Procedure 705-EBAB 1
Revision New
Effective 01/01/2016

ST. VRAIN VALLEY SCHOOLS
academic excellence by design

CHEMICAL HYGIENE PLAN

Environmental Compliance

District Operations

ST. VRAIN VALLEY SCHOOL DISTRICT
Longmont, CO

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CHEMICAL HYGIENE PLAN

1. SCOPE

This document defines procedures to be used for managing chemicals in secondary schools at St. Vrain Valley School District.

1.1. APPLICATION

This procedure is applicable to secondary schools with specific emphasis on science and art departments.

The requirements of Board Policy EBAB govern. This document provides processing procedures not specified in Board Policy EBAB.

2. CONFLICT STATEMENT

Notify the Environmental Compliance Manager of any conflict between the requirements of this procedure and any other applicable policies and procedures. The conflict shall be resolved, with changes as negotiated. If in conflict with Board of Education policies, Board of Education policies shall prevail.

3. DOCUMENT CONTROL

Submit change requests for this procedure to the Environmental Compliance Manager who then shall determine the appropriate action. Reference 700-2 Create and Change Standard Operating Procedures (SOPs) for change procedures. The Environmental Compliance Manager shall have final approval for revision to this procedure.

3.1. RESPONSIBILITY FOR ENFORCEMENT

Compliance with the requirements of this procedure is the responsibility of the Environmental Compliance Manager, secondary school administrators, and science and art teachers.

4. COMMUNICATION PLAN REQUIREMENTS

A mandatory communication plan to brief all persons or functions affected by the creation or change of this procedure has been added to the Appendix. This plan includes a list of actions, person responsible, and due dates.

The effective date of this procedure (indicated at the top of the cover page) shall not be before the completion of the communication plan. Approval of the communication plan by the Assistant Superintendent of Operations is required before approval of the procedure.

5. REFERENCE DOCUMENTS

The current issues of the following documents form a part of this procedure to the extent specified herein, and/or are listed here as additional sources of information:

5.1. ST. VRAIN VALLEY SCHOOL DISTRICT

Board Policy EBAB — Hazardous Materials

6. INTRODUCTION

This Chemical Hygiene Plan contains the district's guidelines for 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 & Sustainability's webpage at http://www.colorado.gov

7. ANNUAL REVIEW

The Chemical Hygiene Plan will be reviewed and updated at least annually by the district's Environmental Compliance Manager.

8. LABORATORY HAZARDOUS MATERIALS AND CHEMICAL MANAGEMENT

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

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

8.1. ADMINISTRATIVE POSITIONS AND DUTIES

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

8.1.1.1. Principal

A. Responsible for chemical management in the school and monitors schools employees' compliance with this Chemical Hygiene Plan.
B. Ensure science and art department chairs have an understanding of and are adhering to the chemical management plan in each school.

8.1.1.2. Environmental Compliance Manager

A. Stay current with legal requirements concerning chemical management and hazardous waste management, including appropriate training for handling and storing hazardous waste.
B. Coordinate the disposal of hazardous waste.
C. Coordinate chemical spill clean-ups.
D. Ensure chemical use and storage is in compliance with district policies and procedures, and all applicable regulations.
E. Review the Chemical Hygiene Plan annually and update as needed.

8.1.1.3. Science Curriculum Coordinator

A. Ensure that staff has received appropriate training and are aware of the Chemical Hygiene Plan and other reference material.
B. Maintain and regularly update the library of alternative science curricula.
C. Encourage and provide training on micro-scale chemistry, green chemistry, demonstration labs, or other forms of non-hazardous or less-hazardous curricula.

8.1.1.4. School Science Department Head, Science Leadership Member, or Teacher

A. Understand and follow the Chemical Hygiene Plan.
B. Plan and conduct each laboratory exercise with the least toxic alternative.
C. Use good laboratory chemical management practices.
D. Ensure students are knowledgeable of the chemical hygiene rules, required protective equipment, and safety training.
E. Teach proper chemical management to students.
F. Conduct a monthly inspection of stored chemicals for signs of leakage, poor storage practices, peeling labels, or any other problems. Use form on Page B of this document.
G. Maintain a current copy of all Safety Data Sheets (SDS).
H. Ensure all materials and wastes are labeled, used, and disposed of as required.
I. Maintain chemical spill clean-up materials in chemical storage areas.
J. Report facility problems to the Administration immediately so that the appropriate response action can be taken.

9. PURCHASING PROCEDURES

Staff is encouraged to purchase chemicals on an annual basis at the beginning of the school year; however, purchasing can be submitted any time during the school year. Prior to purchasing chemicals, the following should be done:

A. Check inventory to make sure the chemical is not already in stock.
B. Evaluate any special storage and/or handling requirements.
C. Crosscheck the CDPHE's list of prohibited, restricted, and demonstration use only chemicals. (Reference Combined Prohibited and Restricted Chemical Lists, Page D.)
    a. **Note: under no circumstances will a chemical on the prohibited list be approved for use in district schools**
D. Chemical purchases must be limited to a maximum two-year supply and 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.
E. When possible, chemicals should be delivered during summer break or school holidays.
    a. Staff is 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.
F. 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.
G. Chemical donations are prohibited.

10. ON-SITE HAZARDOUS MATERIALS AND CHEMICAL MANAGEMENT

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

10.1. GENERAL RULES

General rules and procedures for chemical use:

A. 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.
B. Follow safe use and handling of glassware procedures. Never use glassware that is scored, chipped or broken. Dispose of glassware in appropriate container.
C. Ensure defective equipment is not used until repaired or replaced and unsafe condition is corrected.
D. No eating or drinking in chemical areas.
E. 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.

10.2. STORAGE

General storage and handling:

A. Chemicals will be stored in a designated room. The school's science department head and/or chemical coordinator will be responsible for the oversight of the chemical storage room(s). Chemicals should not be stored on the floor or above eye level. Storage areas must have restricted access; no student or unauthorized staff member will be allowed in storage area unsupervised.
B. Chemicals must be stored according to compatibility group, not alphabetically. Separate chemicals into organic and inorganic compatibility. (Reference Suggested Shelf Storage Pattern, Pages S, T).
C. Label all containers with the chemical name (no formulas) and acquisition date.
D. Conduct regular inspections of stored chemicals for signs of leakage, poor storage practices, peeling labels, or any other problems.
E. Carcinogens, mutagens and teratogens (including pesticides) are not recommended for use in school laboratories.
F. 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.
G. 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 are allowed at one time per school.

10.2.1.1. 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.

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

10.2.1.2. Caustic or Corrosive Chemicals

These chemicals can be found in three different states:

A. 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.
B. 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.
C. 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:

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

10.2.1.3. 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:

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

Storage and handling of flammable chemicals:

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

10.2.1.4. Secondary Container Identification Labeling Requirements

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:

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

10.2.1.5. Working Solutions

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

A. Name of product
B. Date solution was prepared
C. Concentration of solution

10.2.1.6. Lab Experiment Solutions

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.

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.

10.2.1.7. Compressed Gases

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 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. The following practices must be followed:

A. Compressed gases should be handled as high energy sources, and therefore, as potential explosives.
B. 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.
C. Avoid exposure of cylinders to heat. Do not store gas cylinders in direct sunlight.
D. Propane is not allowed to be stored inside a school.
E. Never lubricate, modify, force, or tamper with a cylinder valve.
F. Do not extinguish a flame involving a combustible gas until the gas is shut off, otherwise it can ignite, possibly causing an explosion.
G. Medical and reserve oxygen tanks shall be stored in the health clinic.

10.3. INVENTORY

Chemical inventories are one measure taken as part of a comprehensive program used to manage chemicals used in the district. 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 should be inventoried, segregated, labeled, and properly stored in secured areas and/or in corrosive or flammable cabinets as required. The inventories include site, room number, and name of the 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.
B. 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.
C. 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.
D. Chemicals identified as expired, outdated, unlabeled, unknown, surplus, unwanted, or prohibited should be designated for disposal.

10.4. USE

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 micro-scale 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.

10.5. SAFETY

Science safety equipment and procedures.

A. 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 must be worn by all students participating in, observing, or in close proximity to any experiment or activity in which hazardous materials are used and there is a potential hazard to the eye. Goggles should be worn whenever liquid chemicals are used. Eye protection glasses, goggles, face shields, and similar eye protection devices shall be issued clean and properly sanitized and stored in a protected place.
    b. Eye wash fountain (portable eye wash bottles are not permitted)
        i. The first response (prior to medical treatment) for a student or teacher who has hazardous material in their eyes or on their faces 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 annually.**

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).

B. The above items should be checked for operation by the science department head and/or chemical coordinator periodically; the checklist is available on Page B, Equipment Testing Documentation Log.
   a. If items are deficient or need repair, a work order must be submitted.

10.6. WASTE DISPOSAL

There are several laws which dictate proper disposal procedures of hazardous waste. The Environmental Compliance Manager is responsible for all hazardous waste disposals to ensure the district follows proper and consistent methods to collect, consolidate, and properly dispose of all hazardous waste.

10.6.1.1. District Hazardous Waste Collection

The district is registered with the State of Colorado as a conditionally exempt small quantity generator (CESQG). Depending on the waste, it is recycled, sent to the landfill, or incinerated.

10.6.1.2. Non-Hazardous Waste Disposal

A. 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.
B. 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.
C. 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, and then rinse the second solution down the drain with a ten-fold dilution of water.
D. 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.
   a. Foodstuffs or provisions that could spoil or rot.
   b. Hydrocarbons or phenolic compounds.
   c. Flammable or explosive substances, such as gasoline, kerosene, naphtha, ethers, alcohols, alkane aromatics, ketones, xylene, toluene, acetone, acetonitrile, pyridine aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and sulfides. Aqueous alcohol solutions of less than 20% concentrations may be sink-disposed; collect higher concentrations for disposal as needed.
   d. Non-water soluble products, such as vacuum pump oil, mineral oils, gels, and solid waste.
   e. Toxic chemicals and solvents, such as acrylamide monomer, phenol, formamide, cyanides, sulfides, carcinogens and mutagens.

f. Halogenated solvents, such as methylene chloride, chloroform, carbon tetrachloride, tetrachlorethane, freons, and halothanes.
g. Heavy metals, such as arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, and zinc.
h. Infectious or bio hazardous wastes, such as human tissue, lab specimens, infectious agents, or pathogens. Properly disinfected liquid wastes are acceptable for sink disposal.
i. Radioactive materials. Consult with the Environmental Compliance Manager before disposing of any radioactive waste material.

10.6.1.3. Hazardous Waste Disposal

If a site has any of the items in the following list, please notify the Environmental Compliance Manager for removal and proper disposal. The Chemical Disposal Form on Page A must be filled out. The Environmental Compliance Manager will coordinate the disposal and complete all associated paperwork.

A. Unused chemicals: containers in poor condition or the use has become obsolete.
B. 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.
C. 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 nontransparent plastic bag and double bag them (black is preferred). Seal the bag completely, label, and place directly outside in the trash dumpster. Site custodians must be notified of any hazardous chemical put in the trash for disposal. Do not leave the specimens where students can find them, such as a trash can in the science room.
D. 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 place into the trash receptacle for disposal.

10.6.1.4. Spill Response

Each chemical storage area shall be equipped with a spill kit containing Floor Dry and baking soda. See Page C for the Emergency Information Posting, which lists SDS information and poison control information. Staff shall refer to the chemical spill/hazardous material release protocol. 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. The emergency Information Posting should be posted in all chemical storage areas.

10.6.1.5. 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:

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

10.6.1.6. 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:

10.6.1.7. Instructor/Staff Procedures

A. Evaluate possible hazardous exposure to individuals.
B. Avoid direct contact of released material/chemical.
C. Evacuate all personnel from the incident area and restrict access to the spill.
D. Contact main office.
E. Notify the principal/site administrator, who will notify the school resource officer and stress that there is a suspected hazardous material spill.
    a. The school resource officer will notify the appropriate emergency response personnel.
F. If the school resource officer is unavailable and the area is deemed unsafe, evacuate the building and call 911.
G. Instruct the custodian to turn off the building ventilation system to prevent exhausting the vapors throughout the building.
H. Locate Safety Data Sheets (SDS).
I. If chemical has contacted skin or eyes, flush for at least 15 minutes.
J. Do not attempt clean-up of spilled chemical without reviewing SDS and obtaining proper protective equipment.

10.6.1.8. Custodial Procedures

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

10.6.1.9. School Administrative Procedures

A. If spill is too large for staff to adequately handle, call 911 for Hazardous Materials Spill Team.
B. Shut off mechanical ventilation system to that area.
C. If students or staff is injured, send copy of chemical's SDS along with victim to the hospital.
D. If chemical spill is severe, initiate building evacuation.
E. Notify the Environmental Compliance Manager at (720) 340-6579.
F. If injury or property damage occurs, contact the Risk Management Department.

11. APPENDIX

11.1. COMMUNICATION PLAN

Here is a list of action items, responsible person, and due dates for communicating the creation or revision of this document. All persons and/or functions affected by this document need to be briefed. The effective date of this procedure or procedure revision (shown at the top of the cover page) shall not be before the completion of the communication plan.

A. Brief hazardous materials coordinators and backup coordinators. Assigned to Carey Jensen. Due by 1-1-16.
B. Notify Administrators, Administrative Assistants, and Head Secretaries by email. Assigned to Ron Noriyuki. Due by 1-1-16.

Communication Plan approved by:

Brian Lamer, Ass't Sup of Operations	Brian Lamer	12/1/15
Print Name, Title	Signature	Date

12. REVISION RECORD

REV	CHANGE BY:		DESCRIPTION
NEW	Carey Jensen Michael O'Toole	11-12-15	New

13. APPROVALS

Approvers shall be department heads or higher depending on the procedure's application.

The New revision of document 705-EBAB Hazardous Materials is approved by:

Carey Jensen, Env Compliance Mgr	Carey L. Jensen	11/13/15
Print Name, Title	Signature	Date

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CHEMICAL DISPOSAL FORM

FACILITY NAME:_____

DEPARTMENT/POINT OF CONTACT:_____ **PAGE #** _____

Product Name	Manufacturer	Qty	Size	State	Haz Cat	CAS Number	Location

Questions: Please call 303-702-7527. Return completed form to the Environmental Compliance Manager at Jensen_carey@svvsd.org
Haz Category: Flammable (F), Toxic (T), Corrosive (C), Reactive (R), Unstable (U) State – Solid (S), Liquid (L), Gas (G)

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Equipment Testing Documentation Log

For _____

Date	*Room	Equipment	Condition of Equipment	Initials of Tester
		Eye Wash		
		Safety Shower		
		Fume Hood		
		GFCI		
		Master Gas Valve		
		Electrical Shut Off		
		Fire Extinguisher		
		Fire Blanket		
		Eye Ware Sanitizer		
		Spill Kit		
		Emergency Posting Info		
		SVVSD Science Storage Plan		

*Use 1 Sheet for each room

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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:

1. Take the person to the nurse's office immediately;
2. 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

Combined Prohibited and Restricted Chemical Lists

Prohibited chemicals aren't allowed in Colorado schools.

If you find chemicals in your inventory that are on the prohibited list, first make sure there are no signs they're degraded (i.e., discolored, coagulated, congealed, crystallized).◦Prohibited chemicals that aren't degraded should be clearly labeled "not for use," and you should make plans for their safe disposal. Prohibited chemicals with signs of degradation should be handled and disposed of by professionals. Ensure the storage area is secure and contact a disposal company.

Restricted chemicals are chemicals that are for demonstration purposes only or should be purchased only in amounts that can reasonably be used in one year or less. You must address all restricted chemicals in a chemical hygiene plan.

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.

Please note that the hazard information 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
1-Naphthol (alpha Naphthol)	Restricted	C10H7OH	90-15-3	toxic
2,2,4-Trimethylpentane	Restricted	C8H18	540-84-1	highly flammable; toxic
2-Butanol (sec-Butyl Alcohol)	PROHIBITED	C2H5CH(OH)CH3	78-92-2	may form explosive peroxides upon concentration
2-Butanone (Methyl Ethyl Ketone or MEK)	Restricted	CH3COC2H5	78-93-3	highly flammable; may form explosive peroxides
2-Chlorophenyl Isocyanate	Restricted	C7H4ClNO	3320-83-0	poison; highly flammable
Acetal (1,1-Diethoxyethane)	PROHIBITED	C6H14O2	105-57-7	may form explosive peroxides upon concentration; toxic
Acetaldehyde (Ethanal)	PROHIBITED	CH3CHO	75-07-0	may form explosive peroxides upon concentration; possibly carcinogenic to humans; highly flammable
Acetamide	Restricted	CH3CONH2	60-35-5	possibly carcinogenic to humans
Acetanilide (n-Phenylacetamide or Acetamidobenzene)	Restricted	CH3CONHC6H5	103-84-4	combustible; irritant
Acetic Acid	Restricted	CH3COOH	64-19-7	flammable; corrosive
Acetic Anhydride	Restricted	(CH3CO)2O	108-24-7	water-reactive; corrosive; flammable
Acetone	Restricted	CH3COCH3	67-64-1	highly flammable; inhalation hazard
Acetyl Halides (e.g., Acetyl Fluoride, Acetyl Chloride, Acetyl Bromide, Acetyl Iodide)	PROHIBITED			respiratory irritant, toxic; violent reaction with water; dangerous fire risk

Acetyl Nitrate	PROHIBITED	CH3CONO 3	591-09-3	shock sensitive
Acetylcholine Bromide	Restricted	C7H16BrN O2	66-23-9	toxic; irritant
Acridine Orange	Restricted	C17H19N3	10127-02-3	irritant
Acrolein	PROHIBITED	CH2CHCH O	107-02-8	flammable and reactive; may be fatal if ingested, inhaled, or absorbed through the skin
Acrylic Acid (Propenoic Acid)	PROHIBITED	H2CCHCO 2H	79-10-7	may form explosive peroxides; reactive; corrosive
Acrylonitrile	PROHIBITED	CH2CHCN	107-13-1	may form explosive peroxides; possibly carcinogenic to humans; flammable; reactive
Adipoyl Chloride	Restricted	ClOC(CH2) 4COCl	111-50-2	corrosive
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
Alizarin Red	Restricted	C14H7NaO 7S	130-22-3	toxic
Alkyl Aluminum Chloride	Restricted	Unavailable	Unavailable	water reactive
Alkyl-Substituted Cycloaliphatics Note: Methyl-, ethyl-, propyl-, butyl- are common alkyl substituents. A cycloaliphatic is a cyclic hydrocarbon such as cyclopropane, cyclobutane, or cyclohexane (e.g., tert-butylcycloheptane or 1-cyclobutyl-4-methylpentane).	PROHIBITED			may form explosive peroxides upon concentration
Aluminum (Powder)	Restricted	Al	7429-90-5	water-reactive; strong reducing agent; pyrophoric
Aluminum Acetate	Restricted	Al(C2H3O2)2OH	142-03-0	toxic
Aluminum Bromide	Restricted	AlBr3	7727-15-3	air- and water-reactive; corrosive
Aluminum Chloride Hexahydrate	Restricted	AlCl3·6H2 O	7784-13-6	water-reactive; corrosive
Aluminum Chloride, Anhydrous (25 g limit)	DEMO ONLY	AlCl3	7446-70-0	air-and water-reactive; fumes in moist air form toxic gas
Aluminum Fluoride	Restricted	AlF3	7784-18-1	water-reactive; corrosive; inhalation hazard
Aluminum Hydroxide	Restricted	Al(OH)3	21645-51-2	possibly toxic
Aluminum Nitrate	Restricted	Al(NO3)3·9 H2O	7784-27-2	strong oxidizer
Aluminum Phosphide	PROHIBITED	AlP	20859-73-8	water-reactive; generates poisonous and explosive gas when in contact with air or moisture
Aluminum Tetrahydroborate (Aluminum Borohyrdide)	Restricted	Al(BH4)3	16962-07-5	poison; air- and water–reactive; pyrophoric; strong reducing agent
Amatol (TNT and Ammonium Nitrate mixture)	PROHIBITED			explosive

Ammonal (TNT, Ammonium Nitrate, and Aluminum Powder Mixture)	PROHIBITED			explosive
Ammonia Solutions in Water	Restricted	NH3	7664-41-7	corrosive; reactive; toxic
Ammonia, Anhydrous	Restricted	NH3	7664-41-7	poison; water-reactive; inhalation hazard; corrosive
Ammonium Acetate	Restricted	NH4C2H3O2	631-61-8	inhalation hazard; irritant
Ammonium Bicarbonate	Restricted	NH4HCO3	1066-33-7	inhalation hazard; irritant
Ammonium Bromate	PROHIBITED	NH4BrO3	13843-59-9	shock sensitive
Ammonium Bromide	Restricted	NH4Br	12124-97-9	inhalation hazard; irritant
Ammonium Carbonate	Restricted	NH4CO3	10361-29-2	inhalation hazard; irritant
Ammonium Chlorate	PROHIBITED	NH4ClO3	10192-29-7	strong oxidizer; explosive
Ammonium Chloride	Restricted	NH4Cl	12125-02-9	toxic; inhalation hazard; irritant
Ammonium Chromate	Restricted	(NH4)2CrO4	7788-98-9	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Ammonium Dichromate	Restricted	(NH4)2Cr2O7	7789-09-5	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Ammonium Dichromate (100 g limit)	DEMO ONLY	(NH4)2Cr2O7	7789-09-5	oxidizer; chromium (VI) compounds arecarcinogenic to humans
Ammonium Fluoride	Restricted	NH4F	12125-01-8	corrosive; toxic
Ammonium Hexanitrocobaltate	PROHIBITED	NH3Co(NO2)6	13600-98-1	explosive
Ammonium Hydroxide	Restricted	NH4OH	1336-21-6	inhalation hazard; severely corrosive
Ammonium Iodide	Restricted	NH4I	12027-06-4	inhalation hazard
Ammonium Molybdate Tetrahydrate	Restricted	(NH4)6Mo7O24·4H2O	12054-85-2	toxic
Ammonium Nitrate (500 g limit)	Restricted	NH4NO3	6484-52-2	shock sensitive; oxidizer
Ammonium Nitrite	PROHIBITED	NH4NO2	13446-48-5	explosive
Ammonium Oxalate Monohydrate	Restricted	(NH4)2C2O4·H2O	6009-70-7	corrosive; toxic
Ammonium Perchlorate	PROHIBITED	NH4ClO4	7790-98-9	strong oxidizer; explosive; irritant
Ammonium Periodate	PROHIBITED	NH4IO4	13446-11-2	strong oxidizer; explosive; irritant; inhalation hazard
Ammonium Permanganate	PROHIBITED	NH4MnO4	13446-10-1	explosive
Ammonium Persulfate (100 g limit)	DEMO ONLY	(NH4)2S2O8	7727-54-0	strong oxidizer; explosion hazard
Ammonium Phosphate, Dibasic (Diammonium Hydrogen Phosphate)	Restricted	(NH4)2HPO4	7783-28-0	respiratory hazard; potential for skin and eye damage
Ammonium Phosphate, Monobasic (Ammonium Dihydrogen Phosphate)	Restricted	NH4H2PO4	7722-76-1	respiratory hazard; potential for skin and eye damage
Ammonium Sulfate	Restricted	(NH4)2SO4	7783-20-2	respiratory hazard
Ammonium Sulfide	Restricted	(NH4)2S	12135-76-1	respiratory hazard; corrosive; poison; flammable
Ammonium Tartrate	Restricted	(NH4)2C4H4O6	3164-29-2	irritant
Ammonium Tetraperoxychromate	PROHIBITED	(NH4)3CrO8		explosive
Ammonium Thiocyanate	Restricted	NH4SCN	1762-95-4	inhalation hazard; strong reducing agent
Amyl Acetate	Restricted	CH3COOC5H11	628-63-7	flammable; toxic
Aniline	Restricted	C6H5NH2	62-53-3	acutely toxic
Aniline Hydrochloride	Restricted	C6H5NH2·HCl	142-04-1	corrosive; acutely toxic

Anisoyl Chloride (Methyoxybenzoyl Chloride)	Restricted	C8H7ClO2	100-07-2	air- and water- reactive; corrosive;
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
Antimony Metal (50 g limit)	DEMO ONLY	Sb	7440-36-0	poison; combustible powder; strong reducing agent
Arsenic and Arsenic Compounds (e.g., lead arsenate, sodium arsenate, sodium arsenite, Trisilyl Arsine, arsine, arsenic trioxide)	PROHIBITED			carcinogenic to humans; poison
Azide Compounds (e.g., hydrogen azide, sodium azide, copper azide, lead (dinitride) azide)	PROHIBITED			acutely toxic; shock sensitive; explosive
Azidocarbonyl Guanidine	PROHIBITED	C2H4N6O	54567-24-7	shock sensitive, explosive
Barium	PROHIBITED	Ba	7440-39-3	water-reactive; may ignite on contact with water or moist air; acutely toxic
Barium Acetate	Restricted	Ba(C2H3O2)2	543-80-6	acutely toxic
Barium Carbide	Restricted	BaC2	50813-65-5	water–reactive; toxic
Barium Chlorate	PROHIBITED	Ba(ClO3)2·H2O	13477-00-4	explosive; strong oxidizer; toxic
Barium Chloride, Dihydrate	Restricted	BaCl2·2H2O	10326-27-9	poison; acutely toxic
Barium Nitrate	Restricted	Ba(NO3)2	10022-31-8	oxidizer; toxic
Barium Oxide (Anhydrous)	PROHIBITED	BaO	1304-28-5	poison; water-reactive
Barium Peroxide	PROHIBITED	BaO2	1304-29-6	poison; water-reactive; oxidizer
Benzaldehyde	Restricted	C6H5CHO	100-52-7	combustible
Benzene	PROHIBITED	C6H6	71-43-2	carcinogenic to humans; flammable
Benzene Diazonium Chloride	PROHIBITED	C6H5ClN2	100-34-5	explosive
Benzene Phosphorus Dichloride	Restricted	C6H5PCl2	644-97-3	air-and water-reactive; fumes in air; corrosive
Benzoic Acid	Restricted	C6H5COOH	65-85-0	concentrated dust may form explosive mixture
Benzotriazole	PROHIBITED	C6H5N3	95-14-7	explosive
Benzoyl Peroxide	PROHIBITED	(C6H5CO)2O2	94-36-0	flammable; explosive; oxidizer; sensitizer; allergen; reacts violently with bases
Benzyl Alcohol	PROHIBITED	C6H5CH2OH	100-51-6	reacts violently with oxidants; may form explosive peroxides upon concentration
Benzyl Chloride	Restricted	C6H5CH2Cl	100-44-7	probably carcinogenic to humans; poison; corrosive; toxic; lachrymator; releases toxic fumes when heated
Benzylamine (Benzenemethanamine)	Restricted	C6H5CH2NH2	100-46-9	corrosive; poison; combustible
Benzylsodium	Restricted	C7H7Na	1121-53-5	water reactive; ignites spontaneously in air;
Beryllium Tetrahydroborate	Restricted	Be(BH4)2	17440-85-6	violently air- and water-reactive; beryllium compounds are carcinogenic to humans
Biphenyl (Diphenyl)	Restricted	C6H5C6H5	92-52-4	irritant; combustible
Bismuth Nitrate	PROHIBITED	Bi(NO3)3·5H2O	10035-06-0	strong oxidizer; contact with other material may cause fire; toxic
Bismuth Pentafluoride	Restricted	BiF5	7787-62-4	water–reactive; toxic
Boranes and Diboranes (e.g., borane, tribromoborane, trifluoroborane, diborane, pentaborane, methyldiborane)	PROHIBITED			poison; flammable; water-reactive

Boric Acid	Restricted	H3BO3	10043-35-3	harmful if swallowed
Boron Bromide Diiodide	Restricted	BBrI2	14355-21-6	violently water-reactive
Boron Dibromoiodide	Restricted	BBr2I	unavailable	violently water-reactive
Boron Phosphide	Restricted	BP	20205-91-8	water-reactive
Boron Trichloride	Restricted	BCl3	13517-10-7	water-reactive; toxic
Bromine (3-1 g ampules limit)	DEMO ONLY	Br2	7726-95-6	strong oxidizer; reacts violently with organics; acutely toxic by inhalation and ingestion
Bromine Fluoride	Restricted	BrF	13863-59-7	water-reactive
Bromine Pentafluoride	PROHIBITED	BrF5	7789-30-2	oxidizer; poison; inhalation hazard; corrosive; reacts with water with explosive force
Bromine Trifluoride	PROHIBITED	BrF3	7787-71-5	oxidizer; poison; inhalation hazard; corrosive; reacts with water with explosive force
Bromine Water	Restricted	Br2 + H2O	7726-95-6	corrosive; irritating fumes; toxic
Bromobenzene	Restricted	C6H5Br	108-86-1	highly flammable; toxic
Bromodiethylaluminum	Restricted	C4H10AlBr	760-19-0	water-reactive
Bromoform	Restricted	CHBr3	75-25-2	poison; lachrymator
Butadiene	PROHIBITED	C4H6	106-99-0	may for explosive peroxides; carcinogenic to humans
Butanetriol Trinitrate (BTTN)	PROHIBITED	C4H7N3O9	6659-60-5	explosive
Butanol (n-Butyl Alcohol)	Restricted	CH3(CH2)3 OH	71-36-3	highly flammable; toxic
Butyric Acid	Restricted	CH3CH2C H2COOH	107-92-6	corrosive; combustible; stench agent; lachrymator
Cadmium and Cadmium Compounds (e.g., cadmium hydroxide, cadmium oxide, cadmium sulfide)	PROHIBITED			carcinogenic to humans; highly toxic
Calcium (100 g limit)	Restricted	Ca	7440-70-2	water-reactive; flammable solid
Calcium Bromide	Restricted	CaBr2	7789-41-5	toxic
Calcium Carbide (100 g limit)	DEMO ONLY	CaC2	75-20-7	water-reactive; reacts violently with water to generate acetylene gas; serious fire risk
Calcium Hypochlorite	Restricted	Ca(ClO)2	7778-54-3	strong oxidizer; reactive; toxic
Calcium Nitrate Tetrahydrate	Restricted	Ca(NO3)2· 4H2O	13477-34-4	strong oxidizer; shock sensitive
Calcium Nitrate, Anhydrous	PROHIBITED	Ca(NO3)2	10124-37-5	strong oxidizer; may explode if shocked or heated
Calcium Permanganate	PROHIBITED	Ca(MnO4)2	10118-76-0	strong oxidizer
Calcium Phosphide (CP)	Restricted	Ca3P2	1305-99-3	violently air- and water- reactive; strong reducing agent; poison
Camphor	Restricted	C10H16O	76-22-2	toxic; flammable solid; combustible
Carbon Disulfide (Carbon Bisulfide)	Restricted	CS2	75-15-0	highly flammable; poison; severe fire risk
Carbon Tetrachloride	PROHIBITED	CCl4	56-23-5	possibly carcinogenic to humans; acutely toxic
Cerium (IV) Sulfate (Ceric Sulfate)	Restricted	Ce(SO4)2	13590-82-4	strong oxidizer; corrosive; irritant
Cesium Amide	Restricted	CsH2N	22205-57-8	water-reactive
Cesium Phosphide	Restricted	Cs3P	113737-02-3	water-reactive
Chloral Hydrate	PROHIBITED	CCl3CH(O H)2	302-17-0	controlled barbiturate; probably carcinogenic to humans
Chlorine	PROHIBITED	Cl2	7782-50-5	oxidizer, corrosive, may be fatal if inhaled
Chlorine Dioxide	PROHIBITED	ClO2	10049-04-4	oxidizer; flammable and reactive; shock sensitive; explosive
Chlorine Fluoride	Restricted	ClF	7790-89-8	strong oxidizer; water-reactive

Chlorine Pentafluoride	Restricted	ClF5	13637-63-3	water-reactive
Chlorine Trifluoride	PROHIBITED	ClF3	7790-91-2	powerful oxidizer; explosive reaction with water and acids; poisonous if inhaled
Chlorine Trioxide	PROHIBITED	ClO3	13932-10-0	shock sensitive; explosive
Chloroacetic Acid	Restricted	C2H3ClO2	79-11-8	acutely toxic; corrosive
Chloroacetyl Chloride	Restricted	C2H2Cl2O	79-04-9	air- and water-reactive; corrosive; poison; inhalation hazard
Chloroacetylene	PROHIBITED	C2HCl	593-63-5	shock sensitive; air reactive
Chlorobenzene	Restricted	C6H5Cl	108-90-7	highly flammable; inhalation hazard
Chlorodiisobutyl Aluminum (Diisobutylaluminum Chloride)	Restricted	C8H18AlCl	1779-25-5	water-reactive; highly flammable
Chloroform	PROHIBITED	CHCl3	67-66-3	poison; possibly carcinogenic to humans
Chloropicrin	PROHIBITED	CCl3NO2	76-06-2	shock sensitive; explosive; poison; inhalation hazard
Chloroprene	PROHIBITED	C4H5Cl	126-99-8	may form explosive peroxides; possibly carcinogenic to humans
Chlorotrifluoroethylene	PROHIBITED	C2F3Cl	79-38-9	may form explosive peroxides
Chromic Acid	Restricted	CrO3	1333-82-0	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Chromic Chloride (Chromium (III) Chloride)	PROHIBITED	CrCl3·6H2O	10060-12-5	acutely toxic; fatal if inhaled
Chromium (III) Nitrate Nonahydrate (Chromium Trinitrate)	Restricted	Cr(NO3)3·9H2O	7789-02-8	oxidizer; toxic
Chromium (III) Sulfate (Chromic Sulfate)	Restricted	Cr2(SO4)3·nH2O	10101-53-8	corrosive; toxic
Chromium (Powder)	PROHIBITED	Cr	7440-47-3	flammable; toxic
Chromium Oxide (Chromic Oxide) (20 g limit)	DEMO ONLY	Cr2O3	1308-38-9	strong oxidizer; poison; corrosive
Chromium Trioxide	Restricted	CrO3	1333-82-0	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Chromyl Chloride	PROHIBITED	CrO2Cl2	14977-61-8	water-reactive; chromium (VI) compounds are carcinogenic to humans
Cobalt (II) Nitrate Hexahydrate (Cobaltous Nitrate)	Restricted	Co(NO3)2·6H2O	10026-22-9	cobalt and cobalt compounds are possibly carcinogenic to humans; acutely toxic
Cobalt (Powder)	PROHIBITED	Co	7440-48-4	possibly carcinogenic to humans
Colchicine	PROHIBITED	C22H25NO6	64-86-8	acutely toxic
Collodion (a solution of pyroxylin in ether and alcohol) (100 mL limit)	DEMO ONLY	C25H33O13(NO3)7	9004-70-0	highly flammable
Copper (II) Bromide (Cupric Bromide, Anhydrous)	Restricted	CuBr2	7789-45-9	toxic; irritant
Copper Acetylide	PROHIBITED	Cu2C2	1117-94-8	explosive
Cumene (Isopropylbenzene)	PROHIBITED	C6H5CH(CH3)2	98-82-8	may form explosive peroxides upon concentration; possibly carcinogenic to humans
Cycloheptanone	PROHIBITED	C7H12O	502-42-1	may form explosive peroxides; flammable; corrosive; toxic
Cyclohexane	Restricted	CH2(CH2)4CH2	110-82-7	highly flammable; poison
Cyclohexanol	PROHIBITED	C6H11OH	108-93-0	may form explosive peroxides upon concentration
Cyclohexanone (100 mL limit)	DEMO ONLY	C6H10O	108-94-1	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides

Cyclohexene (100 mL limit)	DEMO ONLY	C6H10	110-83-8	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides
Cyclopentanone (100 mL limit)	DEMO ONLY	C5H8O	120-92-3	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides
Cyclopentene	PROHIBITED	C5H8	142-29-0	may form explosive peroxides upon concentration
Diacetylene (Butadiyne)	PROHIBITED	C4H2	460-12-8	may form explosive peroxides upon concentration; highly flammable; explosive
Diazidoethane	PROHIBITED	C2H4N6	629-13-0	explosive
Diazodinitrophenol (DDNP)	PROHIBITED	C6H2N4O5	4682-03-05	explosive
Diazomethane	PROHIBITED	CH2N2	334-88-3	poisonous and flammable gas
Dichloromethane (Methylene Dichloride)	Restricted	CH2Cl2	75-09-2	probably carcinogenic to humans; poison
Dicyclopentadiene	PROHIBITED	C10H12	77-73-6	may form explosive peroxides upon concentration; acutely toxic; fatal if inhaled; flammable
Diethyl Aluminum Chloride	Restricted	C4H10AlCl	96-10-6	water-reactive; highly flammable; inhalation hazard
Diethyl Zinc (DEZ)	Restricted	C4H10Zn	557-20-0	air- and water-reactive; highly flammable
Diglyme (Diethylene Glycol Dimethyl Ether) (500 mL limit)	DEMO ONLY	(CH3O)CH 2	111-96-6	combustible; oxidizes readily in air to form explosive peroxides
Diisopropyl Beryllium	Restricted	C6H14Be	15721-33-2	water-reactive; beryllium compounds are carcinogenic to humans
Diisopropyl Ether	PROHIBITED	C6H14O	108-20-3	may form explosive peroxides
Dimethyl Magnesium	Restricted	C2H6Mg	2999-74-8	air- and water-reactive; spontaneously flammable in air
Dinitrophenol	PROHIBITED	C6H3OH(N O2)2	51-28-5	explosive
Dinitrophenylhydrazine (100 g limit)	DEMO ONLY	C6H6N4O4	119-26-6	flammable solid; explosive when dry
Dioxane	PROHIBITED	C4H802	123-91-1	may form explosive peroxides upon concentration; possibly carcinogenic to humans
Dipentaerythritol Hexanitrate (DPEHN)	PROHIBITED	C10H16N6 O19	13184-80-0	explosive
Diphenylamine	Restricted	(C6H5)2NH	122-39-4	poison
Diphenylmethane-4,4 Diisocyanate	Restricted	C15H10N2 O2	101-68-8	poison
Disulfur Dinitride	PROHIBITED	S2N2	25474-92-4	explosive
Divinyl Acetylene	PROHIBITED	C6H6	821-08-9	may form explosive peroxides; acutely toxic; highly flammable
Divinyl Ether	PROHIBITED	C4H6O2	109-93-3	may form explosive peroxides; highly flammable
Ethanol (Ethyl Alcohol)	Restricted	C2H5OH	64-17-5	highly flammable
Ethyl Acetate	Restricted	CH3COOC 2H5	141-78-6	highly flammable; toxic; may form explosive peroxides
Ethyl Ether (diethyl ether)	PROHIBITED	(C2H5)2O	60-29-7	may form explosive peroxides upon concentration
Ethyl Methacrylate	Restricted	CH2CCH3 COOC2	97-63-2	highly flammable; polymerizable
Ethyl Nitrite	PROHIBITED	C2H5NO2	109-95-5	explosive
Ethylene Dichloride (1,2-Dichloroethane)	Restricted	C2H4Cl2	107-06-2	highly flammable; possibly carcinogenic to humans; poison; emits toxic gases if heated or burned
Ethylene Glycol Dimethyl Ether (Glyme or 1,2-Dimethoxyethane)	PROHIBITED	C4H10O2	28923-39-9	may form explosive peroxides upon concentration
Ethylene Glycol Dinitrate (EGDN or 1,2-Dinitroxyethane)	PROHIBITED	C2H4N2O6	628-96-6	explosive

Ethylene Oxide	PROHIBITED	C2H4O	75-21-8	carcinogenic to humans; flammable; explosive; may be fatal if inhaled or absorbed through the skin
Ethylenediamine	Restricted	NH2CH2CH2NH2	107-15-3	highly flammable;air-reactive; corrosive
FAA Solution (Formalin-Aceto-Alcohol Solution)	Restricted			flammable; acutely toxic; carcinogenic to humans
Fehlings Solution A (Copper (II) Sulfate and Water)	Restricted			acutely toxic
Fehlings Solution B (Sodium Hydroxide; Potassium Sodium Tartrate; and Water)	Restricted			caustic; toxic
Ferric Chloride, Anhydrous (Iron (III) Chloride)	Restricted	FeCl3	7705-08-0	corrosive; inhalation hazard
Ferric Nitrate Nonahydrate (Iron (III) Nitrate Nonahydrate)	Restricted	Fe(NO3)3·9H2O	7782-61-8	strong oxidizer; irritant; explosion hazard with heat
Fluorine Monoxide (Oxygen Difluoride)	Restricted	F2O	7783-41-7	strong oxidizer; air- and water-reactive; poison; corrosive
Fluorosulfonic Acid	Restricted	HSO3F	7789-21-1	corrosive; air- and water-reactive
Formaldehyde	PROHIBITED	CH2O	50-00-0	carcinogenic to humans; poison; may cause allergic reaction
Formalin	Restricted	CH2O	50-00-0	toxic; corrosive; carcinogenic to humans
Formic Acid	Restricted	HCOOH	64-18-6	flammable; corrosive
Furan	PROHIBITED	C4H4O	110-00-9	possibly carcinogenic to humans; may form explosive peroxides upon concentration
Gasoline	Restricted	UNDEFINED	8006-61-9 or 86290-81-5	highly flammable; possibly carcinogenic to humans
Glutaraldehyde	Restricted	OCH(CH2)3CHO	111-30-8	water-reactive; toxic
Glycerol Monolactate Trinitrate (GLTN)	PROHIBITED	C6H9N3O11		explosive
Gold Acetylide	Restricted	C2Au2	70950-00-4	explosive; shock sensitive; water reactive
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 with tetrahydrofuran or ether as the solvent.	PROHIBITED			Both the Grignard Reagent and the solvents are hazardous. The Grignard Reagents can be highly reactive, corrosive, pyrophoric, and toxic. The solvents are highly flammable and may form explosive peroxides.
Guanyl Nitrosamino Guanylidene Hydrazine	PROHIBITED			explosive; strong oxidizer
Hematoxylin	Restricted	C16H14O6	517-28-2	toxic
Hexamethylene Diisocyanate (HDI)	Restricted	C8H12N2O2	822-06-0	water-reactive; toxic
Hexamethylenediamine (1, 6-Diaminohexane)	Restricted	H2N(CH2)6NH2	124-09-4	corrosive; toxic
Hexyl Alcohol	PROHIBITED	CH3(CH2)4CH2OH	111-27-3	highly flammable; poison
HMX	PROHIBITED	C4H8N8O8	2691-41-0	explosive
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
Hydriodic Acid	Restricted	HI	10034-85-2	acutely toxic; corrosive
Hydrobromic Acid	Restricted	HBr	10035-10-6	acutely toxic; water-reactive; corrosive

Hydrochloric Acid (Muriatic Acid)	Restricted	HCl	7647-01-0	toxic; severely corrosive
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
Hydrogen (limited to lecture bottle of 4 cu. ft. or less)	DEMO ONLY	H2	13333-74-0	flammable gas; burns with a pale blue, almost invisible flame; may displace oxygen, which could cause asphyxiation; compressed gas cylinder hazards
Hydrogen Peroxide (>30%)	PROHIBITED	H2O2	7722-84-1	fire and explosion risk, severely corrosive; strong oxidizer
Hydrogen Peroxide (30% or less)	Restricted	H2O2	7722-84-1	readily decomposes with almost anything; strong oxidizer; explosion hazard; corrosive
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
Hydroquinone (Benzene-1, 4-diol)	Restricted	C6H4(OH)2	123-31-9	toxic
Hydroxylamine Hydrochloride	Restricted	NH2OH·HCl	5470-11-1	toxic; strong reducing agent
Iodine	Restricted	I2	7553-56-2	poison; strong oxidizing agent
Iodine Monochloride (Chlorine Iodide)	Restricted	ICl	7790-99-0	toxic; water-and air-reactive; strong oxidizing agent; corrosive
Iron (powder)	Restricted	Fe	7439-89-6	metal dust may present a fire hazard and a health hazard
Isoamyl Alcohol (3-Methyl 1-butanol or Isopentyl Alcohol)	Restricted	(CH3)2CH CH2CHOH	123-51-3	highly flammable; toxic
Isobutyl Alcohol	Restricted	(CH3)2CH CH2OH	78-83-1	highly flammable; toxic
Isopropyl Alcohol	Restricted	(CH3)2CH OH	67-63-0	highly flammable; toxic; may form explosive peroxides
Isopropyl Ether (Diisopropyl Ether)	PROHIBITED	C6H14O	108-20-3	highly flammable; may form explosive peroxides
Kerosene	Restricted	UNDEFINED	8008-20-6	highly flammable; toxic
Lead Dinitroresorcinate (LDNR)	PROHIBITED	PbC6H2(NO2)2(OH)2		explosive; probably carcinogenic to humans
Lead Dioxide (Lead (IV) Oxide or Lead Brown)	PROHIBITED	PbO2	1309-60-0	toxic; probably carcinogenic to humans; will accelerate burning in fire; may explode from heat or contamination
Lead Mononitroresorcinate (LMNR)	PROHIBITED	PbC6H3NO2(OH)2	51317-24-9	explosive; shock sensitive; probably carcinogenic to humans
Lead Nitrate	Restricted	Pb(NO3)2	10099-74-8	oxidizer; toxic; probably carcinogenic to humans
Lead Tetraoxide, (Red Lead Oxide)	Restricted	Pb3O4	1314-41-6	oxidizer; acutely toxic; probably carcinogenic to humans
Lead Trinitroresorcinate (Lead Styphnate)	PROHIBITED	PbC6H(NO2)3(OH)2	15245-44-0	explosive; probably carcinogenic to humans
Lithium (20 g limit)	DEMO ONLY	Li	7439-93-2	water-reactive; highly flammable solid; readily ignited by and reacts with man y extinguishing agents
Lithium Amide	Restricted	LiNH2	7782-89-0	water-reactive; toxic; flammable; dangerous fire and explosion hazard
Lithium Bromide	Restricted	LiBr	7550-35-8	acutely toxic
Lithium Ferrosilicon	Restricted	Fe-Si·Li	70399-13-2	water-reactive; acutely toxic; highly flammable
Lithium Nitrate	PROHIBITED	LiNO3	7790-69-4	oxidizer; shock sensitive
Lithium Nitride	PROHIBITED	Li3N	26134-62-3	highly flammable; powder is easily ignited and burns with intense heat; may ignite spontaneously in moist air

Lithium Peroxide	PROHIBITED	Li2O2	12031-80-0	oxidizer; toxic; explosive
Lithium Silicon	Restricted	Li·Si	68848-64-6	water-and air-reactive; acutely toxic; strong reducing agent
Lithium Sulfate	Restricted	Li2SO4·H2O	10102-25-7	toxic
Magnesium (except Mg ribbon & turnings)	PROHIBITED	Mg	7439-95-4	reacts with water to liberate hydrogen gas; flammable solid; easily ignited
Magnesium (ribbon)	Restricted	Mg	7439-95-4	flammable solid; water-reactive
Magnesium (turnings) (100 g limit)	DEMO ONLY	Mg	7439-95-4	water-reactive; flammable solid; strong reducing agent
Magnesium Nitrate Hexahydrate	Restricted	Mg(NO3)2·6H2O	13446-18-9	oxidizer; toxic
Magnesium Peroxide	PROHIBITED	MgO2	14452-57-4	strong oxidizer
Manganese (II) Nitrate Hexahydrate (Manganous Nitrate Hexahydrate)	Restricted	Mn(NO3)2·6H2O	10377-66-9	strong oxidizer; toxic
Manganese Carbonate	Restricted	MnCO3	598-62-9	toxic
Manganese Dioxide (Manganese Black; Manganese Oxide; Manganese Peroxide; Manganese Superoxide)	Restricted	MnO2	1313-13-9	toxic
Mannitol Hexanitrate	PROHIBITED	C6H8N6O18	15825-70-4	explosive; strong oxidizer
Mercury (except in sealed devices)	PROHIBITED	Hg	7439-97-6	corrosive; poison; severely and subtly toxic
Mercury Compounds (e.g., Nessler's Reagent, mercuric chloride, mercuric potassium iodide, mercuric fluoride)	PROHIBITED			poison; severely and subtly toxic
meta-Trinitrocresol (3-Methyl-2,4,6-trinitrophenol)	PROHIBITED	C7H5N3O7	602-99-3	explosive; strong oxidizer
Methyl Acetylene	PROHIBITED	C3H4	74-99-7	highly flammable; may form explosive peroxides upon concentration
Methyl Alcohol (Methanol)	Restricted	CH3OH	67-56-1	highly flammable; toxic
Methyl Aluminum Sesquibromide	Restricted	C3H9Al2Br3	12263-85-3	water-and air-reactive; toxic; dangerous fire and explosion hazard
Methyl Aluminum Sesquichloride	Restricted	C3H9Al2Cl3	12542-85-7	water-and air-reactive; toxic; dangerous fire and explosion hazard
Methyl Chloride (Chloromethane)	Restricted	CH3Cl	74-87-3	highly flammable; toxic
Methyl Cyclopentane	PROHIBITED	C6H12	96-37-7	highly flammable
Methyl Isobutyl Ketone (4 Methyl-2-Pentanone or MIBK) (250 mL limit)	DEMO ONLY	CH3COCH2CH(CH)	108-10-1	highly flammable; vapors may travel a considerable distance and ignite; may form explosive peroxides; possibly carcinogenic to humans
Methyl Isocyanate	PROHIBITED	CH3NCO	624-83-9	water-reactive; highly flammable; polymerizable
Methyl MethacrylateMonomer	PROHIBITED	C5H8O2	80-62-6	may form explosive peroxides; flammable; explosive (vapor)
Naphthalene (Moth Balls, Moth Flakes)	Restricted	C10H8	91-20-3	possibly carcinogenic to humans; highly flammable
n-Butyllithium	Restricted	C4H9Li	109-72-8	spontaneously flammable in air; toxic
Nessler's Reagent (Mercuric Potassium Iodide and Sodium Hydroxide)	PROHIBITED	Hg+KI+NaOH	7783-33-7	
n-Heptane	Restricted	CH3(CH2)5CH3	142-82-5	highly flammable; toxic
n-Hexane	Restricted	CH3(CH2)4CH3	110-54-3	highly flammable; toxic
Nickel (II) Nitrate Hexahydrate	Restricted	Ni(NO3)2·6H2O	13478-00-7	nickel compounds are carcinogenic to humans; oxidizer
Nickel (II) Sulfate Hexahydrate	Restricted	NiSO4·6H2O	10101-97-0	nickel compounds are carcinogenic to humans
Nicotine	PROHIBITED	C10H14N2	54-11-5	poison; acutely toxic

Nitric Acid	Restricted	HNO3	7697-37-2	acutely toxic; strong oxidizer; water-and air-reactive
Nitrobenzene	Restricted	C6H5NO2	98-95-3	possibly carcinogenic to humans; acutely toxic; flammable
Nitrogen	Restricted	N2	7727-37-9	may displace oxygen, which could cause asphyxiation; compressed gas cylinder hazards; liquid nitrogen presents a low temperature hazards
Nitroglycerin	PROHIBITED	C3H5N3O9	55-63-0	explosive; strong oxidizer
Nitrosoguanidine	PROHIBITED	C2H5N5O3	70-25-7	explosive; highly flammable; water-reactive; decomposes at elevated temperatures
Octyl Alcohol (Octanol or Caprylic Alcohol)	Restricted	CH3(CH2)6 CH2OH	111-87-5	flammable; toxic
ortho-Dichlorobenzene (1, 2-Dichlorobenzene)	Restricted	C6H4Cl2	95-50-1	flammable; toxic
ortho-Toluidine (e.g., Toluidine Blue)	PROHIBITED	C7H9N	95-53-4	carcinogenic to humans; poison
Osmic Acid (Osmium Tetroxide)	PROHIBITED	OsO4	20816-12-0	acutely toxic; may be fatal if inhaled or ingested
Oxalic Acid, Dihydrate (Ethanedioic Acid)	Restricted	H2C2O4·2 H2O	6153-56-6	acutely toxic
Oxygen	Restricted	O2	7782-44-7	strong oxidizer; fire and explosion hazard; compressed gas cylinder hazards
para-Dichlorobenzene (1, 4-Dichlorobenzene	Restricted	C6H4Cl2	106-46-7	possibly carcinogenic to humans; flammable
para-Nitrophenol (4-Nitrophenol)	PROHIBITED	NO2C6H4 OH	100-02-7	poison; forms explosive mixtures
Pentaerythrite Tetranitrate (PETN)	PROHIBITED	C5H8N4O1 2	78-11-5	explosive; strong oxidizer
Pentane (100 mL limit)	DEMO ONLY	C5H12	109-66-0	highly flammable
Pentyl Alcohol (Amyl Alcohol or Pentanol)	Restricted	CH3(CH2)4 OH	71-41-0	highly flammable; toxic
Perchloric Acid	PROHIBITED	HClO4	7601-90-3	strong oxidizing agent; corrosive; contact with organics may result in explosion; can cause serious or permanent injury
Petroleum Ether (500 mL limit)	Restricted	UNDEFINE D	Unavailable	highly flammable; toxic
Phenol	PROHIBITED	C6H6O	108-95-2	combustible; corrosive; may be fatal if inhaled, ingested, or absorbed through skin
Phenyl Thiourea	PROHIBITED	C7H8N2S	103-85-5	extremely toxic; poison; emits toxic fumes when heated
Phosphides (e.g., magnesium aluminum phosphide, potassium phosphide, sodium phosphide)	PROHIBITED			poison; water-reactive
Phosphoric Acid	Restricted	H3PO4	7664-38-2	toxic; corrosive
Phosphorus (yellow or white)	PROHIBITED	P	7723-14-0	flammable solid; self-ignition possible; evolves dangerous gas if burned
Phosphorus Halides and Oxides (e.g., phosphorus trichloride, phosphorus trioxide, phosphorus, pentabromide)	PROHIBITED			water-reactive; corrosive; toxic
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
Phthalic Acid (1, 2 Benzenedicarboxylic Acid)	Restricted	C6H4(COO H)2	88-99-3	combustible; toxic
Phthalic Anhydride	PROHIBITED	C8H4O3	85-44-9	explosive; water- reactive
Picramide	PROHIBITED	C6H4N4O6	489-98-5	explosive; strong oxidizing agent

Picrates and Picryl Compounds (e.g.,ammonium picrate, lead picrate, potassium picrate, picryl sulfonic acid, picryl chloride)	PROHIBITED			explosive
Picric Acid (2,4,6-Trinitrophenol)	PROHIBITED	C6H3N3O7	88-89-1	extremely reactive; explosive when dry
Polymethylene Polyphenyl Isocyanate (Polymeric Diphenylmethane Diisocyanate or MDI)	Restricted	(C8H5NO)n	9016-87-9	water reactive; toxic
Polyvinyl Alcohol	Restricted	CH2CH(OH)	9002-89-5	combustible; toxic
Polyvinyl Nitrate (PVN or polyethenyl nitrate)	PROHIBITED	(C2H3NO3)n		explosive; shock sensitive
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;
Potassium Amide	PROHIBITED	KNH2	17242-52-3	may form explosive peroxides
Potassium Bromate	Restricted	KBrO3	7758-01-2	possibly carcinogenic to humans
Potassium Chlorate (100 g limit)	DEMO ONLY	KClO3	3811-04-9	explosive; strong oxidizer
Potassium Chromate	Restricted	K2CrO4	7789-00-6	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Potassium Cyanide	PROHIBITED	KCN	151-50-8	acutely toxic
Potassium Dichromate (Potassium Bichromate)	Restricted	K2Cr2O7	7778-50-9	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Potassium Dinitrobenzofuroxan (KDNBF)	PROHIBITED	KC6H2N4O6	29267-75-2	explosive
Potassium Ferricyanide (Red Prussiate)	Restricted	K3Fe(CN)6	13746-66-2	contact with acids liberates toxic gas
Potassium Ferrocyanide (Tetrapotassium Hexacyanoferrate or Yellow Prussiate)	Restricted	K4Fe(CN)6 ·3H2O	14459-95-1	toxic; contact with acids liberates toxic gas
Potassium Hydroxide (Potash Lye)	Restricted	KOH	1310-58-3	corrosive; toxic
Potassium Iodate	Restricted	KIO3	7758-05-6	oxidizer; toxic
Potassium Nitrate	Restricted	KNO3	7757-79-1	strong oxidizer
Potassium Nitrite	PROHIBITED	KNO2	7758-09-0	strong oxidizer
Potassium Perchlorate	PROHIBITED	KClO4	7778-74-7	explosive
Potassium Periodate	PROHIBITED	KIO4	7790-21-8	strong oxidizer
Potassium Permanganate	Restricted	KMnO4	7722-64-7	strong oxidizer; explodes on sudden heating
Potassium Peroxide	PROHIBITED	K2O2	17014-71-0	water-reactive; strong oxidizer
Potassium Persulfate	Restricted	K2S2O8	7727-21-1	strong oxidizer; toxic
Potassium Sulfide	Restricted	K2S	1312-73-8	pyrophoric; spontaneously combustible; strong reducing agent; acutely toxic
Potassium Superoxide	PROHIBITED	KO2	12030-88-5	water-reactive; strong oxidizer
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
Propionic Acid	Restricted	C3H6O2	79-09-4	corrosive; flammable; toxic
Propyl Alcohol (n-Propanol or Propanol)	Restricted	C3H8O	71-23-8	highly flammable; toxic
Pyridine (Azine or Azabenzene)	Restricted	C5H5N	110-86-1	highly flammable; toxic
Pyrosulfuryl Chloride (Sulfur Pentoxydichloride)	Restricted	Cl2O5S2	7791-27-7	water- and air-reactive; corrosive; toxic
RDX	PROHIBITED	C3H6N6O6	121-82-4	explosive

Silanes and Chlorosilanes (e.g., silane; dichlorosilane; tetramethylsilane; trichlorosilane)	PROHIBITED			flammable; reactive; highly toxic
Silicon Tetrachloride	PROHIBITED	SiCl4	10026-04-7	air- and water-reactive; corrosive
Silver Acetylide	PROHIBITED	Ag2C2	13092-75-6	explosive; shock sensitive
Silver Cyanate	PROHIBITED	AgOCN	3315-16-0	toxic
Silver Cyanide	PROHIBITED	AgCN	506-64-9	acutely toxic; may be fatal if inhaled, ingested, or absorbed through skin
Silver Dinitroresorcinate (Silver Styphnate)	PROHIBITED	Ag2C6H(NO3)2(OH)2		reactive; ignitable; shock sensitive
Silver Fulminate	PROHIBITED	AgCNO	5610-59-3	explosive
Silver Nitrate	Restricted	AgNO3	7761-88-8	strong oxidizer; corrosive; toxic
Silver Nitride	PROHIBITED	Ag3N	20737-02-4	shock sensitive; explosive
Silver Oxalate	PROHIBITED	Ag2C2O4	533-51-7	shock sensitive
Silver Oxide (100 g limit)	DEMO ONLY	Ag2O	20667-12-3	strong oxidizer; contact with other material may cause fire
Silver Sulfate	Restricted	Ag2SO4	10294-26-5	toxic
Silver Tetrazene	PROHIBITED			shock sensitive
Sodium (100 g limit)	DEMO ONLY	Na	7440-23-5	violently water-reactive; strong reducing agent; flammable solid; may ignite spontaneously in air
Sodium Amide	PROHIBITED	NaNH2	7782-92-5	may form explosive peroxides; water-reactive; highly flammable
Sodium Bisulfite	Restricted	NaHSO3	7631-90-5	strong reducing agent; corrosive; toxic
Sodium Chlorate	PROHIBITED	NaClO3	7775-09-9	oxidizer; explosive
Sodium Chlorite	PROHIBITED	NaClO2	7758-19-2	oxidizer; explosive
Sodium Chromate	Restricted	Na2CrO4	7775-11-3	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Sodium Cobaltinitrite (Sodium Hexanitrocobaltate)	Restricted	Na3Co(NO2)6	13600-98-1	cobalt and cobalt compounds are possibly carcinogenic to humans; toxic
Sodium Cyanide	PROHIBITED	NaCN	143-33-9	acutely toxic
Sodium Dichromate Dihydrate	Restricted	Na2Cr2O7·2H2O	7789-12-0	chromium (VI) compounds are carcinogenic to humans; strong oxidizer; poison
Sodium Dithionite (Sodium Hydrosulfite)	PROHIBITED	Na2S2O4	7775-14-6	spontaneously combustible; water-reactive; pyrophoric
Sodium Fluoride	Restricted	NaF	7681-49-4	corrosive; poison
Sodium Hydroxide (Lye)	Restricted	NaOH	1310-73-2	water-reactive; corrosive; toxic
Sodium Hypochlorite	Restricted	NaClO	7681-52-9	strong oxidizer; corrosive; toxic
Sodium Iodate	Restricted	NaIO3	7681-55-2	strong oxidizer; toxic
Sodium Iodide	Restricted	NaI	7681-82-5	toxic
Sodium Metabisulfite	Restricted	Na2S2O5	7681-57-4	strong reducing agent; corrosive; toxic
Sodium Methylate	PROHIBITED	NaCH3O	124-41-4	spontaneously combustible; water-reactive; pyrophoric
Sodium Nitrate	Restricted	NaNO3	7631-99-4	strong oxidizer; toxic
Sodium Nitrite	Restricted	NaNO2	7632-00-0	strong oxidizer; poison
Sodium Perborate	PROHIBITED	NaBO3	7632-04-4	air- and water- reactive; explosive
Sodium Perchlorate	PROHIBITED	NaClO4	7601-89-0	oxidizer; water-reactive; explosive
Sodium Permanganate	PROHIBITED	NaMnO4	10101-50-5	oxidizer; explosive
Sodium Peroxide	PROHIBITED	Na2O2	1313-60-6	oxidizer; water- reactive; toxic; explosion and fire risk in combination with powdered metals and organics
Sodium PhosphateTribasic Dodecahydrate	Restricted	Na3PO4·12H2O	10101-89-0	corrosive; toxic
Sodium Potassium Alloy	Restricted	K2Na	11135-81-2	water-reactive; in contact with water releases flammable gases which may ignite spontaneously; corrosive

Sodium Sulfide Nonahydrate	Restricted	Na2S·9H2O	1313-84-4	explosive; flammable solid; strong reducing agent; corrosive; toxic
Sodium Thiocyanate	Restricted	NaSCN	540-72-7	strong reducing agent; toxic
Sodium Thiosulfate Pentahydrate	Restricted	Na2S2O3·5H2O	10102-17-7	toxic
Stannic Chloride	Restricted	SnCl4	7646-78-8	air- and water-reactive; corrosive; toxic
Strontium Nitrate	Restricted	Sr(NO3)2	10042-76-9	strong oxidizer
Strontium Perchlorate	PROHIBITED	SrCl2O8	13450-97-0	shock sensitive
Styrene Monomer	PROHIBITED	C8H8	100-42-5	highly flammable; may form explosive peroxides; polymerizable
Sulfur Chloride (Sulfur Dichloride)	Restricted	Cl2S2	10025-67-9	water-reactive; corrosive; toxic
Sulfur Pentafluoride	Restricted	S2F10	5714-22-7	water-reactive; poison
Sulfur Trioxide	PROHIBITED	SO3	7446-11-9	air- and water-reactive; corrosive; poison; inhalation hazard
Sulfuric Acid (<10%)	Restricted	H2SO4	7664-93-9	strong oxidizer; severely corrosive; water-reactive; toxic
Sulfuric Acid (>10%) (2.5 L limit)	Restricted	H2SO4	7664-93-9	strong oxidizer; severely corrosive; water-reactive; toxic
Sulfuryl Chloride (Sulfonyl Chloride)	PROHIBITED	Cl2O2S	7791-25-5	air- and water-reactive; corrosive; poison; inhalation hazard
Sulfuryl Chloride Fluoride	PROHIBITED	ClFO2S	13637-84-8	poison; water-reactive; corrosive
Terpineol (Terpene Alcohol)	Restricted	C10H17OH	98-55-5	flammable; toxic
tert-Butyl Alcohol (t-Butanol or 1,1-Dimethyl Ethanol)	Restricted	(CH3)3COH	75-65-0	highly flammable; irritating vapor and liquid
tert-butyl Hypochlorite	PROHIBITED	C4H9ClO	507-40-4	spontaneously combustible; pyrophoric; fire will produce irritating, corrosive, and/or toxic gases
Tetrafluoroethylene	PROHIBITED	C2F4	116-14-3	may form explosive peroxides; highly flammable; probably carcinogenic to humans
Tetrahydrofuran	PROHIBITED	C4H8O	109-99-9	highly flammable; oxidizes in air to form explosive peroxides
Tetrahydronaphthalene	PROHIBITED	C10H12	119-64-2	highly flammable; vapors may form explosive mixtures with air; may form explosive peroxides upon concentration
Tetranitromethane	PROHIBITED	CN4O8	509-14-8	oxidizer; poison; possibly carcinogenic to humans; inhalation hazard; explosive
Tetraselenium Tetranitride	PROHIBITED	Se4N4	12033-88-4	shock sensitive
Tetrazene (tetrazolyl guanyltetrazene hydrate)	PROHIBITED	C2H6N10·H2O	31330-63-9	shock sensitive; explosive
Tetryl (2,4,6 trinitrophenylmethylnitroamine)	PROHIBITED	C7H5N5O8	479-45-8	oxidizer; explosive
Thallium Nitride	PROHIBITED	TI3N	12033-67-9	shock sensitive
Thermit (example: could be a mixture of aluminum powder, iron oxide, ferro managanese, and ferro vanadium)	PROHIBITED			flammable solid; 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
Thiocarbonyl Tetrachloride (Perchloromethyl Mercaptan)	PROHIBITED	CCl4S	594-42-3	poison; inhalation hazard
Thionyl Chloride	PROHIBITED	SOCl2	7719-09-7	violently water-reactive; lachrymator; highly corrosive; toxic
Thiophosphoryl Chloride	Restricted	Cl3SP	3982-91-0	air- and water- reactive; corrosive; toxic
Tin	Restricted	Sn	7440-31-5	metal dust may present a fire hazard and a health hazard
Titanium (Powder)	PROHIBITED	Ti	7440-32-6	spontaneously combustible; may ignite on contact with moist air or moisture

Titanium Tetrachloride	PROHIBITED	TiCl4	7550-45-0	water-reactive; corrosive; acutely toxic; may be fatal if inhaled
Toluene (Methyl Benzene)	Restricted	C7H8	108-88-3	highly flammable; toxic
Toluene Diisocyanate (TDI)	Restricted	C9H6N2O2	584-84-9	water-reactive; acutely toxic
Trichloroethane-1,1,1 (Methyl Chloroform)	Restricted	C2H3Cl3	71-55-6	poison; flammable
Trichloroethylene (Acetylene Trichloride)	Restricted	C2HCl3	79-01-6	carcinogenic to humans; poison; flammable
Triethanolamine	Restricted	C6H15NO3	102-71-6	toxic
Triethyl Aluminum	PROHIBITED	(C2H5)3Al	97-93-8	spontaneously combustible; flammable gas is produced on contact with water
Triisobutyl Aluminum	PROHIBITED	(C4H9)3Al	100-99-2	spontaneously combustible; reacts violently with water producing flammable gas
Trimethyl Aluminum	PROHIBITED	(CH3)3Al	75-24-1	spontaneously combustible; flammable gas is produced on contact with water
Tri-n-Butylaluminum	Restricted	C12H27Al	1116-70-7	air- and water- reactive; strong reducing agent; pyrophoric; toxic
Trinitroanisole	PROHIBITED	C7H5N3O7	606-35-9	explosive; strong oxidizer
Trinitrobenzene	PROHIBITED	C6H3N3O6	99-35-4	explosive; flammable solid; strong oxidizer
Trinitrobenzoic Acid	PROHIBITED	C7H3N3O8	129-66-8 or 35860-50-5	explosive; highly flammable; strong oxidizer
Trinitronaphthalene (1,3,5-Trinitronaphthalene)	PROHIBITED	C10H5N3O6	2243-94-9	explosive; strong oxidizer
Trinitroresorcinol	PROHIBITED	C6H3N308	82-71-3	explosive; strong oxidizer
Trinitrotoluene (TNT or 2,4,6 Trinitrotoluene)	PROHIBITED	C7H5N3O6	118-96-7	explosive; strong oxidizer
Trioctyl Aluminum	Restricted	(CH3(CH2)7)3Al	1070-00-4	water-reactive; acutely toxic; flammable
Triphenyltetrazolium Chloride (Red Tetrazolium or Vitastain)	Restricted	C19H15N4Cl	298-96-4	toxic
Trisodium Phosphate (Sodium Phosphate)	Restricted	Na3PO4	7601-54-9	toxic
Tungsten	Restricted	W	7440-33-7	metal dust may present a fire hazard and a health hazard.
Turpentine	Restricted	C10H16	8006-64-2	highly flammable; toxic
Uranium and Uranium Compounds (e.g., uranium oxide, Uranyl Acetate, Uranyl Nitrate, uranium hexafluoride, uranium tetrafluoride)	PROHIBITED			toxic by inhalation or ingestion
Urea Nitrate	PROHIBITED	CH4N2O.HNO3	124-47-0	explosive; strong oxidizer
Vanadium Trichloride	Restricted	VCl3	7718-98-1	toxic; air- and water-reactive; corrosive
Vinyl Acetate	PROHIBITED	C4H6O2	108-05-4	may form explosive peroxides; possibly carcinogenic to humans; reactive
Vinyl Acetylene	PROHIBITED	C4H4	689-97-4	may form explosive peroxides; reactive
Vinyl Chloride	PROHIBITED	C2H3Cl	75-01-4	carcinogenic to humans; may form explosive peroxides; reactive
Vinyl Ethers (e.g., divinyl ether; 2-chloroethylvinyl ether; butyl vinyl ether)	PROHIBITED			may form explosive peroxides upon concentration
Vinylidene Chloride (1,1-Dichloroethene or 1,1-DCE)	PROHIBITED	C2H2Cl2	75-35-4	may form explosive peroxides
Wright's Stain (Hg Containing) (100 mL limit)	DEMO ONLY	UNDEFINED	68988-92-1	contains mercury; poison; acutely toxic
Xylene	Restricted	C8H10	1330-20-7	highly flammable; toxic by inhalation or 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

Zinc Acetylide	Restricted			shock sensitive; water-reactive
Zinc Nitrate Hexahydrate (500 g limit)	Restricted	$Zn(NO_3)_2 \cdot 6H_2O$	10196-18-6	strong oxidizer
Zinc Peroxide	PROHIBITED	ZnO_2	1314-22-3	oxidizer; used as an oxidant in explosives; toxic
Zinc Phosphide	Restricted	Zn_3P_2	1314-84-7	strong reducing agent; water reactive; toxic

Suggested Shelf Storage Pattern--Inorganic

INORGANIC
TOP

INORGANIC #10
SULFUR, PHOSPHORUS, ARSENIC, PHOSPHORUS PENTOXIDE

INORGANIC #2
HALIDES, SULFATES, SULFITES, THIOSULFATES, PHOSPHATES, HALOGENS, ACETATES

INORGANIC #3
AMIDES, NITRATES (NOT AMMONIUM NITRATE), NITRITES, AZIDES
(Store Ammonium Nitrate away from other substances – ISOLATE IT!)

INORGANIC#1
METALS & HYDRIDES
(Store away from any water)
(Store flammable solids in flammable cabinet)

INORGANIC #4
HYDROXIDES, OXIDES, SILICATES, CARBONATES, CARBON

Avoid storing chemicals on the floor

INORGANIC
TOP

INORGANIC #7
ARSENATES, CYANIDES, CYANALES
(Store away from any water)

INORGANIC #5
SULFIDES, SELENIDES, PHOSPHIDES, CARBIDES, NITRIDES

INORGANIC #8
BORATES, CHROMATES, MANGANATES, PERMANGANATES

INORGANIC #6
CHLORATES, PERCHLORATES, CHLORITES, PERCHLORIC ACID, PEROXIDES, HYPOCHLORITES, HYDROGEN PEROXIDE

MISCELLANEOUS

Avoid storing chemicals on the floor

Suggested Shelf Storage Pattern—Organic

ORGANIC TOP
ORGANIC #2 ALCOHOLS, GLYCOLS, AMINES, AMIDES, IMINES, INIDES (Store flammables in a dedicated cabinet)
ORGANIC #3 HYDROCARBONS, ESTERS, ALDEHYDES (Store flammables in a dedicated cabinet)
ORGANIC #4 ETHERS, KETONES, KETENES, HALOGENATED HYDROCARBONS, ETHYLENE OXIDE (Store flammables in a dedicated cabinet)
ORGANIC #5 EPOXY COMPOUNDS, ISOCYANATES
ORGANIC #7 SULFIDES, POLYSULFIDES
Avoid storing chemicals on the floor

ORGANIC TOP
ORGANIC #8 PHENOL, CRESOLS
ORGANIC #6 PEROXIDES, AZIDES, HYDROPEROXIDES
ORGANIC #1 ACIDS, ANHYDRIDES, PERACIDS (Store certain organic acids in acid cabinet)
MISCELLANEOUS
MISCELLANEOUS
Avoid storing chemicals on the floor