricted	C14H7NaO7S	130-22-3	toxic	Indefinite	NO	O-9
Alkyl Aluminum Chloride	Restricted	Unavailable	Unavailable	water reactive	Poor; deliquescent	YES	NA
Alkyl-Substituted Cycloaliphatics Note: Methyl-, ethyl-, propyl-, butyl- are common alkyl	PROHIBITED			may form explosive peroxides	NA	NA	O-3 Flam Cabinet

substituents. A cycloaliphatic is a cyclic hydrocarbon such as cyclopropane, cyclobutane, or cyclohexane (e.g., tert-butylcycloheptane or 1-cyclobutyl-4-methylpentane).				upon concentration			
Aluminum (Powder)	Restricted	Al	7429-90-5	water-reactive; strong reducing agent; pyrophoric	Indefinite	NO	I-1
Aluminum Acetate	Restricted	Al(C ₂ H ₃ O ₂) ₂ OH	142-03-0	toxic	Good	NO	NA
Aluminum Bromide	Restricted	AlBr ₃	7727-15-3	air- and water-reactive; corrosive	Fair	YES	I-2
Aluminum Chloride Hexahydrate	Restricted	AlCl ₃ ·6H ₂ O	7784-13-6	water-reactive; corrosive	Poor; deliquescent	YES	I-2
Aluminum Chloride, Anhydrous (25 g limit)	DEMO ONLY	AlCl ₃	7446-70-0	air-and water-reactive; fumes in moist air form toxic gas	Good	NO	I-2
Aluminum Fluoride	Restricted	AlF ₃	7784-18-1	water-reactive; corrosive; inhalation hazard	Fair	YES	I-2
Aluminum Hydroxide	Restricted	Al(OH) ₃	21645-51-2	possibly toxic	Indefinite	NO	I-4 Base Cabinet
Aluminum Nitrate	Restricted	Al(NO ₃) ₃ ·9H ₂ O	7784-27-2	strong oxidizer	Indefinite	NO	I-3
Aluminum Phosphide	PROHIBITED	AlP	20859-73-8	water-reactive; generates poisonous and explosive gas when in contact with air or moisture	NA	NA	I-5
Aluminum Tetrahydroborate (Aluminum Borohydride)	Restricted	Al(BH ₄) ₃	16962-07-5	poison; air- and water-reactive; pyrophoric; strong reducing agent	Fair	YES	I-1 Flam Cabinet
Amatol (TNT and Ammonium Nitrate mixture)	PROHIBITED			explosive	NA	NA	NA
Ammonal (TNT, Ammonium Nitrate, and Aluminum Powder Mixture)	PROHIBITED			explosive	NA	NA	NA
Ammonia Solutions in Water	Restricted	NH ₃	7664-41-7	corrosive; reactive; toxic	Indefinite	NO	I-4 Base Cabinet

Ammonia, Anhydrous	Restricted	NH3	7664-41-7	poison; water-reactive; inhalation hazard; corrosive	Indefinite	NO	Gas - Poison
Ammonium Acetate	Restricted	NH4C2H3O2	631-61-8	inhalation hazard; irritant	Poor; deliquescent	YES	I-2
Ammonium Bicarbonate	Restricted	NH4HCO3	1066-33-7	inhalation hazard; irritant	Good	NO	I-4
Ammonium Bromate	PROHIBITED	NH4BrO3	13843-59-9	shock sensitive	NA	NA	I-6
Ammonium Bromide	Restricted	NH4Br	12124-97-9	inhalation hazard; irritant	Fair to poor; hygroscopic	YES	I-2
Ammonium Carbonate	Restricted	NH4CO3	10361-29-2	inhalation hazard; irritant	Indefinite	NO	I-4
Ammonium Chlorate	PROHIBITED	NH4ClO3	10192-29-7	strong oxidizer; explosive	NA	NA	I-6
Ammonium Chloride	Restricted	NH4Cl	12125-02-9	toxic; inhalation hazard; irritant	Fair to poor; hygroscopic	YES	I-2
Ammonium Chromate	Restricted	(NH4)2CrO4	7788-98-9	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison	Indefinite	NO	I-8
Ammonium Dichromate (100 g limit)	DEMO ONLY	(NH4)2Cr2O7	7789-09-5	oxidizer; chromium (VI) compounds are carcinogenic to humans	Fair	YES	I-8
Ammonium Fluoride	Restricted	NH4F	12125-01-8	corrosive; toxic	Fair to poor; substance is deliquescent	YES	I-2
Ammonium Hexanitrocobaltate	PROHIBITED	NH3Co(NO2)6	13600-98-1	explosive	NA	NA	NA
Ammonium Hydroxide	Restricted	NH4OH	1336-21-6	inhalation hazard; severely corrosive	Indefinite	NO	I-4 Base Cabinet
Ammonium Iodide	Restricted	NH4I	12027-06-4	inhalation hazard	Fair to poor; hygroscopic	YES	I-2
Ammonium Molybdate Tetrahydrate	Restricted	(NH4)6Mo7O24·4H2O	12054-85-2	toxic	Indefinite	NO	I-8

Ammonium Nitrate (500 g limit)	Restricted	NH4NO3	6484-52-2	shock sensitive; oxidizer	Poor; very hygroscopic	YES	I-3 Separate from all other chemicals!
Ammonium Nitrite	PROHIBITED	NH4NO2	13446-48-5	explosive	NA	NA	NA
Ammonium Oxalate Monohydrate	Restricted	(NH4)2C2O4·H2O	6009-70-7	corrosive; toxic	Indefinite	NO	I-2
Ammonium Perchlorate	PROHIBITED	NH4ClO4	7790-98-9	strong oxidizer; explosive; irritant	NA	NA	I-6
Ammonium Periodate	PROHIBITED	NH4IO4	13446-11-2	strong oxidizer; explosive; irritant; inhalation hazard	NA	NA	NA
Ammonium Permanganate	PROHIBITED	NH4MnO4	13446-10-1	explosive	NA	NA	I-8
Ammonium Persulfate (100 g limit)	DEMO ONLY	(NH4)2S2O8	7727-54-0	strong oxidizer; explosion hazard	Indefinite	NO	I-6
Ammonium Phosphate, Dibasic (Diammonium Hydrogen Phosphate)	Restricted	(NH4)2HPO4	7783-28-0	respiratory hazard; potential for skin and eye damage	Indefinite	NO	I-2
Ammonium Phosphate, Monobasic (Ammonium Dihydrogen Phosphate)	Restricted	NH4H2PO4	7722-76-1	respiratory hazard; potential for skin and eye damage	Indefinite	NO	I-2
Ammonium Sulfate	Restricted	(NH4)2SO4	7783-20-2	respiratory hazard	Indefinite	NO	I-2
Ammonium Sulfide	Restricted	(NH4)2S	12135-76-1	respiratory hazard; corrosive; poison; flammable	Good	NO	I-5
Ammonium Tartrate	Restricted	(NH4)2C4H4O6	3164-29-2	irritant	Fair	YES	I-2
Ammonium Tetraperoxychromate	PROHIBITED	(NH4)3CrO8		explosive	NA	NA	NA
Ammonium Thiocyanate	Restricted	NH4SCN	1762-95-4	inhalation hazard; strong reducing agent	Poor; deliquescent	YES	I-7
Amyl Acetate	Restricted	CH3COOC5H11	628-63-7	flammable; toxic	Good	NO	O-3 Flam Cabinet
Aniline	Restricted	C6H5NH2	62-53-3	acutely toxic	Poor	YES	O-2
Aniline Hydrochloride	Restricted	C6H5NH2·HCl	142-04-1	corrosive; acutely toxic	Poor	YES	O-2
Anisoyl Chloride (Methoxybenzoyl Chloride)	Restricted	C8H7ClO2	100-07-2	air- and water-reactive; corrosive;	Fair	YES	I-2

Antimony Compounds (e.g., triethyl stibine, tripropyl stibine, trivinyl stibine, antimony trichloride, antimony pentachloride, nickel antimonide)	PROHIBITED			dust fire and explosion hazard; poison; corrosive; reactive; some antimony compounds are possibly carcinogenic to humans	NA	NA	I-2
Antimony Metal (50 g limit)	DEMO ONLY	Sb	7440-36-0	poison; combustible powder; strong reducing agent	Indefinite	NO	I-1
Arsenic and Arsenic Compounds (e.g., lead arsenate, sodium arsenate, sodium arsenite, Trisilyl Arsine, arsine, arsenic trioxide)	PROHIBITED			carcinogenic to humans; poison	NA	NA	I-4
Azide Compounds (e.g., hydrogen azide, sodium azide, copper azide, lead (dinitride) azide)	PROHIBITED			acutely toxic; shock sensitive; explosive	NA	NA	I-3
Azidocarbonyl Guanidine	PROHIBITED	C2H4N6O	54567-24-7	shock sensitive, explosive	NA	NA	NA
Barium	PROHIBITED	Ba	7440-39-3	water-reactive; may ignite on contact with water or moist air; acutely toxic	NA	NA	I-1
Barium Acetate	Restricted	Ba(C2H3O2)2	543-80-6	acutely toxic	Indefinite	NO	I-2
Barium Carbide	Restricted	BaC2	50813-65-5	water-reactive; toxic	Fair	YES	I-5
Barium Chlorate	PROHIBITED	Ba(ClO3)2·H2O	13477-00-4	explosive; strong oxidizer; toxic	NA	NA	I-6
Barium Chloride, Dihydrate	Restricted	BaCl2·2H2O	10326-27-9	poison; acutely toxic	Indefinite	NO	I-2
Barium Nitrate	Restricted	Ba(NO3)2	10022-31-8	oxidizer; toxic	Indefinite	NO	I-3
Barium Oxide (Anhydrous)	PROHIBITED	BaO	1304-28-5	poison; water-reactive	NA	NA	I-4
Barium Peroxide	PROHIBITED	BaO2	1304-29-6	poison; water-reactive; oxidizer	NA	NA	I-6
Benzaldehyde	Restricted	C6H5CHO	100-52-7	combustible	Fair	YES	O-3 Flam Cabinet
Benzene	PROHIBITED	C6H6	71-43-2	carcinogenic to humans; flammable	NA	NA	O-3 Flam Cabinet
Benzene Diazonium Chloride	PROHIBITED	C6H5ClN2	100-34-5	explosive	NA	NA	O-6

Benzene Phosphorus Dichloride	Restricted	C6H5PCl2	644-97-3	air-and water-reactive; fumes in air; corrosive	Fair	YES	NA
Benzoic Acid	Restricted	C6H5COOH	65-85-0	concentrated dust may form explosive mixture	Indefinite	NO	O-1
Benzotriazole	PROHIBITED	C6H5N3	95-14-7	explosive	NA	NA	O-6
Benzoyl Peroxide	PROHIBITED	(C6H5CO)2O2	94-36-0	flammable; explosive; oxidizer; sensitizer; allergen; reacts violently with bases	NA	NA	O-6
Benzyl Alcohol	PROHIBITED	C6H5CH2OH	100-51-6	reacts violently with oxidants; may form explosive peroxides upon concentration	NA	NA	O-2 Flam Cabinet
Benzyl Chloride	Restricted	C6H5CH2Cl	100-44-7	probably carcinogenic to humans; poison; corrosive; toxic; lachrymator; releases toxic fumes when heated	Fair	YES	O-4
Benzylamine (Benzenemethanamine)	Restricted	C6H5CH2NH2	100-46-9	corrosive; poison; combustible	Fair	YES	O-2 Flam Cabinet
Benzylsodium	Restricted	C7H7Na	1121-53-5	water reactive; ignites spontaneously in air;	Fair	YES	NA
Beryllium Tetrahydroborate	Restricted	Be(BH4)2	17440-85-6	violently air- and water-reactive; beryllium compounds are carcinogenic to humans	Fair	YES	I-1
Biphenyl (Diphenyl)	Restricted	C6H5C6H5	92-52-4	irritant; combustible	Limited; refer to expiration date on label	YES	O-3
Bismuth Nitrate	PROHIBITED	Bi(NO3)3·5H2O	10035-06-0	strong oxidizer; contact with other material	NA	NA	I-3

				may cause fire; toxic			
Bismuth Pentafluoride	Restricted	BiF5	7787-62-4	water-reactive; toxic	Fair	YES	I-2
Boranes and Diboranes (e.g., borane, tribromoborane, trifluoroborane, diborane, pentaborane, methylidiborane)	PROHIBITED			poison; flammable; water-reactive	NA	NA	I-2
Boric Acid	Restricted	H3BO3	10043-35-3	harmful if swallowed	Indefinite	NO	I-9
Boron Bromide Diiodide	Restricted	BBrI2	14355-21-6	violently water-reactive	Fair	YES	I-2
Boron Dibromiodide	Restricted	BBr2I	unavailable	violently water-reactive	Fair	YES	I-2
Boron Phosphide	Restricted	BP	20205-91-8	water-reactive	Fair	YES	I-5
Boron Trichloride	Restricted	BCl3	13517-10-7	water-reactive; toxic	Fair	YES	Gas Cylinder Storage Area - Poison
Bromine (3-1 g ampules limit)	DEMO ONLY	Br2	7726-95-6	strong oxidizer; reacts violently with organics; acutely toxic by inhalation and ingestion	Indefinite	NO	I-2 Acid Cabinet
Bromine Fluoride	Restricted	BrF	13863-59-7	water-reactive	Fair	YES	I-2
Bromine Pentafluoride	PROHIBITED	BrF5	7789-30-2	oxidizer; poison; inhalation hazard; corrosive; reacts with water with explosive force	NA	NA	I-2
Bromine Trifluoride	PROHIBITED	BrF3	7787-71-5	oxidizer; poison; inhalation hazard; corrosive; reacts with water with explosive force	NA	NA	I-2
Bromine Water	Restricted	Br2 + H2O	7726-95-6	corrosive; irritating fumes; toxic	Indefinite	NO	I-2 Acid Cabinet
Bromobenzene	Restricted	C6H5Br	108-86-1	highly flammable; toxic	Indefinite	NO	O-4 Flam Cabinet
Bromodiethylaluminum	Restricted	C4H10AlBr	760-19-0	water-reactive	Fair	YES	NA

Bromoform	Restricted	CHBr ₃	75-25-2	poison; lachrymator	Good	NO	O-4
Butadiene	PROHIBITED	C ₄ H ₆	106-99-0	may for explosive peroxides; carcinogenic to humans	NA	NA	Gas Cylinder Storage Area - Poison
Butanetriol Trinitrate (BTTN)	PROHIBITED	C ₄ H ₇ N ₃ O ₉	6659-60-5	explosive	NA	NA	NA
Butanol (n-Butyl Alcohol)	Restricted	CH ₃ (CH ₂) ₃ OH	71-36-3	highly flammable; toxic	Fair	YES	O-2 Flam Cabinet
Butyric Acid	Restricted	CH ₃ CH ₂ CH ₂ COO H	107-92-6	corrosive; combustible; stench agent; lachrymator	Indefinite	NO	O-1 Flam Cabinet
Cadmium and Cadmium Compounds (e.g., cadmium hydroxide, cadmium oxide, cadmium sulfide)	PROHIBITED			carcinogenic to humans; highly toxic	NA	NA	I-1
Calcium (100 g limit)	Restricted	Ca	7440-70-2	water- reactive; flammable solid	Good	NO	I-1
Calcium Bromide	Restricted	CaBr ₂	7789-41-5	toxic	Good	NO	I-2
Calcium Carbide (100 g limit)	DEMO ONLY	CaC ₂	75-20-7	water- reactive; reacts violently with water to generate acetylene gas; serious fire risk	Good	NO	I-5
Calcium Hypochlorite	Restricted	Ca(ClO) ₂	7778-54-3	strong oxidizer; reactive; toxic	Fair to poor	YES	I-6
Calcium Nitrate Tetrahydrate	Restricted	Ca(NO ₃) ₂ ·4H ₂ O	13477-34- 4	strong oxidizer; shock sensitive	Fair to poor; deliquesce nt	YES	I-3
Calcium Nitrate, Anhydrous	PROHIBITED	Ca(NO ₃) ₂	10124-37- 5	strong oxidizer; may explode if shocked or heated	NA	NA	I-3
Calcium Permanganate	PROHIBITED	Ca(MnO ₄) ₂	10118-76- 0	strong oxidizer	NA	NA	I-8
Calcium Phosphide (CP)	Restricted	Ca ₃ P ₂	1305-99-3	violently air- and water- reactive; strong reducing agent; poison	Fair	YES	I-5
Camphor	Restricted	C ₁₀ H ₁₆ O	76-22-2	toxic; flammable solid; combustible	Indefinite	NO	O-4

Carbon Disulfide (Carbon Bisulfide)	Restricted	CS2	75-15-0	highly flammable; poison; severe fire risk	Indefinite	NO	I-5 Flam Cabinet
Carbon Tetrachloride	PROHIBITED	CCl4	56-23-5	possibly carcinogenic to humans; acutely toxic	NA	NA	O-4
Cerium (IV) Sulfate (Ceric Sulfate)	Restricted	Ce(SO4)2	13590-82-4	strong oxidizer; corrosive; irritant	Limited; refer to expiration date on label	YES	NA
Cesium Amide	Restricted	CsH2N	22205-57-8	water-reactive	Fair	YES	O-2
Cesium Phosphide	Restricted	Cs3P	113737-02-3	water-reactive	Fair	YES	I-5
Chloral Hydrate	PROHIBITED	CCl3CH(OH)2	302-17-0	controlled barbiturate; probably carcinogenic to humans	NA	NA	O-2
Chlorine	PROHIBITED	Cl2	7782-50-5	oxidizer, corrosive, may be fatal if inhaled	NA	NA	Gas Cylinder Storage Area - Poison
Chlorine Dioxide	PROHIBITED	ClO2	10049-04-4	oxidizer; flammable and reactive; shock sensitive; explosive	NA	NA	NA
Chlorine Fluoride	Restricted	ClF	7790-89-8	strong oxidizer; water-reactive	Fair	YES	NA
Chlorine Pentafluoride	Restricted	ClF5	13637-63-3	water-reactive	Fair	YES	NA
Chlorine Trifluoride	PROHIBITED	ClF3	7790-91-2	powerful oxidizer; explosive reaction with water and acids; poisonous if inhaled	NA	NA	NA
Chlorine Trioxide	PROHIBITED	ClO3	13932-10-0	shock sensitive; explosive	NA	NA	NA
Chloroacetic Acid	Restricted	C2H3ClO2	79-11-8	acutely toxic; corrosive	Indefinite	NO	O-1
Chloroacetyl Chloride	Restricted	C2H2Cl2O	79-04-9	air- and water-reactive; corrosive; poison; inhalation hazard	Good	NO	I-2

Chloroacetylene	PROHIBITED	C2HCl	593-63-5	shock sensitive; air reactive	NA	NA	NA
Chlorobenzene	Restricted	C6H5Cl	108-90-7	highly flammable; inhalation hazard	Limited; refer to expiration date on label	YES	O-4 Flam Cabinet
Chlorodiisobutyl Aluminum (Diisobutylaluminum Chloride)	Restricted	C8H18AlCl	1779-25-5	water-reactive; highly flammable	Fair	YES	NA
Chloroform	PROHIBITED	CHCl3	67-66-3	poison; possibly carcinogenic to humans	NA	NA	O-4
Chloropicrin	PROHIBITED	CCl3NO2	76-06-2	shock sensitive; explosive; poison; inhalation hazard	NA	NA	NA
Chloroprene	PROHIBITED	C4H5Cl	126-99-8	may form explosive peroxides; possibly carcinogenic to humans	NA	NA	O-4 Flam Cabinet
Chlorotrifluoroethylene	PROHIBITED	C2F3Cl	79-38-9	may form explosive peroxides	NA	NA	O-4 Flam Cabinet
Chromic Acid	Restricted	CrO3	1333-82-0	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison	Poor	YES	I-8 Acid Cabinet
Chromic Chloride (Chromium (III) Chloride)	PROHIBITED	CrCl3·6H2O	10060-12-5	acutely toxic; fatal if inhaled	NA	NA	I-2
Chromium (III) Nitrate Nonahydrate (Chromium Trinitrate)	Restricted	Cr(NO3)3·9H2O	7789-02-8	oxidizer; toxic	Good	NO	I-3
Chromium (III) Sulfate (Chromic Sulfate)	Restricted	Cr2(SO4)3·nH2O	10101-53-8	corrosive; toxic	Indefinite	NO	I-2
Chromium (Powder)	PROHIBITED	Cr	7440-47-3	flammable; toxic	NA	NA	I-1
Chromium Oxide (Chromic Oxide) (20 g limit)	DEMO ONLY	Cr2O3	1308-38-9	strong oxidizer; poison; corrosive	Indefinite	NO	I-4
Chromium Trioxide	Restricted	CrO3	1333-82-0	chromium (VI) compounds are carcinogenic to humans; strong	Poor	YES	I-4

				oxidizer; poison			
Chromyl Chloride	PROHIBITED	CrO ₂ Cl ₂	14977-61-8	water-reactive; chromium (VI) compounds are carcinogenic to humans	NA	NA	I-2
Cobalt (II) Nitrate Hexahydrate (Cobaltous Nitrate)	Restricted	Co(NO ₃) ₂ ·6H ₂ O	10026-22-9	cobalt and cobalt compounds are possibly carcinogenic to humans; acutely toxic	Poor; deliquescent	YES	I-3
Cobalt (Powder)	PROHIBITED	Co	7440-48-4	possibly carcinogenic to humans	NA	NA	I-1
Colchicine	PROHIBITED	C ₂₂ H ₂₅ N ₆ O ₆	64-86-8	acutely toxic	NA	NA	O-2
Collodion (a solution of pyroxylin in ether and alcohol) (100 mL limit)	DEMO ONLY	C ₂₅ H ₃₃ O ₁₃ (NO ₃) ₇	9004-70-0	highly flammable	Fair	YES	O-4 Flam Cabinet
Copper (II) Bromide (Cupric Bromide, Anhydrous)	Restricted	CuBr ₂	7789-45-9	toxic; irritant	Poor; deliquescent	YES	I-2
Copper Acetylide	PROHIBITED	Cu ₂ C ₂	1117-94-8	explosive	NA	NA	NA
Cumene (Isopropylbenzene)	PROHIBITED	C ₆ H ₅ CH(CH ₃) ₂	98-82-8	may form explosive peroxides upon concentration; possibly carcinogenic to humans	NA	NA	O-4 Flam Cabinet
Cycloheptanone	PROHIBITED	C ₇ H ₁₂ O	502-42-1	may form explosive peroxides; flammable; corrosive; toxic	NA	NA	O-2
Cyclohexane	Restricted	CH ₂ (CH ₂) ₄ CH ₂	110-82-7	highly flammable; poison	Indefinite	NO	O-3 Flam Cabinet
Cyclohexanol	PROHIBITED	C ₆ H ₁₁ OH	108-93-0	may form explosive peroxides upon concentration	NA	NA	O-2 Flam Cabinet
Cyclohexanone (100 mL limit)	DEMO ONLY	C ₆ H ₁₀ O	108-94-1	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides	Fair	YES	O-4 Flam Cabinet

Cyclohexene (100 mL limit)	DEMO ONLY	C6H10	110-83-8	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides	Poor	YES	O-3 Flam Cabinet
Cyclopentanone (100 mL limit)	DEMO ONLY	C5H8O	120-92-3	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides	Good	NO	O-4 Flam Cabinet
Cyclopentene	PROHIBITED	C5H8	142-29-0	may form explosive peroxides upon concentration	NA	NA	O-3 Flam Cabinet
Diacetylene (Butadiyne)	PROHIBITED	C4H2	460-12-8	may form explosive peroxides upon concentration; highly flammable; explosive	NA	NA	NA
Diazoethane	PROHIBITED	C2H4N6	629-13-0	explosive	NA	NA	NA
Diazodinitrophenol (DDNP)	PROHIBITED	C6H2N4O5	4682-03-05	explosive	NA	NA	NA
Diazomethane	PROHIBITED	CH2N2	334-88-3	poisonous and flammable gas	NA	NA	Gas Cylinder Storage Area
Dichloromethane (Methylene Dichloride)	Restricted	CH2Cl2	75-09-2	probably carcinogenic to humans; poison	Good	NO	O-4
Dicyclopentadiene	PROHIBITED	C10H12	77-73-6	may form explosive peroxides upon concentration; acutely toxic; fatal if inhaled; flammable	NA	NA	O-3 Flam Cabinet
Diethyl Aluminum Chloride	Restricted	C4H10AlCl	96-10-6	water-reactive; highly flammable; inhalation hazard	Fair	YES	NA
Diethyl Zinc (DEZ)	Restricted	C4H10Zn	557-20-0	air- and water-	Fair	YES	NA

				reactive; highly flammable			
Diglyme (Diethylene Glycol Dimethyl Ether) (500 mL limit)	DEMO ONLY	(CH3O)CH2	111-96-6	combustible; oxidizes readily in air to form explosive peroxides	Limited; refer to expiration date on label	YES	O-2
Diisopropyl Beryllium	Restricted	C6H14Be	15721-33-2	water- reactive; beryllium compounds are carcinogenic to humans	Fair	YES	NA
Diisopropyl Ether	PROHIBITED	C6H14O	108-20-3	may form explosive peroxides	NA	NA	O-4 Flam Cabinet
Dimethyl Magnesium	Restricted	C2H6Mg	2999-74-8	air- and water- reactive; spontaneously flammable in air	Fair	YES	NA
Dinitrophenol	PROHIBITED	C6H3OH(NO2)2	51-28-5	explosive	NA	NA	O-8
Dinitrophenylhydrazine (100 g limit)	DEMO ONLY	C6H6N4O4	119-26-6	flammable solid; explosive when dry	Good	NO	O-4
Dioxane	PROHIBITED	C4H8O2	123-91-1	may form explosive peroxides upon concentration; possibly carcinogenic to humans	NA	NA	O-4 Flam Cabinet
Dipentaerythritol Hexanitrate (DPEHN)	PROHIBITED	C10H16N6O19	13184-80-0	explosive	NA	NA	NA
Diphenylamine	Restricted	(C6H5)2NH	122-39-4	poison	Indefinite	NO	O-2
Diphenylmethane-4,4 Diisocyanate	Restricted	C15H10N2O2	101-68-8	poison	Poor	YES	O-5
Disulfur Dinitride	PROHIBITED	S2N2	25474-92-4	explosive	NA	NA	NA
Divinyl Acetylene	PROHIBITED	C6H6	821-08-9	may form explosive peroxides; acutely toxic; highly flammable	NA	NA	NA
Divinyl Ether	PROHIBITED	C4H6O2	109-93-3	may form explosive peroxides; highly flammable	NA	NA	O-4 Flam Cabinet
Ethanol (Ethyl Alcohol)	Restricted	C2H5OH	64-17-5	highly flammable	Indefinite	NO	O-2 Flam Cabinet

Ethyl Acetate	Restricted	CH ₃ COOC ₂ H ₅	141-78-6	highly flammable; toxic; may form explosive peroxides	Good	NO	O-3 Flam Cabinet
Ethyl Ether (diethyl ether)	PROHIBITED	(C ₂ H ₅) ₂ O	60-29-7	may form explosive peroxides upon concentration	NA	NA	O-4 Flam Cabinet
Ethyl Methacrylate	Restricted	CH ₂ CCH ₃ COOC ₂	97-63-2	highly flammable; polymerizable	Poor	YES	NA
Ethyl Nitrite	PROHIBITED	C ₂ H ₅ NO ₂	109-95-5	explosive	NA	NA	NA
Ethylene Dichloride (1,2-Dichloroethane)	Restricted	C ₂ H ₄ Cl ₂	107-06-2	highly flammable; possibly carcinogenic to humans; poison; emits toxic gases if heated or burned	Poor	YES	O-4 Flam Cabinet
Ethylene Glycol Dimethyl Ether (Glyme or 1,2-Dimethoxyethane)	PROHIBITED	C ₄ H ₁₀ O ₂	28923-39-9	may form explosive peroxides upon concentration	NA	NA	O-4 Flam Cabinet
Ethylene Glycol Dinitrate (EGDN or 1,2-Dinitroxyethane)	PROHIBITED	C ₂ H ₄ N ₂ O ₆	628-96-6	explosive	NA	NA	NA
Ethylene Oxide	PROHIBITED	C ₂ H ₄ O	75-21-8	carcinogenic to humans; flammable; explosive; may be fatal if inhaled or absorbed through the skin	NA	NA	Gas Cylinder Storage Area - Flammable
Ethylenediamine	Restricted	NH ₂ CH ₂ CH ₂ NH ₂	107-15-3	highly flammable; air-reactive; corrosive	Poor	YES	O-3 Flam Cabinet
FAA Solution (Formalin-Aceto-Alcohol Solution)	Restricted			flammable; acutely toxic; carcinogenic to humans	Good	NO	O-2 Flam Cabinet
Fehlings Solution A (Copper (II) Sulfate and Water)	Restricted			acutely toxic	Fair	YES	I-2
Fehlings Solution B (Sodium Hydroxide; Potassium Sodium Tartrate; and Water)	Restricted			caustic; toxic	Fair	YES	I-4 Base Cabinet
Ferric Chloride, Anhydrous (Iron (III) Chloride)	Restricted	FeCl ₃	7705-08-0	corrosive; inhalation hazard	Poor	YES	I-2

Ferric Nitrate Nonahydrate (Iron (III) Nitrate Nonahydrate)	Restricted	Fe(NO3)3·9H2O	7782-61-8	strong oxidizer; irritant; explosion hazard with heat	Good	NO	I-3
Fluorine Monoxide (Oxygen Difluoride)	Restricted	F2O	7783-41-7	strong oxidizer; air- and water-reactive; poison; corrosive	Fair	YES	Gas Cylinder Storage Area
Fluorosulfonic Acid	Restricted	HSO3F	7789-21-1	corrosive; air- and water-reactive	Fair	YES	I-9 Acid Cabinet
Formaldehyde	PROHIBITED	CH2O	50-00-0	carcinogenic to humans; poison; may cause allergic reaction	NA	NA	O-3
Formalin	Restricted	CH2O	50-00-0	toxic; corrosive; carcinogenic to humans	Indefinite	NO	O-3
Formic Acid	Restricted	HCOOH	64-18-6	flammable; corrosive	Poor	YES	O-1 Flam Cabinet
Furan	PROHIBITED	C4H4O	110-00-9	possibly carcinogenic to humans; may form explosive peroxides upon concentration	NA	NA	O-4 Flam Cabinet
Gasoline	Restricted	UNDEFINED	8006-61-9 or 86290-81-5	highly flammable; possibly carcinogenic to humans	Poor	YES	O-3 Flam Cabinet
Glutaraldehyde	Restricted	OCH(CH2)3CHO	111-30-8	water-reactive; toxic	Indefinite	NO	O-3
Glycerol Monolactate Trinitrate (GLTN)	PROHIBITED	C6H9N3O11		explosive	NA	NA	NA
Gold Acetylde	Restricted	C2Au2	70950-00-4	explosive; shock sensitive; water reactive	Fair	YES	NA
Grignard Reagents and their solvents Note: a Grignard Reagent has a formula RMgX where X is a halogen and R is an alkyl or aryl (based on a benzene ring) group. An example is CH3CH2MgBr (ethylmagnesium bromide). They are typically found in solution	PROHIBITED			Both the Grignard Reagent and the solvents are hazardous. The Grignard Reagents can be highly reactive, corrosive, pyrophoric, and toxic. The	NA	NA	NA

with tetrahydrofuran or ether as the solvent.				solvents are highly flammable and may form explosive peroxides.			
Guanyl Nitrosamino Guanylidene Hydrazine	PROHIBITED			explosive; strong oxidizer	NA	NA	O-2
Hematoxylin	Restricted	C16H14O6	517-28-2	toxic	Fair	YES	O-9
Hexamethylene Diisocyanate (HDI)	Restricted	C8H12N2O2	822-06-0	water-reactive; toxic	Fair	YES	NA
Hexamethylenediamine (1, 6-Diaminohexane)	Restricted	H2N(CH2)6NH2	124-09-4	corrosive; toxic	Indefinite	NO	O-2 Base Cabinet
Hexyl Alcohol	PROHIBITED	CH3(CH2)4CH2OH	111-27-3	highly flammable; poison	NA	NA	O-5
HMX	PROHIBITED	C4H8N8O8	2691-41-0	explosive	NA	NA	O-6
Hydrides, Borohydrides (e.g., aluminum borohydride, aluminum hydride, magnesium lauminum hydride, phosphorous hydride, sodium borohydride)(100 g limit)	DEMO ONLY	Unavailable		strong reducing agents; air- and water-reactive	sodium borohydride: indefinite, phosphorous hydride: NA, magnesium lauminum hydride: NA, aluminum hydride: NA, aluminum borohydride: NA	YES	O-1
Hydriodic Acid	Restricted	HI	10034-85-2	acutely toxic; corrosive	Fair	YES	I-9 Acid Cabinet
Hydrobromic Acid	Restricted	HBr	10035-10-6	acutely toxic; water-reactive; corrosive	Fair	YES	I-9 Acid Cabinet
Hydrochloric Acid (Muriatic Acid)	Restricted	HCl	7647-01-0	toxic; severely corrosive	Good	NO	I-9 Acid Cabinet
Hydrofluoric Acid	PROHIBITED	HF	7664-39-3	corrosive; may be fatal if inhaled or ingested; liquid and vapor can cause severe burns not always immediately painful or visible, but possibly fatal	NA	NA	I-9 Acid Cabinet
Hydrogen (limited to lecture bottle of 4 cu. ft. or less)	DEMO ONLY	H2	13333-74-0	flammable gas; burns with a pale	Indefinite	NO	Gas Cylinder Storage

				blue, almost invisible flame; may displace oxygen, which could cause asphyxiation; compressed gas cylinder hazards			Area - Flammable
Hydrogen Peroxide (>30%)	PROHIBITED	H2O2	7722-84-1	fire and explosion risk, severely corrosive; strong oxidizer	NA	NA	I-6
Hydrogen Peroxide (30% or less)	Restricted	H2O2	7722-84-1	readily decomposes with almost anything; strong oxidizer; explosion hazard; corrosive	Fair to Poor	YES	I-6
Hydrogen Sulfide	PROHIBITED	H2S	7783-06-4	highly flammable; exposure to very high concentrations causes immediate death; death or permanent injury may occur after very short exposure to small quantities	NA	NA	Gas Cylinder Storage Area - Flammable
Hydroquinone (Benzene-1, 4-diol)	Restricted	C6H4(OH)2	123-31-9	toxic	Poor	YES	O-4
Hydroxylamine Hydrochloride	Restricted	NH2OH·HCl	5470-11-1	toxic; strong reducing agent	Poor	YES	O-2
Iodine	Restricted	I2	7553-56-2	poison; strong oxidizing agent	Fair	YES	I-2
Iodine Monochloride (Chlorine Iodide)	Restricted	ICl	7790-99-0	toxic; water- and air-reactive; strong oxidizing agent; corrosive	Poor	YES	I-2
Iron (powder)	Restricted	Fe	7439-89-6	metal dust may present a fire hazard and a health hazard	Good	NO	I-1

Isoamyl Alcohol (3-Methyl 1-butanol or Isopentyl Alcohol)	Restricted	(CH ₃) ₂ CHCH ₂ CH OH	123-51-3	highly flammable; toxic	Fair	YES	O-2 Flam Cabinet
Isobutyl Alcohol	Restricted	(CH ₃) ₂ CHCH ₂ OH	78-83-1	highly flammable; toxic	Indefinite	NO	O-2 Flam Cabinet
Isopropyl Alcohol	Restricted	(CH ₃) ₂ CHOH	67-63-0	highly flammable; toxic; may form explosive peroxides	Fair	YES	O-2 Flam Cabinet
Isopropyl Ether (Diisopropyl Ether)	PROHIBITED	C ₆ H ₁₄ O	108-20-3	highly flammable; may form explosive peroxides	NA	NA	O-4 Flam Cabinet
Kerosene	Restricted	UNDEFINED	8008-20-6	highly flammable; toxic	Indefinite	NO	O-3 Flam Cabinet
Lead Dinitroresorcinate (LDNR)	PROHIBITED	PbC ₆ H ₂ (NO ₂) ₂ (OH) ₂		explosive; probably carcinogenic to humans	NA	NA	NA
Lead Dioxide (Lead (IV) Oxide or Lead Brown)	PROHIBITED	PbO ₂	1309-60-0	toxic; probably carcinogenic to humans; will accelerate burning in fire; may explode from heat or contamination	NA	NA	I-4
Lead Mononitroresorcinate (LMNR)	PROHIBITED	PbC ₆ H ₃ NO ₂ (OH) ₂	51317-24-9	explosive; shock sensitive; probably carcinogenic to humans	NA	NA	NA
Lead Nitrate	Restricted	Pb(NO ₃) ₂	10099-74-8	oxidizer; toxic; probably carcinogenic to humans	Indefinite	NO	I-3
Lead Tetraoxide, (Red Lead Oxide)	Restricted	Pb ₃ O ₄	1314-41-6	oxidizer; acutely toxic; probably carcinogenic to humans	Indefinite	NO	I-4
Lead Trinitroresorcinate (Lead Styphnate)	PROHIBITED	PbC ₆ H(NO ₂) ₃ (OH) ₂	15245-44-0	explosive; probably carcinogenic to humans	NA	NA	I-3
Lithium (20 g limit)	DEMO ONLY	Li	7439-93-2	water-reactive; highly flammable solid; readily ignited by and reacts with	Indefinite	NO	I-1 Flam Cabinet

				man y extinguishing agents			
Lithium Amide	Restricted	LiNH ₂	7782-89-0	water-reactive; toxic; flammable; dangerous fire and explosion hazard	Fair	YES	I-3 Flam Cabinet
Lithium Bromide	Restricted	LiBr	7550-35-8	acutely toxic	Good	NO	I-1
Lithium Ferrosilicon	Restricted	Fe-Si-Li	70399-13-2	water-reactive; acutely toxic; highly flammable	Fair	YES	I-1 Flam Cabinet
Lithium Nitrate	PROHIBITED	LiNO ₃	7790-69-4	oxidizer; shock sensitive	NA	NA	I-3
Lithium Nitride	PROHIBITED	Li ₃ N	26134-62-3	highly flammable; powder is easily ignited and burns with intense heat; may ignite spontaneously in moist air	NA	NA	I-5 Flam Cabinet
Lithium Peroxide	PROHIBITED	Li ₂ O ₂	12031-80-0	oxidizer; toxic; explosive	NA	NA	I-6
Lithium Silicon	Restricted	Li-Si	68848-64-6	water-and air-reactive; acutely toxic; strong reducing agent	Fair	YES	I-1
Lithium Sulfate	Restricted	Li ₂ SO ₄ ·H ₂ O	10102-25-7	toxic	Indefinite	NO	I-2
Magnesium (except Mg ribbon & turnings)	PROHIBITED	Mg	7439-95-4	reacts with water to liberate hydrogen gas; flammable solid; easily ignited	NA	NA	I-1 Flam Cabinet
Magnesium (ribbon)	Restricted	Mg	7439-95-4	flammable solid; water-reactive	Indefinite	NO	I-1 Flam Cabinet
Magnesium (turnings) (100 g limit)	DEMO ONLY	Mg	7439-95-4	water-reactive; flammable solid; strong reducing agent	Indefinite	NO	I-1 Flam Cabinet
Magnesium Nitrate Hexahydrate	Restricted	Mg(NO ₃) ₂ ·6H ₂ O	13446-18-9	oxidizer; toxic	Good	NO	I-3
Magnesium Peroxide	PROHIBITED	MgO ₂	14452-57-4	strong oxidizer	NA	NA	I-6
Manganese (II) Nitrate Hexahydrate (Manganous Nitrate Hexahydrate)	Restricted	Mn(NO ₃) ₂ ·6H ₂ O	10377-66-9	strong oxidizer; toxic	Indefinite	NO	I-3

Manganese Carbonate	Restricted	MnCO ₃	598-62-9	toxic	Good	NO	I-4
Manganese Dioxide (Manganese Black; Manganese Oxide; Manganese Peroxide; Manganese Superoxide)	Restricted	MnO ₂	1313-13-9	toxic	Indefinite	NO	I-6
Mannitol Hexanitrate	PROHIBITED	C ₆ H ₈ N ₆ O ₁₈	15825-70-4	explosive; strong oxidizer	NA	NA	NA
Mercury (except in sealed devices)	PROHIBITED	Hg	7439-97-6	corrosive; poison; severely and subtly toxic	NA	NA	I-1
Mercury Compounds (e.g., Nessler's Reagent, mercuric chloride, mercuric potassium iodide, mercuric fluoride)	PROHIBITED			poison; severely and subtly toxic	NA	NA	I-2
meta-Trinitrocresol (3-Methyl-2,4,6-trinitrophenol)	PROHIBITED	C ₇ H ₅ N ₃ O ₇	602-99-3	explosive; strong oxidizer	NA	NA	NA
Methyl Acetylene	PROHIBITED	C ₃ H ₄	74-99-7	highly flammable; may form explosive peroxides upon concentration	NA	NA	O-3 Flam Cabinet
Methyl Alcohol (Methanol)	Restricted	CH ₃ OH	67-56-1	highly flammable; toxic	Good	NO	O-2 Flam Cabinet
Methyl Aluminum Sesquibromide	Restricted	C ₃ H ₉ Al ₂ Br ₃	12263-85-3	water-and air-reactive; toxic; dangerous fire and explosion hazard	Fair	YES	NA
Methyl Aluminum Sesquichloride	Restricted	C ₃ H ₉ Al ₂ Cl ₃	12542-85-7	water-and air-reactive; toxic; dangerous fire and explosion hazard	Fair	YES	NA
Methyl Chloride (Chloromethane)	Restricted	CH ₃ Cl	74-87-3	highly flammable; toxic	Indefinite	NO	O-4 Flam Cabinet
Methyl Cyclopentane	PROHIBITED	C ₆ H ₁₂	96-37-7	highly flammable	NA	NA	O-3 Flam Cabinet
Methyl Isobutyl Ketone (4 Methyl-2-Pentanone or MIBK) (250 mL limit)	DEMO ONLY	CH ₃ COCH ₂ CH(C H)	108-10-1	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides; possibly carcinogenic to humans	Fair to Poor	YES	O-4 Flam Cabinet

Methyl Isocyanate	PROHIBITED	CH3NCO	624-83-9	water-reactive; highly flammable; polymerizable	NA	NA	O-5 Flam Cabinet
Methyl Methacrylate Monomer	PROHIBITED	C5H8O2	80-62-6	may form explosive peroxides; flammable; explosive (vapor)	NA	NA	O-3 Flam Cabinet
Naphthalene (Moth Balls, Moth Flakes)	Restricted	C10H8	91-20-3	possibly carcinogenic to humans; highly flammable	Poor	YES	O-3
n-Butyllithium	Restricted	C4H9Li	109-72-8	spontaneously flammable in air; toxic	Limited; refer to expiration date on label	YES	NA
Nessler's Reagent (Mercuric Potassium Iodide and Sodium Hydroxide)	PROHIBITED	Hg+KI+NaOH	7783-33-7		NA	NA	I-4
n-Heptane	Restricted	CH3(CH2)5CH3	142-82-5	highly flammable; toxic	Good	NO	O-3 Flam Cabinet
n-Hexane	Restricted	CH3(CH2)4CH3	110-54-3	highly flammable; toxic	Good	NO	O-3 Flam Cabinet
Nickel (II) Nitrate Hexahydrate	Restricted	Ni(NO3)2·6H2O	13478-00-7	nickel compounds are carcinogenic to humans; oxidizer	Poor	YES	I-3
Nickel (II) Sulfate Hexahydrate	Restricted	NiSO4·6H2O	10101-97-0	nickel compounds are carcinogenic to humans	Good	NO	I-2
Nicotine	PROHIBITED	C10H14N2	54-11-5	poison; acutely toxic	NA	NA	O-2

Nitric Acid	Restricted	HNO3	7697-37-2	acutely toxic; strong oxidizer; water-and air-reactive	Fair; When this substance is stored for a long period, it gradually destroys the cap. Do not interchange another cap except one designated by its color code (red). Contact Flinn for a replacement cap if needed. Shelf life of nitric acid is good except for this bottle cap problem. Product may turn yellow due to the release of nitrogen dioxide on exposure to light. This yellow color does not affect the product's usefulness in the school laboratory .	YES	I-9 Acid Cabinet (Separate)
Nitrobenzene	Restricted	C6H5NO2	98-95-3	possibly carcinogenic to humans; acutely toxic; flammable	Fair	Yes	O-3 Flam Cabinet
Nitrogen	Restricted	N2	7727-37-9	may displace oxygen, which could cause asphyxiation;	Indefinite	NO	Gas Cylinder Storage Area -

				compressed gas cylinder hazards; liquid nitrogen presents a low temperature hazards			Non Flammable
Nitroglycerin	PROHIBITED	C3H5N3O9	55-63-0	explosive; strong oxidizer	NA	NA	I-3
Nitrosoguanidine	PROHIBITED	C2H5N5O3	70-25-7	explosive; highly flammable; water-reactive; decomposes at elevated temperatures	NA	NA	O-2 Flam Cabinet
Octyl Alcohol (Octanol or Caprylic Alcohol)	Restricted	CH3(CH2)6CH2OH	111-87-5	flammable; toxic	Limited; refer to expiration date on label	YES	O-2 Flam Cabinet
ortho-Dichlorobenzene (1, 2-Dichlorobenzene)	Restricted	C6H4Cl2	95-50-1	flammable; toxic	Fair to Poor	YES	O-3
ortho-Toluidine (e.g., Toluidine Blue)	PROHIBITED	C7H9N	95-53-4	carcinogenic to humans; poison	NA	NA	O-2
Osmic Acid (Osmium Tetroxide)	PROHIBITED	OsO4	20816-12-0	acutely toxic; may be fatal if inhaled or ingested	NA	NA	O-4
Oxalic Acid, Dihydrate (Ethanedioic Acid)	Restricted	H2C2O4·2H2O	6153-56-6	acutely toxic	Indefinite	NO	O-1
Oxygen	Restricted	O2	7782-44-7	strong oxidizer; fire and explosion hazard; compressed gas cylinder hazards	Indefinite	NO	Gas Cylinder Storage Area - Oxidizer
para-Dichlorobenzene (1, 4-Dichlorobenzene)	Restricted	C6H4Cl2	106-46-7	possibly carcinogenic to humans; flammable	Fair to Poor	YES	O-3
para-Nitrophenol (4-Nitrophenol)	PROHIBITED	NO2C6H4OH	100-02-7	poison; forms explosive mixtures	NA	NA	O-8
Pentaerythrite Tetranitrate (PETN)	PROHIBITED	C5H8N4O12	78-11-5	explosive; strong oxidizer	NA	NA	NA
Pentane (100 mL limit)	DEMO ONLY	C5H12	109-66-0	highly flammable	Indefinite	NO	O-3 Flam Cabinet
Pentyl Alcohol (Amyl Alcohol or Pentanol)	Restricted	CH3(CH2)4OH	71-41-0	highly flammable; toxic	Poor	YES	O-2 Flam Cabinet
Perchloric Acid	PROHIBITED	HClO4	7601-90-3	strong oxidizing agent; corrosive; contact with	NA	NA	I-9 Acid Cabinet

				organics may result in explosion; can cause serious or permanent injury			
Petroleum Ether (500 mL limit)	Restricted	UNDEFINED	Unavailable	highly flammable; toxic	Indefinite	NO	O-3 Flam Cabinet
Phenol	PROHIBITED	C6H6O	108-95-2	combustible; corrosive; may be fatal if inhaled, ingested, or absorbed through skin	NA	NA	O-8
Phenyl Thiourea	PROHIBITED	C7H8N2S	103-85-5	extremely toxic; poison; emits toxic fumes when heated	NA	NA	O-2
Phosphides (e.g., magnesium aluminum phosphide, potassium phosphide, sodium phosphide)	PROHIBITED			poison; water-reactive	NA	NA	I-5
Phosphoric Acid	Restricted	H3PO4	7664-38-2	toxic; corrosive	Good	NO	I-9 Acid Cabinet
Phosphorus (yellow or white)	PROHIBITED	P	7723-14-0	flammable solid; self-ignition possible; evolves dangerous gas if burned	NA	NA	I-10 Flam Cabinet
Phosphorus Halides and Oxides (e.g., phosphorus trichloride, phosphorus trioxide, phosphorus pentabromide)	PROHIBITED			water-reactive; corrosive; toxic	NA	NA	I-2
Phosphorus, Red (Amorphous) (50 g limit)	DEMO ONLY	P	7723-14-0	water-reactive; flammable solid; can change to white phosphorus if heated; strong reducing agent; acutely toxic	Indefinite	NO	I-10 Flam Cabinet
Phthalic Acid (1, 2 Benzenedicarboxylic Acid)	Restricted	C6H4(COOH)2	88-99-3	combustible; toxic	Limited; refer to expiration date on label	YES	O-1 Acid Cabinet
Phthalic Anhydride	PROHIBITED	C8H4O3	85-44-9	explosive; water-reactive	NA	NA	O-1

Picramide	PROHIBITED	C6H4N4O6	489-98-5	explosive; strong oxidizing agent	NA	NA	I-3
Picrates and Picryl Compounds (e.g., ammonium picrate, lead picrate, potassium picrate, picryl sulfonic acid, picryl chloride)	PROHIBITED			explosive	NA	NA	I-3
Picric Acid (2,4,6- Trinitrophenol)	PROHIBITED	C6H3N3O7	88-89-1	extremely reactive; explosive when dry	NA	NA	O-1 Acid Cabinet
Polymethylene Polyphenyl Isocyanate (Polymeric Diphenylmethane Diisocyanate or MDI)	Restricted	(C8H5NO)n	9016-87-9	water reactive; toxic	Fair	YES	I-5
Polyvinyl Alcohol	Restricted	CH2CH(OH)	9002-89-5	combustible; toxic	Indefinite	NO	O-2 Flam Cabinet
Polyvinyl Nitrate (PVN or polyethenyl nitrate)	PROHIBITED	(C2H3NO3)n		explosive; shock sensitive	NA	NA	NA
Potassium (1-container with 5 demonstration-size pieces)	DEMO ONLY	K	7440-09-7	violently water- reactive; may form explosive peroxides; combustible; flammable solid; ignites when exposed to water or moisture; may ignite spontaneously in air;	Poor	YES	I-1
Potassium Amide	PROHIBITED	KNH2	17242-52- 3	may form explosive peroxides	NA	NA	NA
Potassium Bromate	Restricted	KBrO3	7758-01-2	possibly carcinogenic to humans	Indefinite	NO	I-6
Potassium Chlorate (100 g limit)	DEMO ONLY	KClO3	3811-04-9	explosive; strong oxidizer	Indefinite	NO	I-6
Potassium Chromate	Restricted	K2CrO4	7789-00-6	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison	Indefinite	NO	I-8
Potassium Cyanide	PROHIBITED	KCN	151-50-8	acutely toxic	NA	NA	I-7
Potassium Dichromate (Potassium Bichromate)	Restricted	K2Cr2O7	7778-50-9	chromium (VI) compounds are carcinogenic to humans; strong	Indefinite	NO	I-8

				oxidizer; poison			
Potassium Dinitrobenzofuroxan (KDNBF)	PROHIBITED	KC6H2N4O6	29267-75-2	explosive	NA	NA	NA
Potassium Ferricyanide (Red Prussiate)	Restricted	K3Fe(CN)6	13746-66-2	contact with acids liberates toxic gas	Fair	YES	I-7
Potassium Ferrocyanide (Tetrapotassium Hexacyanoferrate or Yellow Prussiate)	Restricted	K4Fe(CN)6·3H2O	14459-95-1	toxic; contact with acids liberates toxic gas	Fair to Poor	YES	I-7
Potassium Hydroxide (Potash Lye)	Restricted	KOH	1310-58-3	corrosive; toxic	Fair	YES	I-4 Base Cabinet
Potassium Iodate	Restricted	KIO3	7758-05-6	oxidizer; toxic	Indefinite	NO	I-6
Potassium Nitrate	Restricted	KNO3	7757-79-1	strong oxidizer	Good	NO	I-3
Potassium Nitrite	PROHIBITED	KNO2	7758-09-0	strong oxidizer	NA	NA	I-3
Potassium Perchlorate	PROHIBITED	KClO4	7778-74-7	explosive	NA	NA	I-6
Potassium Periodate	PROHIBITED	KIO4	7790-21-8	strong oxidizer	NA	NA	I-6
Potassium Permanganate	Restricted	KMnO4	7722-64-7	strong oxidizer; explodes on sudden heating	Indefinite	NO	I-8
Potassium Peroxide	PROHIBITED	K2O2	17014-71-0	water-reactive; strong oxidizer	NA	NA	I-6
Potassium Persulfate	Restricted	K2S2O8	7727-21-1	strong oxidizer; toxic	Fair to poor; deliquescent	YES	I-6
Potassium Sulfide	Restricted	K2S	1312-73-8	pyrophoric; spontaneously combustible; strong reducing agent; acutely toxic	Fair (3 Years)	YES	I-5
Potassium Superoxide	PROHIBITED	KO2	12030-88-5	water-reactive; strong oxidizer	NA	NA	I-4
Propane	Restricted	CH3CH2CH3	74-98-6	highly flammable; compressed gas cylinder hazards; vaporizing liquid may cause frostbite; toxic; will displace oxygen, which may cause asphyxiation	Fair	YES	Gas Cylinder Storage Area - Flammable
Propionic Acid	Restricted	C3H6O2	79-09-4	corrosive; flammable; toxic	Indefinite	NO	O-1 Flam Cabinet

Propyl Alcohol (n-Propanol or Propanol)	Restricted	C3H8O	71-23-8	highly flammable; toxic	Indefinite	NO	O-2 Flam Cabinet
Pyridine (Azine or Azabenzene)	Restricted	C5H5N	110-86-1	highly flammable; toxic	Good	NO	O-2 Flam Cabinet
Pyrosulfuryl Chloride (Sulfur Pentoxydichloride)	Restricted	Cl2O5S2	7791-27-7	water- and air-reactive; corrosive; toxic	Fair	YES	I-1
RDX	PROHIBITED	C3H6N6O6	121-82-4	explosive	NA	NA	O-2
Silanes and Chlorosilanes (e.g., silane; dichlorosilane; tetramethylsilane; trichlorosilane)	PROHIBITED			flammable; reactive; highly toxic	NA	NA	NA
Silicon Tetrachloride	PROHIBITED	SiCl4	10026-04-7	air- and water-reactive; corrosive	NA	NA	Gas Cylinder Storage Area - Poison
Silver Acetylide	PROHIBITED	Ag2C2	13092-75-6	explosive; shock sensitive	NA	NA	NA
Silver Cyanate	PROHIBITED	AgOCN	3315-16-0	toxic	NA	NA	I-7
Silver Cyanide	PROHIBITED	AgCN	506-64-9	acutely toxic; may be fatal if inhaled, ingested, or absorbed through skin	NA	NA	I-7
Silver Dinitroresorcinate (Silver Styphnate)	PROHIBITED	Ag2C6H(NO3)2(OH)2		reactive; ignitable; shock sensitive	NA	NA	NA
Silver Fulminate	PROHIBITED	AgCNO	5610-59-3	explosive	NA	NA	NA
Silver Nitrate	Restricted	AgNO3	7761-88-8	strong oxidizer; corrosive; toxic	Indefinite	NO	I-3
Silver Nitride	PROHIBITED	Ag3N	20737-02-4	shock sensitive; explosive	NA	NA	I-5
Silver Oxalate	PROHIBITED	Ag2C2O4	533-51-7	shock sensitive	NA	NA	I-2
Silver Oxide (100 g limit)	DEMO ONLY	Ag2O	20667-12-3	strong oxidizer; contact with other material may cause fire	Indefinite	NO	I-4
Silver Sulfate	Restricted	Ag2SO4	10294-26-5	toxic	Indefinite	NO	I-2
Silver Tetrazene	PROHIBITED			shock sensitive	NA	NA	I-3
Sodium (100 g limit)	DEMO ONLY	Na	7440-23-5	violently water-reactive; strong reducing agent; flammable	Good	NO	I-1

				solid; may ignite spontaneously in air			
Sodium Amide	PROHIBITED	NaNH ₂	7782-92-5	may form explosive peroxides; water-reactive; highly flammable	NA	NA	I-3
Sodium Bisulfite	Restricted	NaHSO ₃	7631-90-5	strong reducing agent; corrosive; toxic	Fair to Poor	YES	I-2
Sodium Chlorate	PROHIBITED	NaClO ₃	7775-09-9	oxidizer; explosive	NA	NA	I-6
Sodium Chlorite	PROHIBITED	NaClO ₂	7758-19-2	oxidizer; explosive	NA	NA	I-6
Sodium Chromate	Restricted	Na ₂ CrO ₄	7775-11-3	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison	Fair	YES	I-8
Sodium Cobaltinitrite (Sodium Hexanitrocobaltate)	Restricted	Na ₃ Co(NO ₂) ₆	13600-98-1	cobalt and cobalt compounds are possibly carcinogenic to humans; toxic	Indefinite	NO	I-3
Sodium Cyanide	PROHIBITED	NaCN	143-33-9	acutely toxic	NA	NA	I-7
Sodium Dichromate Dihydrate	Restricted	Na ₂ Cr ₂ O ₇ ·2H ₂ O	7789-12-0	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison	Poor	YES	I-8
Sodium Dithionite (Sodium Hydrosulfite)	PROHIBITED	Na ₂ S ₂ O ₄	7775-14-6	spontaneously combustible; water-reactive; pyrophoric	NA	NA	I-2
Sodium Fluoride	Restricted	NaF	7681-49-4	corrosive; poison	Indefinite	NO	I-2
Sodium Hydroxide (Lye)	Restricted	NaOH	1310-73-2	water-reactive; corrosive; toxic	Good	NO	I-4 Base Cabinet
Sodium Hypochlorite	Restricted	NaClO	7681-52-9	strong oxidizer; corrosive; toxic	Poor	YES	I-6

Sodium Iodate	Restricted	NaIO ₃	7681-55-2	strong oxidizer; toxic	Fair to Poor	YES	I-6
Sodium Iodide	Restricted	NaI	7681-82-5	toxic	Fair to Poor	YES	I-2
Sodium Metabisulfite	Restricted	Na ₂ S ₂ O ₅	7681-57-4	strong reducing agent; corrosive; toxic	Poor	YES	I-2
Sodium Methylate	PROHIBITED	NaCH ₃ O	124-41-4	spontaneously combustible; water-reactive; pyrophoric	NA	NA	NA
Sodium Nitrate	Restricted	NaNO ₃	7631-99-4	strong oxidizer; toxic	Indefinite	NO	I-3
Sodium Nitrite	Restricted	NaNO ₂	7632-00-0	strong oxidizer; poison	Indefinite	NO	I-3
Sodium Perborate	PROHIBITED	NaBO ₃	7632-04-4	air- and water-reactive; explosive	NA	NA	I-8
Sodium Perchlorate	PROHIBITED	NaClO ₄	7601-89-0	oxidizer; water-reactive; explosive	NA	NA	I-6
Sodium Permanganate	PROHIBITED	NaMnO ₄	10101-50-5	oxidizer; explosive	NA	NA	I-8
Sodium Peroxide	PROHIBITED	Na ₂ O ₂	1313-60-6	oxidizer; water-reactive; toxic; explosion and fire risk in combination with powdered metals and organics	NA	NA	I-6
Sodium Phosphate Tribasic Dodecahydrate	Restricted	Na ₃ PO ₄ ·12H ₂ O	10101-89-0	corrosive; toxic	Fair	YES	I-2
Sodium Potassium Alloy	Restricted	K ₂ Na	11135-81-2	water-reactive; in contact with water releases flammable gases which may ignite spontaneously; corrosive	Fair	YES	I-1
Sodium Sulfide Nonahydrate	Restricted	Na ₂ S·9H ₂ O	1313-84-4	explosive; flammable solid; strong reducing agent; corrosive; toxic	Fair	YES	I-5

Sodium Thiocyanate	Restricted	NaSCN	540-72-7	strong reducing agent; toxic	Poor	YES	I-7
Sodium Thiosulfate Pentahydrate	Restricted	Na ₂ S ₂ O ₃ ·5H ₂ O	10102-17-7	toxic	Poor	YES	I-2
Stannic Chloride	Restricted	SnCl ₄	7646-78-8	air- and water-reactive; corrosive; toxic	Poor	YES	I-2
Strontium Nitrate	Restricted	Sr(NO ₃) ₂	10042-76-9	strong oxidizer	Indefinite	NO	I-3
Strontium Perchlorate	PROHIBITED	SrCl ₂ O ₈	13450-97-0	shock sensitive	NA	NA	I-6
Styrene Monomer	PROHIBITED	C ₈ H ₈	100-42-5	highly flammable; may form explosive peroxides; polymerizable	NA	NA	O-3 Flam Cabinet
Sulfur Chloride (Sulfur Dichloride)	Restricted	Cl ₂ S ₂	10025-67-9	water-reactive; corrosive; toxic	Fair	YES	I-2
Sulfur Pentafluoride	Restricted	S ₂ F ₁₀	5714-22-7	water-reactive; poison	Fair	YES	Liquid: I-2, Gas: Gas Cylinder Storage Area
Sulfur Trioxide	PROHIBITED	SO ₃	7446-11-9	air- and water-reactive; corrosive; poison; inhalation hazard	NA	NA	NA
Sulfuric Acid (<10%)	Restricted	H ₂ SO ₄	7664-93-9	strong oxidizer; severely corrosive; water-reactive; toxic	Good	NO	I-9 Acid Cabinet
Sulfuric Acid (>10%) (2.5 L limit)	Restricted	H ₂ SO ₄	7664-93-9	strong oxidizer; severely corrosive; water-reactive; toxic	Good	NO	I-9 Acid Cabinet
Sulfuryl Chloride (Sulfonyl Chloride)	PROHIBITED	Cl ₂ O ₂ S	7791-25-5	air- and water-reactive; corrosive; poison; inhalation hazard	NA	NA	I-2
Sulfuryl Chloride Fluoride	PROHIBITED	ClFO ₂ S	13637-84-8	poison; water-reactive; corrosive	NA	NA	I-2

Terpineol (Terpene Alcohol)	Restricted	C10H17OH	98-55-5	flammable; toxic	Indefinite	NO	NA
tert-Butyl Alcohol (t-Butanol or 1,1-Dimethyl Ethanol)	Restricted	(CH3)3COH	75-65-0	highly flammable; irritating vapor and liquid	Fair	YES	O-2 Flam Cabinet
tert-butyl Hypochlorite	PROHIBITED	C4H9ClO	507-40-4	spontaneously combustible; pyrophoric; fire will produce irritating, corrosive, and/or toxic gases	NA	NA	NA
Tetrafluoroethylene	PROHIBITED	C2F4	116-14-3	may form explosive peroxides; highly flammable; probably carcinogenic to humans	NA	NA	O-4 Flam Cabinet
Tetrahydrofuran	PROHIBITED	C4H8O	109-99-9	highly flammable; oxidizes in air to form explosive peroxides	NA	NA	O-4 Flam Cabinet
Tetrahydronaphthalene	PROHIBITED	C10H12	119-64-2	highly flammable; vapors may form explosive mixtures with air; may form explosive peroxides upon concentration	NA	NA	O-3 Flam Cabinet
Tetranitromethane	PROHIBITED	CN4O8	509-14-8	oxidizer; poison; possibly carcinogenic to humans; inhalation hazard; explosive	NA	NA	NA
Tetraselenium Tetranitride	PROHIBITED	Se4N4	12033-88-4	shock sensitive	NA	NA	NA
Tetrazene (tetrazolyl guanyltetrazene hydrate)	PROHIBITED	C2H6N10·H2O	31330-63-9	shock sensitive; explosive	NA	NA	O-6
Tetryl (2,4,6 trinitrophenylmethyl nitro amine)	PROHIBITED	C7H5N5O8	479-45-8	oxidizer; explosive	NA	NA	NA
Thallium Nitride	PROHIBITED	Tl3N	12033-67-9	shock sensitive	NA	NA	NA
Thermit (example: could be a mixture of aluminum	PROHIBITED			flammable solid;	NA	NA	I-4

powder, iron oxide, ferro managanese, and ferro vanadium)				dangerous fire risk; once started, reaction is very difficult to stop			
Thermite Igniting Mixture (example: could be a mixture of aluminum, barium nitrate, iron oxide and a binder such as dextrin on a copper stick)	PROHIBITED			becomes a fire hazard if exposed to a flame or high temperatures	NA	NA	I-4
Thiocarbonyl Tetrachloride (Perchloromethyl Mercaptan)	PROHIBITED	CCl4S	594-42-3	poison; inhalation hazard	NA	NA	I-7
Thionyl Chloride	PROHIBITED	SOCl2	7719-09-7	violently water-reactive; lachrymator; highly corrosive; toxic	NA	NA	I-6 Acid Cabinet
Thiophosphoryl Chloride	Restricted	Cl3SP	3982-91-0	air- and water-reactive; corrosive; toxic	Fair	YES	I-2
Tin	Restricted	Sn	7440-31-5	metal dust may present a fire hazard and a health hazard	Indefinite	NO	I-1
Titanium (Powder)	PROHIBITED	Ti	7440-32-6	spontaneously combustible; may ignite on contact with moist air or moisture	NA	NA	I-1 Flam Cabinet
Titanium Tetrachloride	PROHIBITED	TiCl4	7550-45-0	water-reactive; corrosive; acutely toxic; may be fatal if inhaled	NA	NA	I-2
Toluene (Methyl Benzene)	Restricted	C7H8	108-88-3	highly flammable; toxic	Good	NO	O-3 Flam Cabinet
Toluene Diisocyanate (TDI)	Restricted	C9H6N2O2	584-84-9	water-reactive; acutely toxic	Poor (6 months)	YES	I-7
Trichloroethane-1,1,1 (Methyl Chloroform)	Restricted	C2H3Cl3	71-55-6	poison; flammable	Fair	YES	O-4
Trichloroethylene (Acetylene Trichloride)	Restricted	C2HCl3	79-01-6	carcinogenic to humans; poison; flammable	Indefinite	NO	O-4
Triethanolamine	Restricted	C6H15NO3	102-71-6	toxic	Fair	YES	O-2

Triethyl Aluminum	PROHIBITED	(C ₂ H ₅) ₃ Al	97-93-8	spontaneously combustible; flammable gas is produced on contact with water	NA	NA	I-1
Triisobutyl Aluminum	PROHIBITED	(C ₄ H ₉) ₃ Al	100-99-2	spontaneously combustible; reacts violently with water producing flammable gas	NA	NA	I-1
Trimethyl Aluminum	PROHIBITED	(CH ₃) ₃ Al	75-24-1	spontaneously combustible; flammable gas is produced on contact with water	NA	NA	I-1
Tri-n-Butylaluminum	Restricted	C ₁₂ H ₂₇ Al	1116-70-7	air- and water-reactive; strong reducing agent; pyrophoric; toxic	Fair	YES	I-1
Trinitroanisole	PROHIBITED	C ₇ H ₅ N ₃ O ₇	606-35-9	explosive; strong oxidizer	NA	NA	O-4
Trinitrobenzene	PROHIBITED	C ₆ H ₃ N ₃ O ₆	99-35-4	explosive; flammable solid; strong oxidizer	NA	NA	NA
Trinitrobenzoic Acid	PROHIBITED	C ₇ H ₃ N ₃ O ₈	129-66-8 or 35860-50-5	explosive; highly flammable; strong oxidizer	NA	NA	NA
Trinitronaphthalene (1,3,5-Trinitronaphthalene)	PROHIBITED	C ₁₀ H ₅ N ₃ O ₆	2243-94-9	explosive; strong oxidizer	NA	NA	NA
Trinitroresorcinol	PROHIBITED	C ₆ H ₃ N ₃ O ₈	82-71-3	explosive; strong oxidizer	NA	NA	NA
Trinitrotoluene (TNT or 2,4,6 Trinitrotoluene)	PROHIBITED	C ₇ H ₅ N ₃ O ₆	118-96-7	explosive; strong oxidizer	NA	NA	NA
Trioctyl Aluminum	Restricted	(CH ₃ (CH ₂) ₇) ₃ Al	1070-00-4	water-reactive; acutely toxic; flammable	Poor (two years if stored under protective gas in sealed unopened original containers at a temperature less than 50° C.)	YES	NA

Triphenyltetrazolium Chloride (Red Tetrazolium or Vitastain)	Restricted	C19H15N4Cl	298-96-4	toxic	Good	NO	O-9
Trisodium Phosphate (Sodium Phosphate)	Restricted	Na3PO4	7601-54-9	toxic	Indefinite	NO	I-2
Tungsten	Restricted	W	7440-33-7	metal dust may present a fire hazard and a health hazard.	Indefinite	NO	I-1
Turpentine	Restricted	C10H16	8006-64-2	highly flammable; toxic	Indefinite	NO	O-3 Flam Cabinet
Uranium and Uranium Compounds (e.g., uranium oxide, Uranyl Acetate, Uranyl Nitrate, uranium hexafluoride, uranium tetrafluoride)	PROHIBITED			toxic by inhalation or ingestion	NA	NA	I-1 Radioactive
Urea Nitrate	PROHIBITED	CH4N2O.HNO3	124-47-0	explosive; strong oxidizer	NA	NA	I-3
Vanadium Trichloride	Restricted	VCl3	7718-98-1	toxic; air- and water-reactive; corrosive	Fair	YES	I-6
Vinyl Acetate	PROHIBITED	C4H6O2	108-05-4	may form explosive peroxides; possibly carcinogenic to humans; reactive	NA	NA	O-3 Flam Cabinet
Vinyl Acetylene	PROHIBITED	C4H4	689-97-4	may form explosive peroxides; reactive	NA	NA	Liquid: O-3 Flam Cabinet
Vinyl Chloride	PROHIBITED	C2H3Cl	75-01-4	carcinogenic to humans; may form explosive peroxides; reactive	NA	NA	O-4 Flam Cabinet
Vinyl Ethers (e.g., divinyl ether; 2-chloroethylvinyl ether; butyl vinyl ether)	PROHIBITED			may form explosive peroxides upon concentration	NA	NA	O-4 Flam Cabinet
Vinylidene Chloride (1,1-Dichloroethene or 1,1-DCE)	PROHIBITED	C2H2Cl2	75-35-4	may form explosive peroxides	NA	NA	O-4 Flam Cabinet
Wright's Stain (Hg Containing) (100 mL limit)	DEMO ONLY	UNDEFINED	68988-92-1	contains mercury; poison; acutely toxic	Indefinite	NO	O-9
Xylene	Restricted	C8H10	1330-20-7	highly flammable; toxic by inhalation or	Good	NO	O-3 Flam Cabinet

				absorption through skin.			
Zinc (Powder)	Restricted	Zn	7440-66-6	strong reducing agent; water-reactive; pyrophoric; metal dust may present a fire hazard and a health hazard	Indefinite	NO	I-1
Zinc Acetylide	Restricted			shock sensitive; water-reactive	Fair	YES	NA
Zinc Nitrate Hexahydrate (500 g limit)	Restricted	Zn(NO ₃) ₂ ·6H ₂ O	10196-18-6	strong oxidizer	Indefinite	NO	I-3
Zinc Peroxide	PROHIBITED	ZnO ₂	1314-22-3	oxidizer; used as an oxidant in explosives; toxic	NA	NA	I-6
Zinc Phosphide	Restricted	Zn ₃ P ₂	1314-84-7	strong reducing agent; water reactive; toxic	Fair (3 Years)	YES	I-5

Attachment D

Safety Equipment Testing Log

Equipment Testing Documentation Log

Building _____

Date _____ Room _____

Equipment	Condition of Equipment	Initials of Tester
Eye Wash Station		
Safety Showers		
Fume Hood		
GFCI		
Master Gas Valve		
Electrical Shut Off		
Fire Extinguisher		
Fire Blanket		
Eyewear Sanitizer		
Spill Kit		
Emergency Posting Info		

* Use one sheet for each room.

Attachment E

Sink Disposal Guidelines

Sink Disposal Guidelines

ACID NEUTRALIZATION TANK SINK DISPOSAL GUIDELINES

Hazardous wastes cannot be discarded down the drain. Collect hazardous wastes in compatible containers. Properly label the container. Call the Environmental Compliance Branch if you have any waste disposal questions. (Ext. 28682)

The following categories of waste **CANNOT** be sink disposed:

- 1. FOODSTUFFS** or provisions that could spoil or rot.
- 2. FLAMMABLE SOLVENTS**
Alcohols, alkane aromatics, ketone, xylene, toluene, ether, acetone, acetonitrile, pyridine (aqueous alcohol solutions of less than 20% concentration may be sink disposed, collect higher concentrations for disposal as needed.)
- 3. HALOGENATED SOLVENTS**
Methylene chloride, chloroform, carbon tetrachloride, trichloroethane, freons and haloethanes.
- 4. TOXIC CHEMICALS AND SOLVENTS**
Acrylamide monomer, phenol, formamide, cyanides, sulfides, carcinogens and mutagens.
- 5. HEAVY METALS**
Arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, zinc, and other metals.
- 6. NON-WATER SOLUBLE WASTES**
Vacuum pump oil, mineral oil, kerosene, gels and solid wastes.
- 7. INFECTIOUS OR BIO HAZARDOUS WASTES**
Human tissue, lab specimens, infectious agents or pathogens
(properly disinfected liquid wastes are acceptable for sink disposal)
- 8. RADIOACTIVE MATERIALS**
Consult with the Environmental Compliance Branch (303-367-3000 ext. 28685) before disposing of any radioactive waste material.

Appendix E: Recommended Procedures for Chemical Storage

Classification of Chemicals

Caustic or Corrosive Chemicals

These chemicals can be found in three different states:

- *Corrosive Liquids* – include mineral acids, organic solvents, organic acids and solutions of strong bases. These liquids comprise the most important category of corrosive substances because this form is most commonly used and involved in external injuries. The more concentrated the substance and the longer the contact, the faster and more intense the damage.
- *Corrosive Solids* – include caustic sulfides and hydroxides of elements such as sodium and potassium and their salts. These are probably the least hazardous and their effects are dependent upon the amount of moisture in the skin, the degree of solubility and duration of contact. These solids can cause serious injury as a result of the amount of heat produced when they come in contact with a liquid.
- *Corrosive Gases* – include ammonia, acetic acid, and nitric acid. These gases present the most serious health hazard because they are easily absorbed through the skin, or by inhalation. They can produce primary and secondary effects depending upon the concentration and time of exposure.

Storage and Handling of Caustic or Corrosive Chemicals:

- Store corrosives in an appropriate corrosive cabinet.
- Keep certain items in the original shipping package, i.e. acids and bases in the shipping Styrofoam.
- Wear a chemical splash face shield when handling corrosive materials.
- Store corrosive materials as near the floor as possible to minimize damage of bottles falling from the shelves.
- Purchase only small amounts – less than 2.5 Liters when possible.
- Store Nitric Acid away from other acids.

Flammable Liquids

Flammable liquids are materials that will easily ignite, burn, or serve as fuel for a fire. Flash point is defined as the temperature at which sufficient vapors are produced to form an ignitable mixture with the air near the surface of the liquid or within the container used. There are Class I, II and III of flammable materials. These are further divided as follows:

- Class IA - Flash point < 73°F (22.7°C) and boiling point >100°F (37.8 C).
- Class IB - Flash point <73°F (22.7°C) and boiling point at or >100°F (37.8 C).
- Class II – Flash point >100°F (37.8 C) and < 140°F (60°C).
- Class IIIA – Flash point >140°F (60°C) and < 200°F (93.3°C).
- Class IIIB – Flash point > 200°F (93.3°C).

Storage and Handling of Flammable Chemicals:

- Store all flammables in a dedicated flammables cabinet.
- Try to keep cool, between 55°F and 70°F at all times.
- Store away from sources of ignition.
- Store away from all oxidizers.
- Never store flammables in a refrigerator unless the refrigerator is explosion-proof.
- Avoid storing any chemicals, especially flammable materials, in direct sunlight.
- Chemicals must be transported in an appropriately designed carrier.

Compressed Gas

Compressed gases are any materials or mixtures in containers having an absolute pressure in excess of 40 psi at 70°F (20°C) or in excess of 104 psi at 130°F (54.5°C). Handling of compressed gases may be considered more hazardous than the handling of liquid and solid materials because of the following properties: high pressure, ease of diffusion, low ignition points for flammable gases, low boiling points, and in some cases lack of visual and/or odor detection of hazardous gases. Because of these properties, failure to follow proper procedures can result in both personal and property damage.

Storage and Handling of Compressed Gases:

- Compressed gases should be handled as high energy sources, and therefore, as potential explosives.
- Avoid exposure of cylinders to heat. Do not store gas cylinders in direct sunlight.
- Propane is not allowed to be stored inside a school.
- Always protect the cylinder valve stem.
- Never lubricate, modify, force or tamper with a cylinder valve.
- Do not extinguish a flame involving a combustible gas until the gas is shut off, otherwise it can ignite, possibly causing an explosion.
- Gas cylinders must be secured in place. They must be protected to prevent valve damage which may be caused by falling.
- Medical and reserve oxygen tanks shall be stored in the health clinic.

Other General Storage and Handling Guidelines:

- Carcinogens, mutagens and teratogens (including pesticides) are not recommended for use in school laboratories.
- Poisons must be handled with caution. Skin contact should be avoided. Before using a chemical labeled “POISON,” read the precautions listed on the container label and SDS. Know antidotes and emergency treatment.
- Oxidizers should be stored together and separate from other chemicals. Schools that have more than 10 pounds of oxidizers shall store them in an approved cabinet. Ammonium Nitrate must be stored in a designated cabinet and only 500-grams is allowed at one time per school.

Attachment F

Miscellaneous Items

Suggested Shelf Storage Pattern – Inorganic

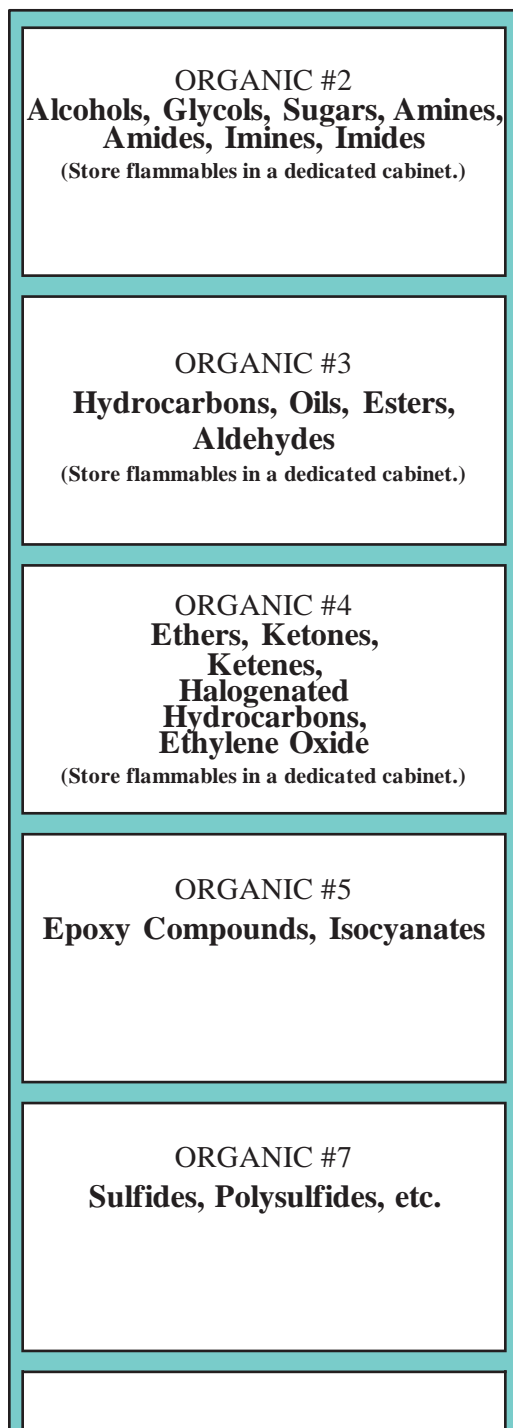
Suggested Shelf Storage Pattern – Organic

Chemical Disposal Form

Suggested Shelf Storage Pattern - Inorganic

<p>INORGANIC #10 Sulfur, Phosphorus, Arsenic, Phosphorus Pentoxide</p>	<p>INORGANIC #7 Arsenates, Cyanides, Cyanates (Store away from any water.)</p>
<p>INORGANIC #2 Halides, Sulfates, Sulfites, Thiosulfates, Phosphates, Halogens, Acetates, Oxalates, Phthalates, Oleates</p>	<p>INORGANIC #5 Sulfides, Selenides, Phosphides, Carbides, Nitrides</p>
<p>INORGANIC #3 Amides, Nitrates (not Ammonium Nitrate), Nitrites, Azides (Store Ammonium Nitrate away from all other substances— <i>ISOLATE IT!</i>)</p>	<p>INORGANIC #8 Borates, Chromates, Manganates, Permanganates, Molybdates, Vanadates</p>
<p>INORGANIC #1 Metals & Hydrides (Store away from any water.) (Store flammable solids in flammables cabinet.)</p>	<p>INORGANIC #6 Chlotates, Bromates, Iodates, Chlorites, Hypochlorites, Perchlorates, Perchloric Acid, Peroxides, Hydrogen Peroxide</p>
<p>INORGANIC #4 Hydroxides, Oxides, Silicates, Carbonates, Carbon</p>	<p>MISCELLANEOUS</p>

Suggested Shelf Storage Pattern - Organic



Chemical Waste Disposal Form

Please call HSD2 Operations at 719-579-2045 to request disposal.
Provide specific pick-up locations with completed forms.

Chemical Waste Disposal Form



Please print neatly. Fill out all information requested and place with chemicals. Incomplete forms will be returned.

School:		Location of Waste:	
Department:			
Date of Request:			
Staff Person:		Phone #:	
IDENTIFICATION/DESCRIPTION OF WASTE CHEMICALS – DO NOT USE "CHEMICAL STRUCTURES" (Please Print)		(Please Indicate) SOLID LIQUID GAS	NUMBER, SIZE AND TYPE OF CONTAINER (i.e. 3 X 4L bottle)
SPECIAL NOTES OR HANDLING INSTRUCTIONS:			
STAFF PERSON CERTIFICATION: I hereby declare that the identification/description of waste chemicals is accurate and complete to the best of my knowledge and that I have made every effort to minimize our waste streams. The chemical inventory and master safety data sheets have been adjusted accordingly. SIGNATURE: _____ DATE: _____			
SCHOOL CHEMICAL SAFETY COORDINATOR: I approve the disposal of chemicals listed and have adjusted the chemical inventory/SDS notebook as needed. SIGNATURE: _____ DATE: _____			

Attachment G

Site Specific Considerations

Appendix G-1: Art Rooms

Appendix G-2: Automotive/Sites Shops

Appendix G-3: Industrial Arts/Carpentry Shops

Appendix G-4: Maintenance/Custodial

Appendix G-5: Nutrition Services

Appendix G-6: Swimming Pools

Appendix G-1: Art Rooms

Ceramics:

Both clay and glazes often contain hazardous components that pose potential health effects from chronic long-term exposure including lung diseases/infections, cancer, and skin irritation. Hazardous components in clay dust may include crystalline silica and asbestos, while hazardous components in glazes may include arsenic, uranium and lead, among others. All of these components may become harmful through inhalation, ingestion and skin contact. The following safety precautions must be followed when using clay and glazes:

1. Read the product label and SDS. Choose the safest materials available. Follow all label directions at all times. Do not use a product unless all safety precautions on the label or SDS can be followed.
2. When possible, use premixed clays and liquid glazes to avoid exposure to large amounts of dust.
3. When possible, use lead-free glazes or those with sodium, potassium, calcium or magnesium fluxes.
4. Avoid inhaling dust. Ensure adequate ventilation at all times. If adequate ventilation is not available in the classroom, powdered products may be mixed outside by the teacher only.
5. Proper PPE must be worn.
6. To reduce the risk of dust inhalation while using these products indoors, do not pulverize dry clay or green ware. Finish green ware while damp or wet.
7. Do not sweep dust when cleaning. Use a wet mop, rags, or a vacuum with HEPA filtration.
8. Label any lead or cadmium containing pieces with phrases such as “Contains Lead, Not for Food Use” or “Contains Lead, For Decoration Only.” Consider adding a design feature such as holes in the piece to prevent its use for food or beverages.
9. A glaze labeled “food safe” does not mean that it is lead free. It means that if it is applied and fired properly it will not leach lead or cadmium at levels above those allowed by the FDA into foods or beverages.
10. Do not mix different glazes as this disrupts the balance of ingredients and could make a “food safe” glaze into an unsafe product.
11. Indoor use of ceramic kilns requires mechanical ventilation to the outside. Adverse health effects from firing clays and glazes are possible via inhalation (common kiln emissions include chlorine, fluorine, carbon monoxide, metallic vapors and ozone), dermal contact (burns) and eye exposure (heating ceramic materials to glowing emits infrared radiation). Use appropriate PPE and wear infrared goggles or a welding shield.

Painting:

The hazards from painting are primarily associated with some of the solvents (aliphatic and aromatic hydrocarbons, ketones, and alcohols) and pigments (lead carbonate, chrome yellow, and cobalt arsenate) used in the products. All of these components may be toxic by inhalation, ingestion and skin contact. The following safety precautions must be followed when using paints, solvents and associated materials:

1. Read the product label and SDS. When possible, choose the safest product available. Follow label directions for safe use at all times. Do not use a product unless all recommended safety precautions can be followed.
2. When possible, use premixed paints to avoid inhalation of dry pigments, dyes and powders.
3. Use water based products whenever possible. Try to select products that are labeled so they conform to ASTM “AP,” “CP,” or “NON TOXIC” standards. Be aware that there are significant safety hazards associated with the use of ASTM “CL” designated products.

4. Small amounts of formaldehyde, bleach and phenol used as preservatives in some paints may cause allergic reactions in sensitive individuals.
5. Ensure appropriate ventilation, especially when spraying or airbrushing paints. Mechanical ventilation such as a spray booth or fume hood must be provided when using these applications.
6. If adequate mechanical ventilation is not available inside the classroom, paints may be sprayed outside on a limited basis. In very limited situations, toxic dust respirators approved by NIOSH may be used by the teacher only. Completion of a professional fit testing program is required for respirator use.
7. Wear proper PPE and eyewear.
8. Clean hands with vegetable or baby oil, then soap and water.
9. Close containers of paint, pigments/dyes, and solvents when not in use.
10. Avoid the use of turpentine and mineral spirits and be aware of the flammability potential of solvents.
11. Empty paint containers must be disposed of properly.

Appendix G-2: Automotive/Sites Shops

Metal working:

There are a number of hazards associated with metalwork. Metals can contain cadmium, lead and antimony which may be toxic and can pose inhalation hazards from gases and fumes that are emitted during the process. The associated solvent, fluxes, and cleaners used in metalwork can also contain toxic components including acids, borax and fluoride which may produce toxic fumes. The following safety precautions must be adhered to when working with metals:

1. Read product labels and SDS sheets. When possible, choose the safest materials available. Follow label instructions at all times. Do not use a product unless all safety measures directed by the product label and SDS can be followed.
2. Use lead free and cadmium free solder. Avoid fluxes with fluoride.
3. Follow safety standards established by the federal and Colorado government and other professional organizations (American Welding Society, National Fire Protection Association, and the American Standards Institute) when working with welding equipment.
4. Formal training through a certified program is recommended.
5. Use care in the handling of all gas cylinders.
6. Ensure adequate ventilation for protection from potentially dangerous gases, metal fumes and heat. Mechanical ventilation must be provided when using these applications.
7. Infrared and ultraviolet radiation generated during welding may be an eye hazard. Wear appropriate eye protection to include safety glasses and a welder's mask.
8. All protective clothing, welding shields and welding helmets used during welding, the observation of welding, or when in close proximity to welding operations must conform to the ANSI Z49.1-2014 Standard- Safety in Welding, Cutting, and Allied Processes.
9. Wear protective clothing, gloves and eyewear for soldering.

Painting:

The hazards from painting are primarily associated with some of the solvents (aliphatic and aromatic hydrocarbons, ketones, and alcohols) and pigments (lead carbonate, chrome yellow, and cobalt arsenate) used in the products. All of these components may be toxic by inhalation, ingestion and skin contact. The following safety precautions must be followed when using paints, solvents and associated materials:

12. Read the product label and SDS. When possible, choose the safest product available. Follow label directions for safe use at all times. Do not use a product unless all recommended safety precautions can be followed.
13. When possible, use premixed paints to avoid inhalation of dry pigments, dyes and powders.
14. Use water based products whenever possible. Try to select products that are labeled so they conform to ASTM "AP," "CP," or "NON TOXIC" standards. Be aware that there are significant safety hazards associated with the use of ASTM "CL" designated products.
15. Small amounts of formaldehyde, bleach and phenol used as preservatives in some paints may cause allergic reactions in sensitive individuals.
16. Ensure appropriate ventilation, especially when spraying or airbrushing paints. Mechanical ventilation such as a spray booth or fume hood must be provided when using these applications.
17. If adequate mechanical ventilation is not available inside the classroom, paints may be sprayed outside on a limited basis. In very limited situations, toxic dust respirators approved by NIOSH may be used by the teacher only. Completion of a professional fit testing program is required for respirator use.
18. Wear proper PPE and eyewear.
19. Clean hands with vegetable or baby oil, then soap and water.

20. Close containers of paint, pigments/dyes, and solvents when not in use.
21. Avoid the use of turpentine and mineral spirits and be aware of the flammability potential of solvents.
22. Empty paint containers must be disposed of properly.

Appendix G-3: Industrial Arts/Carpentry Shops

Woodworking:

Safety precautions must be taken when working with wood and associated materials such as glues, stains, and finishes. Wood dust contains a variety of substances that have potential toxic effects when inhaled. Irritation of the lungs, allergic reactions, headaches, cardiac symptoms, and even cancer can all occur from various types of wood dust. The following safety precautions must be in place when working with wood:

1. Become familiar with the potential toxic effects associated with the particular wood products being used.
2. Read the product label and SDS for all stains, glues, and wood preservatives being used. When possible, choose the safest materials available. Do not use a product unless all safety measures as directed by the product label and SDS can be followed.
3. Avoid inhaling wood dust by ensuring adequate ventilation through the use of local exhaust ventilation. This may be a centralized dust collection system, or a dust collection device attached to each piece of equipment.
4. Students may use dust masks in addition to, but not in place of, adequate mechanical ventilation. Toxic dust respirators approved by the National Institute for Occupational Safety and Health may be used by the teacher only. Completion of a professional fit testing program is required for respirator use.
5. Use appropriate protective clothing that does not conflict with the safe use of shop equipment. Always wear appropriate eye protection.
6. Provide adequate hearing protection around loud equipment.
7. Ensure that all filter media on air filtration units in areas of high dust or paint use are changed in accordance with the manufacturer's directions.

Painting:

The hazards from painting are primarily associated with some of the solvents (aliphatic and aromatic hydrocarbons, ketones, and alcohols) and pigments (lead carbonate, chrome yellow, and cobalt arsenate) used in the products. All of these components may be toxic by inhalation, ingestion and skin contact. The following safety precautions must be followed when using paints, solvents and associated materials:

1. Read the product label and SDS. When possible, choose the safest product available. Follow label directions for safe use at all times. Do not use a product unless all recommended safety precautions can be followed.
2. When possible, use premixed paints to avoid inhalation of dry pigments, dyes and powders.
3. Use water based products whenever possible. Try to select products that are labeled so they conform to ASTM "AP," "CP," or "NON TOXIC" standards. Be aware that there are significant safety hazards associated with the use of ASTM "CL" designated products.
4. Small amounts of formaldehyde, bleach and phenol used as preservatives in some paints may cause allergic reactions in sensitive individuals.
5. Ensure appropriate ventilation, especially when spraying or airbrushing paints. Mechanical ventilation such as a spray booth or fume hood must be provided when using these applications.
6. If adequate mechanical ventilation is not available inside the classroom, paints may be sprayed outside on a limited basis. In very limited situations, toxic dust respirators approved by NIOSH may be used by the teacher only. Completion of a professional fit testing program is required for respirator use.
7. Wear proper PPE and eyewear.
8. Clean hands with vegetable or baby oil, then soap and water.

9. Close containers of paint, pigments/dyes, and solvents when not in use.
10. Avoid the use of turpentine and mineral spirits and be aware of the flammability potential of solvents.
11. Empty paint containers must be disposed of properly.

Appendix G-4: Maintenance/Custodial

Maintenance and Custodial:

Your assigned duties will consistently bring you into contact with chemicals such as fuels, cleaners, waxes and strippers. You may also be part of the clean-up efforts following a chemical spill in another area of the school. For the safety of all students and staff the following guidelines must be followed:

1. Ensure that all chemicals are used and stored in accordance with the manufacturer's instructions, Safety Data Sheet (SDS) and the Chemical Hygiene Plan.
2. Contact your supervisor prior to using any new chemical to get specific instructions on its use.
3. Never use unfamiliar chemicals alone to prevent an accidental overexposure.
4. Coordinate any chemical use with other staff and students to prevent any allergic or adverse reaction to its use.
5. Make sure that all chemicals are returned to their proper storage area following use.
 - Do not store chemicals where they are accessible to students.
 - Store chemicals away from sources of heat such as doors, windows, or mechanical equipment that generates heat.
 - Only store identical chemicals together. Do not store unlike chemicals above or below to prevent an accidental spill from mixing chemicals.
6. Dispose of all chemical waste and empty chemical containers in accordance with the manufacturer's directions and the SDS.
7. Attend annual training on the Chemical Hygiene Plan. You are responsible for knowledge of how to respond to various chemical spills in the building and the appropriate contacts in case of an emergency.

Metal working:

There are a number of hazards associated with metalwork. Metals can contain cadmium, lead and antimony which may be toxic and can pose inhalation hazards from gases and fumes that are emitted during the process. The associated solvent, fluxes, and cleaners used in metalwork can also contain toxic components including acids, borax and fluoride which may produce toxic fumes. The following safety precautions must be adhered to when working with metals:

10. Read product labels and SDS sheets. When possible, choose the safest materials available. Follow label instructions at all times. Do not use a product unless all safety measures directed by the product label and SDS can be followed.
11. Use lead free and cadmium free solder. Avoid fluxes with fluoride.
12. Follow safety standards established by the federal and Colorado government and other professional organizations (American Welding Society, National Fire Protection Association, and the American Standards Institute) when working with welding equipment.
13. Formal training through a certified program is recommended.
14. Use care in the handling of all gas cylinders.
15. Ensure adequate ventilation for protection from potentially dangerous gases, metal fumes and heat. Mechanical ventilation must be provided when using these applications.
16. Infrared and ultraviolet radiation generated during welding may be an eye hazard. Wear appropriate eye protection to include safety glasses and a welder's mask.
17. All protective clothing, welding shields and welding helmets used during welding, the observation of welding, or when in close proximity to welding operations must conform to the ANSI Z49.1-2014 Standard- Safety in Welding, Cutting, and Allied Processes.
18. Wear protective clothing, gloves and eyewear for soldering.

Painting:

The hazards from painting are primarily associated with some of the solvents (aliphatic and aromatic hydrocarbons, ketones, and alcohols) and pigments (lead carbonate, chrome yellow, and cobalt arsenate) used in the products. All of these components may be toxic by inhalation, ingestion and skin contact. The following safety precautions must be followed when using paints, solvents and associated materials:

23. Read the product label and SDS. When possible, choose the safest product available. Follow label directions for safe use at all times. Do not use a product unless all recommended safety precautions can be followed.
24. When possible, use premixed paints to avoid inhalation of dry pigments, dyes and powders.
25. Use water based products whenever possible. Try to select products that are labeled so they conform to ASTM "AP," "CP," or "NON TOXIC" standards. Be aware that there are significant safety hazards associated with the use of ASTM "CL" designated products.
26. Small amounts of formaldehyde, bleach and phenol used as preservatives in some paints may cause allergic reactions in sensitive individuals.
27. Ensure appropriate ventilation, especially when spraying or airbrushing paints. Mechanical ventilation such as a spray booth or fume hood must be provided when using these applications.
28. If adequate mechanical ventilation is not available inside the classroom, paints may be sprayed outside on a limited basis. In very limited situations, toxic dust respirators approved by NIOSH may be used by the teacher only. Completion of a professional fit testing program is required for respirator use.
29. Wear proper PPE and eyewear.
30. Clean hands with vegetable or baby oil, then soap and water.
31. Close containers of paint, pigments/dyes, and solvents when not in use.
32. Avoid the use of turpentine and mineral spirits and be aware of the flammability potential of solvents.
33. Empty paint containers must be disposed of properly.

Appendix G-5: Nutrition Services

Kitchens:

Chemicals such as cleansers and drain cleaners are used in our kitchens. For the safety of all students and staff the following guidelines should be followed:

1. Ensure that chemicals are used and stored in accordance with the manufacturer's guidelines, Safety Data Sheet (SDS) and the Chemical Hygiene Plan.
2. Always consult with your supervisor before using a new or unfamiliar chemical or cleaning product to ensure that it is used safely.
3. Never use chemicals while alone in the kitchen to prevent an accidental overexposure.
4. Never mix chemicals or cleansers for use as such mixing may create a hazardous chemical compound.
5. Make sure that all chemicals are returned to their proper storage area following use.
 - Do not store chemicals or cleaners in food storage areas.
 - Store chemicals away from sources of heat such as doors, windows, or mechanical equipment that gets hot.
 - Only store identical chemicals together. Do not store unlike chemicals above or below to prevent an accidental spill from mixing chemicals.
6. Dispose of all chemical waste and empty containers in accordance with the manufacturer's directions and the SDS.
7. Attend annual training on the Chemical Hygiene Plan.

Appendix G-6: Swimming Pools

Pools:

Chemicals are added to pool-water to kill disease-causing germs, maximize the efficacy of the disinfection process (pH control), improve water quality, stop corrosion and scaling of equipment and protect against algae growth. Pool chemicals can lead to injuries when mixed together, improperly stored, or when appropriate personal protective equipment is not used during handling. The following safety precautions must be in place when working with swimming pool chemicals:

1. The certified pool manager should be the only person working with the pool chemicals.
2. Chemicals must be stored in compliance with local and state building and fire codes.
3. Store pool chemicals below 95 degrees Fahrenheit and as recommended by the manufacturer.
 - Do not store chemicals directly on the floor.
 - Store chemicals away from doors and windows.
 - Check the storage area regularly for signs of water entry.
 - Store each pool chemical separately. Store only identical chemicals above or below each other (do not store incompatible chemicals together). This is especially important for liquid chemicals which can leak and mix with other chemicals or substances stored below.
 - Do NOT store pool chemicals with incompatible or flammable materials such as gasoline, oil, grease, fertilizer, herbicides, paint, solvents, or alcohol.
 - Store chemicals in original, manufacturer-labeled container and seal with the provided lid or cover.
 - Rotate inventory on a first-in, first-used basis.
4. The SDS for each pool chemical must be kept with the CHP in the pool area and at the front office.
5. Dispose of all pool chemicals properly in accordance with guidance in the SDS. Properly dispose of all unlabeled and outdated chemicals.
6. In case of a chemical spill incident:
 - If chemical fumes are released in the chemical storage area, pump room, or pool area and the corresponding air handling system is separate from other areas of the building, leave the HVAC on to ventilate.
 - If the HVAC system is shared with other areas of the building, shut down the HVAC immediately and ventilate with exhaust fans and exterior doors.
 - Clean up the spill in accordance with manufacturer's instructions in the SDS.
 - Document the incident and response, and notify the Colorado Department of Public Health and Environment (CDPHE).
 - Conduct a critique of the response and adjust the emergency response plan as needed.

Attachment H

Sample: Student Safe Work Practices and Safety Contract

Sample: Student Safe Work Practices and Safety Contract

Student Safe Work Practices and Safety Contract

General:

1. Conduct yourself in a responsible manner at all times. Do not run, engage in practical jokes, horseplay, pranks, or other dangerous behavior.
2. Stay at your work station and do not wander around the room, distract other students, or interfere with their work.
3. Follow all written and verbal instructions carefully and perform all work precisely as instructed by the teacher. Ask questions if you do not understand.
4. Be prepared by reading and understanding the procedures before beginning any work.
5. Read all chemical labels and equipment instructions carefully prior to use. Set up and use the prescribed equipment as instructed by the teacher.
6. Inspect all equipment for damage prior to use. Do not use damaged equipment.
7. Check all glassware for chips or cracks. Never use chipped or cracked glassware.
8. Report damaged electrical equipment immediately. Check frayed cords, exposed wiring, loose connections and damaged plugs. Never use damaged electrical equipment.
9. Do not touch any equipment, chemicals, or other materials until instructed to do so.
10. Know and understand the hazards of the chemicals being used as stated in the Safety Data Sheets (SDS) or other reference materials. Know where to find the SDS.
11. Never work alone or unsupervised by an instructor.
12. Always be alert and use caution. Notify the teacher immediately of any unsafe conditions observed.
13. Do not enter a chemical storage room without the express permission of the teacher.
14. Keep work areas clean and free of unnecessary objects at all times. Bring only your laboratory instructions and essential materials to your work station. All other materials are to remain in the classroom area.
15. Coats, bags, and personal items must be stored in designated areas, not at work stations or in the aisles.
16. Keep aisles clear. Keep seating pushed in when not in use. Do not obstruct exits or emergency equipment or shut-offs.
17. Experiments and all work with chemicals must be monitored at all times. Never leave experiments while they are in progress.
18. Never leave Bunsen burners unattended.
19. Turn off all heating equipment, gas valves, and water faucets when not in use.
20. Food or drink should never be brought into the area where toxic or hazardous substances are used. A personal water bottle is allowed only where these substances are not used.
21. Keep hands away from face, eyes, mouth and body when using chemicals. Always wash hands with soap and water at the end of each session.
22. Do not handle your cell phone while wearing protective gloves.
23. Do not apply cosmetics while in the area where chemicals are being used.
24. Thoroughly clean and inspect your work station and all equipment after use. Return all equipment clean and in working condition to proper storage.
25. Dispose of all waste properly and as instructed by the teacher:
 - a. Never mix chemicals in sink drains. Sinks are only used for water and those solutions designated by the teacher.
 - b. Solid chemicals, metals, matches, filter paper, gloves, paper towels, weigh boats and all other insoluble materials are to be disposed of in the designated waste container, not in the sink or regular trash.

- c. Place chemical waste in appropriately labeled waste containers. Check the label twice before adding chemical waste to the container.

26. Clean up spills promptly and properly as instructed by the teacher.

Accidents and Emergencies:

1. Know the locations and operating procedures of all emergency and safety equipment, including:
 - a. Fire extinguishers
 - b. Fire blankets
 - c. Emergency shut-offs (gas/electric)
 - d. Eye washes
 - e. Safety showers
 - f. First aid kits
 - g. Fire alarm pulls
 - h. Exits
2. Know what to do if a fire drill is called during a time while working with chemicals; containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
3. In case of emergency or accident, follow the established emergency plan as explained by the teacher and evacuate the building by the nearest exit.
4. Report any accident (spill, breakage, etc.) or injury (cut, burn, over exposure, etc.) to the teacher immediately.
5. If a chemical splashes into eyes or on skin notify the instructor immediately and flush with running water from the eyewash station or safety shower for at least 20 minutes.
6. If a mercury thermometer breaks, avoid contact with the mercury. Notify the instructor immediately.
7. Never handle broken glass with bare hands. Use a brush and dustpan for clean-up and place broken glass in the designated glass disposal container.

Personal Protective Equipment (PPE) and Clothing:

1. Wear appropriate eye protection (glasses, goggles, etc.) at all times.
2. Inspect all other PPE for defects before use.
3. Contact lenses should not be worn in areas where chemicals are being used without express permission from the teacher. The teacher must be informed if you wear contact lenses.
4. Long hair must be tied back. Loose or baggy clothing must be secured (especially loose long sleeves, neck ties, or scarves).
5. Shoes must completely cover the feet. Low-heeled shoes with non-slip soles are preferred.
6. Always wear assigned long-sleeved, full-length lab aprons, chemical resistant smocks, or other protective clothing as required by the teacher. Long pants that completely cover the legs are preferred.
7. Wear the appropriate chemical resistant gloves as instructed by the teacher. Gloves are not universally protective.
8. Remove all PPE before leaving the lab area.

Chemical Handling:

1. All chemicals are to be considered dangerous. Do not touch, taste or smell any chemicals unless instructed to do so by the teacher.
2. Never place a chemical container directly under your nose and inhale the vapors.
3. Check the label on chemical containers twice to verify that it is the correct substance before using it.
4. Take only as much chemical as is needed. Never return used chemicals to their original containers. Dispose of excess in the waste container designated by the teacher.
5. Never use mouth suction to fill a pipette. Use a rubber bulb or pipette pump.

6. Hold chemicals away from the body to transfer a chemical from one container to another.
7. Always use a spatula or approved scoop to remove a solid reagent from a container.
8. Never use a metal spatula when working with peroxides. Metals decompose explosively with peroxides.
9. Handle acids with extreme care. Always add concentrated acids to water slowly. Never add water to a concentrated acid.
10. Handle flammable liquids over a pan to contain spills. Never dispense flammable liquids near an open flame or heat source.
11. Take great care when transporting acids and other chemicals from one part of the lab to another. Hold them securely and walk carefully.
12. When transporting chemicals (especially in volumes of 259mL or more), place the immediate container in a secondary container or bucket (rubber, metal or plastic) designed to be carried and large enough to hold the entire contents of the chemical.
13. Never handle bottles or containers that are too heavy for you.
14. Use a hot water bath to heat flammable liquids. Never heat directly with a flame.
15. Do not immerse hot glassware in cold water to avoid the risk of shattering.
16. Never look into a container that is being heated.
17. Do not place a hot apparatus directly on the work bench or lab table. Always use an insulating pad. Allow plenty of time for equipment to cool before touching it with hands.
18. Never store chemicals under, over, or near a sink or water source.
19. Always work in a well ventilated area. Use the chemical fume hood or other exhaust ventilation as required by your teacher if you are working with chemicals that can release vapors, gases or dust.
20. When working under a fume hood ensure the following precautions are taken:
 - a. Ensure the sash is open to the indicated height.
 - b. Keep your head and body outside of the hood.
 - c. Chemicals and equipment should be placed at least six inches within the hood to ensure proper air flow.
 - d. Never use a fume hood for long term storage of chemicals.

Use the remaining space for any special rules for specific materials that will be used:

- 1.
- 2.
- 3.
- 4.
- 5.

Student Name (Printed)

Student Signature

Date

Class

Attachment I

Appendix I-1: Procurement of Restricted Chemicals

Appendix I-2: Restricted Chemical Inventory & Instructions for Proper Handling, Storage, and Disposal

Appendix I-1: Procurement of Restricted Chemicals

Acquisition of Chemicals

Staff must reference three chemical lists published by the CDPHE prior to purchasing chemicals. These lists can be found in Attachment C:

- *Appendix C-1: Prohibited Chemicals* – Items on this list may not be stored or used in the schools.
- *Appendix C-2: Restricted Chemicals* – Items on this list are allowed, although some have a quantity limit indicated in parenthesis after the chemical name.
- *Appendix C-2a: Restricted Chemicals (Demonstration Only)* – Items on this list may only be used by the instructor for demonstration purposes and have quantity limits in parenthesis after the chemical name. Students are not allowed to handle these chemicals.

Under no circumstances are donated hazardous materials to be received unless prior written approval for such materials has been given by the supervisor.

The following should be evaluated prior to purchasing hazardous materials:

- Is there a need for the material?
- Is it currently on the chemical inventory?
- What are the hazards?
- Is there a non-hazardous material or a less hazardous substitute?
- Are the quantities being purchased justifiable?
- What is the stability and shelf life of the hazards?
- Is suitable and sufficient storage available?
- Does the material require special disposal considerations?
- Is the material on the Appendix C-1 or Appendix C-2 product list?

Refer to **Section III: Purchasing Procedures** above for additional information.

Appendix I-2: Restricted Chemical Inventory & Instructions for Proper Handling, Storage, and Disposal

School Name: _____

Date of Inventory: _____

This school has the following RESTRICTED chemicals in its inventory:

<u>DATE OF PROCUREMENT</u>	<u>CHEMICAL NAME</u>	<u>QUANTITY</u>

The proper handling, storage, and disposal of Restricted Chemicals can be found on each chemical's corresponding SDS. FOR EACH CHEMICAL LISTED ABOVE, SDS SECTION 7 (HANDLING AND STORAGE) AND SECTION 13 (DISPOSAL CONSIDERATIONS) **MUST BE ATTACHED IMMEDIATELY AFTER THIS INVENTORY LIST.** Chemicals are attached in alphabetical order.

Attachment J- Safe Drinking Water

In January of 2018, Harrison School District 2 began testing all sources of drinking water for lead contamination. The initial testing was completed in May of 2018. Those fixtures that had a lead level greater than the Environmental Protection Agency's standard of 15 micrograms per liter (15 ug/L) were replaced along with the cold water supply line and the fixture was resampled. If the resample result remained higher than 15 ug/L, the cold water shut off valve was replaced, and the fixture was tested a final time.

Results of the testing reveal that science laboratory, chemistry laboratory, art room and vocational training room sinks are not safe sources for drinking water. The use of laboratory, art and vocational training room sinks as sources of drinking water for students and staff is expressly prohibited. These sinks are signed with red placards stating, "DO NOT DRINK FROM FAUCET HAND WASHING ONLY."

Most fixtures throughout the district are below the EPA standard of 15 ug/L. Those few exceptions are signed with red placards prohibiting their use as a source of drinking water.