

**RULES AND REGULATIONS
GOVERNING SCHOOLS
IN THE STATE OF COLORADO**

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Colorado Department
of Public Health
and Environment

AUTHORITY
SECTIONS 25-1-107(1)(m), 25-1-107(1)(s),
25-1-107(1)(t), 25-5-108, and 25-1-108(1)(c)(i)
COLORADO REVISED STATUTES, 1973, AS AMENDED

**COLORADO DEPARTMENT OF PUBLIC HEALTH
AND ENVIRONMENT
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530**

This Title Page does not constitute an official part of any regulation. Information contained on the title page is provided by the Consumer Protection Division from sources deemed reliable and is solely for informational and historical purposes.

ERRATA

This page does not constitute an official part of any regulation. Information contained on this page is provided by the Consumer Protection Division to update agency names and addresses that are referenced in the regulations. The page is provided solely for informational purposes.

Section 1-103: references the *Rules and Regulations Governing the Sanitation of Food Service Establishments in the State of Colorado*. Effective January 1, 1999, these rules and regulations are adopted and amended as the *Colorado Retail Food Establishment Rules and Regulations*.

Section 1-105: defines Department as the Colorado Department of Health. This agency is now named the Colorado Department of Public Health and Environment.

Section 1-105(k)(3): references the Colorado Department of Social Services. This agency is now known as the Colorado Department of Human Services.

Section 1-106: lists the address of the Director, Consumer Protection Division, as Colorado Department of Health, 4210 East 11th Avenue, Denver, Colorado. The Colorado Department of Public Health and Environment, Consumer Protection Division has moved to 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

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CHAPTER ONE - GENERAL PROVISIONS

Administration

- 1-101 Purpose: The purpose of these "Rules and Regulations" is to provide minimum sanitation requirements for the operation and maintenance of schools and minimum standards for exposure to toxic materials and environmental conditions in order to safeguard the health of the school occupants and the general public.
- 1-102 Application: These "Rules and Regulations" shall apply to all schools, kindergarten through grade twelve, in the State of Colorado.
- a. Schools in operation prior to the effective date of these regulations, which would require capitol expenditures to fully meet all of the design, construction and equipment requirements of these regulations, may be deemed acceptable if in good repair and capable of being maintained in a sanitary condition and pose no hazard to the health of the school occupants.
 - b. Any school shall have a right to challenge any rule that they feel has been too rigidly applied. All challenges must be submitted to the Department in writing, stating the rule being challenged and the reason for the challenge. The Department shall hear the challenge and make recommendations pursuant to the statute.
 - c. These regulations shall not limit the powers and duties of local governments to issue such orders and adopt regulations as stringent as or more stringent than the provisions contained herein; as may be necessary for public health.
- 1-103 The Department recommends that all schools with laboratories, and/or engaging in industrial arts or hazardous vocational activities should be inspected a minimum of once per year. All other schools should be inspected a minimum of once per three years. If a school is provided with a non-community water system, as defined in the Colorado Primary Drinking Water Regulations, the water supply system should be inspected a minimum of once every six months.
- School food service inspections shall be conducted at the frequency established in the Rules and Regulations Governing the Sanitation of Food Service Establishments in the State of Colorado.

1-104 All public school district facilities that are constructed or remodeled must submit construction plans to the Colorado Department of Labor and Employment, Division of Labor, Public Safety Section.

1-105 Definitions - For the purpose of these rules and regulations:

- a. Approved - Shall mean acceptable to the Colorado Department of Health or its authorized agents or employees, based on determination as to conformance with appropriate standards and good public health practices.
- b. Classroom - Any room used for instructional purposes.
- c. Clean - Free from dirt and impurities.
- d. Department - The Colorado Department of Health and its authorized agents and employees.
- e. Extensively Remodeled - Means making any structural or other premises changes that result in; a building or construction permit being required by the Colorado Department of Labor and Employment, Division of Labor, Public Safety Section or Local Building Authority (routine maintenance or repairs shall not be construed as remodeling) or there is an increase or decrease of total space or modification of the layout of existing space.
- f. Guidelines - Standards that are approved by the Department to provide for the protection of the school occupants.
- g. Hazard - A situation or condition where there is a significant potential for injury, illness or death.
- h. Refuse - All combustible or non-combustible, putrescible, or non-putrescible wastes.
- i. Sanitary Facilities - Toilets, urinals, lavatories, showers, drinking fountains, utility sinks, and the service rooms provided for the installation and use of these units.
- j. Sanitation - The application of measures intended to preserve and promote the public health; and the removal or neutralization of elements injurious to health and safety.

- k. Sanitize - The application of a process or bactericidal treatment for a period of time sufficient to reduce the bacterial count, including pathogens, to a safe level.¹
- l. School - Any facility (public, proprietary, parochial, denominational, or eleemosynary) which is maintained for educational purposes for six or more persons except:
 1. Structures or facilities used by a religious, fraternal, political or social organization exclusively for worship, religious instructional or entertainment purposes pertaining to that organization.
 2. Educational programs and health facilities licensed by the Colorado Department of Health under provisions of 25-3-101, Colorado Revised Statutes (CRS) 1973, as amended.
 3. Child care facilities licensed by the Colorado Department of Social Services under provisions of Sections 26-6-102(1)(a)(b)(4) and 26-6-104 Colorado Revised Statutes 1973, as amended.
- m. School Plant - A fixed location that includes the grounds and the academic, administration, and support structures and facilities.
- n. Toxic Material - A chemical or other substance that has the ability to cause injury, illness or death to humans upon ingestion, inhalation or skin contact.

1-106 A copy of any reference rule, code or standard that has been incorporated in these rules and regulations may be obtained upon request, from the Director, Consumer Protection Division, Colorado Department of Health, 4210 East 11th Avenue, Denver, Colorado 80220. Later editions or amendments of the incorporated reference materials are excluded for use in determining compliance requirements.

¹ One method of demonstrating effective bactericidal treatment is by an average plate count of not more than 100 colonies, or not more than 12 ½ colonies per square inch of surface area examined. This is not intended as a routine field procedure, but only for the supplemental evaluation of sanitation procedure.

CHAPTER TWO - GROUNDS

GENERAL

- 2-101 The ground shall be self draining and free from depressions in which water may stand and be allowed to stagnate. The grounds shall be kept free from refuse, weed overgrowth, and other hazards.
- 2-104 Livestock or poultry shall be located more than fifty (50) feet from food service areas, offices, or classrooms except those offices and classrooms associated with animal husbandry activities.

CHAPTER THREE - SANITARY FACILITIES AND CONTROLS

WATER SUPPLY

- 3-101 The water supply system shall provide a safe, potable, adequate water supply which meets the requirements of the Department, including the 1989 Colorado Primary Drinking Water Regulations, and where applicable, The State Board of Examiners 1988 Water Well Construction and Pump Installation Rules or provisions of other approved local codes.
- 3-102 The water supply system shall deliver water at normal operating pressures (20 pounds per square inch minimum) to all plumbing fixtures.
- 3-103 When a total water service interruption exceeds a period of two (2) hours, the school shall be closed, unless dismissal of the pupils would be detrimental to their physical well being, or unless accessible approved alternatives for providing potable water are available that meet the requirements of the Department.
- 3-104 Faucets on non-potable water supply systems used for irrigation or similar purposes shall be physically separated from the potable water supply system and the faucets on the non-potable water system shall be clearly marked as unsafe for drinking.
- 3-105 The water storage, distribution system, treatment facilities and other mechanical equipment shall be protected from unauthorized access.
- 3-106 Where water is supplied by the school's independent water supply system, plans for the water system shall be submitted to the Department for approval prior to construction.

SEWAGE DISPOSAL

- 3-201 Facilities, approved by the Department, shall be provided and maintained for the treatment and sanitary disposal of sewage.
- 3-202 Where a public sewer system is available, all plumbing fixtures and all building sewer lines shall be connected thereto. (Pursuant to 32-4-113(l)(m) CRS 1973 as amended).
- 3-203 If a public sewer system is not available, a sewage disposal system meeting the requirements of the Department shall be provided, and all plumbing fixtures, and building sewer lines shall be connected thereto. (Pursuant to 25-8-702(1) and/or 25-10-105 CRS 1973 as amended).

- 3-204 Where a total sewer service interruption exceeds a period of two (2) hours, the school shall be closed unless dismissal of the pupils would be detrimental to their physical well being, or unless accessible approved alternatives for the sanitary disposal of sewage are available.
- 3-205 Where non-water carriage sanitary facilities are permitted, they shall be provided and installed in accordance with requirements of the Department.
- 3-206 In all new schools and schools modifying existing sewage disposal systems or expanding their usage beyond the design capacity of the sewage disposal system plans shall be submitted to the Department for review and approval in accordance with provisions of 25-8-702 and/or 25-10-105 CRS 1973 as amended prior to construction.

REFUSE DISPOSAL

- 3-301 The storage, collection, transportation and disposal of refuse shall be conducted to control odors, insects, rodents, accidents, or other nuisance conditions.
- 3-302 Durable non-absorbent, cleanable refuse containers shall be provided, kept in a clean condition and placed in readily accessible locations.
- 3-303 Exterior refuse storage areas shall be kept in a clean, sanitary condition. Refuse receptacles for exterior storage of garbage or putrescible wastes shall be provided with covers. Exterior refuse containers shall be stored on a smooth surface of non-absorbent material, such as a concrete or machine laid asphalt.
- 3-304 Exterior putrescible waste storage areas shall be located a minimum of twenty-five (25) feet from food service areas and classrooms.
- 3-305 Refuse shall be removed from the buildings and removed from the premises as often as necessary, but not less than twice weekly when putrescible wastes are stored.

INSECT AND RODENT CONTROL AND CLASSROOM ANIMALS

- 3-401 Rodents and insects shall be controlled to maintain the facility free from vermin.
- 3-402 Animals used for instructional purposes shall be maintained in a sanitary condition and in a manner to prevent health hazards or nuisance conditions. Their enclosures or pens shall be provided with easily cleanable surfaces and maintained in good repair.

- 3-403 All pesticides shall be used in accordance with registered label directions and stored in a safe manner in an area accessible only to authorized personnel. Application of "restricted use pesticides" shall be performed only by a certified pesticide applicator.

PLUMBING

- 3-501 In the absence of more stringent plumbing codes, the 1988 Colorado Plumbing Code (Uniform Plumbing Code and amendments adopted by the State of Colorado "Examining Board of Plumbers") shall be used as a guideline for the installation and maintenance of all plumbing fixtures.
- 3-502 Plumbing fixtures shall be maintained in working order and in a clean sanitary condition. All plumbing fixtures shall be designed and maintained to be accessible by the age group being served.
- 3-503 The potable water supply shall be installed and maintained to preclude the possibility of backflow or backsiphonage of non-potable, used, unclean, polluted and contaminated water, or other substances, into any part of the potable water system.
- 3-504 A properly installed approved backflow prevention device shall be provided for all potable water supply outlets which are capable of receiving a hose connection.

TOILET, LAVATORY AND BATHING FACILITIES

- 3-601 Toilet, lavatory, bathing facilities and drinking fountains shall be provided and accessible for use by physically handicapped persons.
- 3-602 Drinking fountains shall be conveniently located on each floor and easily accessible to all school program activities. Drinking fountains shall not be located on sinks in science or art areas or in toilet rooms.
- 3-603 Use of common drinking cups or vessels is prohibited.
- 3-604 Toilet rooms shall be conveniently located at a travel distance of not more than two hundred (200) feet from any room to be served. All toilet rooms shall be provided with adequate lavatory facilities.
- 3-605 Soap and single service towels shall be available for all lavatory facilities, except that mechanical warm air dryers may be used in lieu of towels.

- 3-606 Hot and cold water or tempered water under operating pressures (20 PSI minimum) shall be available for bathing and washing. Hot water delivered to showers and lavatories shall be at least ninety degrees (90°F) and shall not exceed one hundred ten (110°F). The temperature of hot water at other fixtures shall not exceed one hundred forty (140°F), except where necessary for sanitizing purposes.
- 3-607 Toilet bowls shall be equipped with non-absorbent, sanitary toilet seats. Toilet paper shall be available at each toilet mounted in an appropriate dispenser.
- 3-608 Floors, walls, and ceilings of all toilet, shower and locker rooms shall be smooth, easily cleanable, non-absorbent and shall be maintained in good repair and in a clean, sanitary condition.
- 3-609 In new construction, a floor drain and a keyed hose bib with a vacuum breaker shall be available for all toilet rooms having a total combination of two (2) or more water closets or urinals. The floors in these rooms shall slope to the floor drains.
- 3-610 A minimum of nine (9) square feet of floor area shall be provided per shower head in existing structures. New structures shall have twelve (12) square feet of floor area per shower head. Centralized shower heads shall be located at least three (3) feet apart. Showers shall be constructed to prevent water flow into the drying or dressing room space. Shower floors shall have a non-skid surface.
- 3-611 Functional water outlets shall be available, where necessary, at designated refuse storage areas and at high density student common use areas within fifty (50) feet of the building where heavy accumulations of refuse are generated to minimize hazards and to maintain such areas in a clean, safe condition.
- 3-612 Plans and specifications for the installation of sanitary facilities in existing schools being remodeled to increase the occupant load shall be submitted for review and approval in accordance with Departmental regulations prior to construction.
- 3-613 Swimming pools shall be constructed, operated, and maintained in accordance with the 1973 Colorado Department of Health Regulations and Standards Governing Swimming Pools, and Swimming Areas. Plans for new or extensively remodeled pools shall be submitted to the Department for review and approval prior to construction.

CHAPTER FOUR - BUILDING, OCCUPANCY, SPACE AND USE

- 4-101 The school plant and accessory buildings shall be maintained in good repair and in a clean sanitary condition.
- 4-102 Adequate space shall be provided for each person in classrooms, libraries, shops, laboratories, vocational training rooms, dining rooms, and other related activity rooms or areas to lessen the possibility of health hazards, and disease transmission. In the absence of more stringent guidelines the 1988 Uniform Building Code shall be used as a guideline for determining adequacy of space.
- 4-103 Where necessary, classroom windows shall be equipped with blinds, shades of translucent material, or other effective means to prevent glare and to control natural light.
- 4-104 Windows, when opened, shall not create a hazard.
- 4-105 Exposure to noise, dusts, toxic chemicals, or other hazards shall be controlled when the building or portion thereof is occupied during construction or remodeling.
- 4-106 When there is a change in classroom use, the design and construction of the classroom facilities shall be appropriate for the new use.

CHAPTER FIVE - MECHANICAL REQUIREMENTS

ELECTRICAL

- 5-101 Schools shall be provided with operational electrical service and artificial lighting throughout the school.
- 5-102 The electrical system shall be maintained in good repair and shall not present a hazard to health and safety. In the absence of more stringent electrical codes, the 1987 National Electrical Code shall be used as a guideline for the installation, maintenance and use of the electrical system.

LIGHTING

- 5-201 The electrical lighting system shall provide the following average light level intensities: thirty-five (35) foot candles for classrooms, libraries, offices, laboratories and shops; fifty (50) foot candles for drafting, typing, sewing rooms and other rooms where close eye task activities are routinely conducted; twenty (20) foot candles for reception rooms, rest rooms, gymnasiums, service rooms, swimming areas and dining areas; ten (10) foot candles for auditoriums, locker rooms and stairways; and five (5) foot candles for corridors, hallways, storage and utility areas. Light level intensities shall be measured at the work surface or thirty (30) inches from the floor.
- 5-202 Extreme brightness ratios (glare and shadow) shall be minimized by avoiding glossy surfaces, by use of diffused lighting, by use of easily cleanable high light reflectance paints or other finishes for ceilings, walls, and floors, by use of window shades, routine cleaning and maintenance of electrical fixtures, and/or other measures necessary to prevent undue glare and maintain a high level of light effectiveness.
- 5-203 Appropriate measures shall be taken to assure that persons are not exposed to lighting, such as ultra-violet light, which may be harmful to the eyes.

VENTILATION

- 5-301 Ventilation, mechanical or natural, shall be maintained to minimize health hazards including excessive drafts, extreme temperatures, humidity and temperature fluctuations. The American Society of Heating, Refrigeration and Air Conditioning Engineers 1981 Standard 62, Ventilation for Acceptable Indoor Air Quality shall be used as a guideline for proper indoor ventilation.
- 5-302 Ventilation system filters shall be cleaned or replaced regularly to prevent excessive accumulation of dust or debris.

- 5-303 Each room provided with an exhaust system shall have air supplied to the room equal to the amount to be exhausted. Windows shall not be used for the purpose of providing makeup air.
- 5-304 Unvented combustion heaters, kitchen stoves, or hot plates shall be prohibited for space heating purposes. Portable electric heaters with exposed elements shall not be used in any student activity area.
- 5-305 Hot plates, skillets, or similar type cooking appliances shall be used for food preparation only in kitchen, home economics room, or in rooms specifically designated and equipped for such use.
- 5-306 In schools where smoking of tobacco products is permitted indoors, such smoking must be confined to an enclosed room(s) and the building ventilation system shall effectively remove environmental tobacco smoke (ETS), so as to protect students and nonsmoking staff from its irritating and harmful effects. Smoking areas must also be segregated from common work and break areas, in order that workers who choose to refrain from ETS exposure can, in the normal course of their duties, do so.

HEATING

- 5-401 The heating system provided shall be properly maintained and provide, in all occupied rooms, minimum room temperatures of sixty (60°)F. sixty (60) inches above the floor in shops and gymnasiums and sixty-five (65°)F. thirty (30) inches above the floor in elementary, secondary, and higher educational school classrooms, and at floor level in kindergarten and day care center areas.

CHAPTER SIX - EQUIPMENT AND SUPPLIES

- 6-101 Instructional, athletic, recreational or other equipment used in or out of the classroom shall be maintained in a clean, safe condition.
- 6-102 Toys and equipment shall meet the current requirements of the Colorado Hazardous Substance Act (25-5-501 and 25-5-508, etc. seq, CRS 1973 as amended).
- 6-103 Gym equipment shall be kept clean and in good repair. Body contact equipment surfaces shall be routinely cleaned and sanitized.
- 6-104 Equipment used in physical therapy and special education shall be cleaned and sanitized after each use.
- 6-105 Facilities shall be available for the proper storage of clean clothing, and of athletic, instructional, and recreational equipment and supplies to minimize health hazards and to facilitate cleaning.
- 6-106 Cleaning materials, tools, and maintenance equipment shall be provided and shall be safely stored and secured in a locked area.
- 6-107 Pesticides, toxic or hazardous cleaning and maintenance chemicals and materials shall be stored separately in a ventilated and locked cabinet or area accessible only to authorized personnel. The ventilation requirement of this section may not be required in areas where minimum quantities of the above mentioned materials are stored for daily use. Flammable or combustible materials shall be stored in accordance with the 1987 National Fire Protection Association 30 Flammable and Combustible Liquids Code.
- 6-108 Kindergartens, health service rooms, or other areas, where sleeping is permitted shall be provided with sleeping facilities including cots or pads, with washable or disposable covers. These sleeping facilities shall be maintained in good repair and provided in a clean condition for each new user.
- 6-109 Towels and wash cloths, and other linens, where provided, shall be laundered to insure exposure to a water temperature of at least one hundred-thirty degrees (130°F) for a combined wash and rinse period of at least twenty-five (25) minutes or an equally effective washing procedure. Such linens, towels, and wash cloths shall be issued clean, used by only one person and shall be laundered after each use.

CHAPTER SEVEN - SCHOOL FOOD SERVICE

- 7-101 Each school preparing food either off site or on site, or serving food shall obtain a certificate of inspection as required by provisions of Section 12-44-211(a), CRS 1973 as amended.
- 7-102 Food service activities shall be conducted in conformance with the physical and operational requirements of the 1978 Rules and Regulations Governing the Sanitation of Food Service Establishments in the State of Colorado.
- 7-103 Food served by the school but not prepared on site shall be obtained from sources inspected and approved by the Department. The food shall be transported, stored and served in a manner to prevent contamination or adulteration.
- 7-104 Dining activities shall be confined to rooms or areas designated by the school administrator. The dining area shall be maintained clean, and in a sanitary condition.
- 7-105 Plans and specifications for construction or alteration of food service facilities shall be submitted in accordance with the requirements of Section 12-44-206(2), CRS 1973, as amended.

CHAPTER EIGHT - LABORATORY, INDUSTRIAL, ART,
AND VOCATIONAL HAZARDS

GENERAL

- 8-101 Provisions shall be made for the protection of students engaging in arts, crafts, industrial arts, physical sciences, vocational, educational or any activities where hazardous chemicals, hazardous devices or hazardous equipment are used. These provisions include the development and posting of operating instructions, regulations and procedures.
- 8-102 Toxic or hazardous materials shall be stored in approved laboratory containers, separated by reactive group and stored in a ventilated, locked, fire-resistant area or cabinet. The ventilation requirement of this section may not be required where minimum quantities of such materials are stored for daily use.
- 8-103 Containers of chemicals, poisons, corrosive substances and flammable liquids shall be clearly labeled with the name of the material and the date the material entered the school.
- 8-104 Prohibited chemicals are those chemicals that pose an inherent, immediate and potentially life threatening risk, injury or impairment due to toxicity or other chemical properties to the students, staff or other occupants of the school. These chemicals are prohibited from use and/or storage at the school and the school is prohibited from purchasing or accepting donations of such chemicals. Prohibited chemicals are listed in Appendix A to this regulation.
- 8-105 Restricted chemicals are those chemicals that are restricted by use, and/or quantities. If restricted chemicals are present at the school, each chemical shall be addressed in the school's written emergency plan as addressed in sections 8-112 and 8-113 of these regulations. Restricted chemicals are listed in Appendix B to this regulation.
- 8-106 Restricted chemicals (demonstration use only) are a subclass in the restricted chemical lists that are limited to instructor demonstration. Students may not participate in the handling or preparation of restricted chemicals as part of a demonstration. If restricted chemicals (demonstration use only) are present at the school, each chemical shall be addressed in the school's written emergency plan as addressed in sections 8-112 and 8-113 of these regulations. Demonstration only chemicals are listed in Appendix B2 to this regulation.
- 8-107 Exposure to noise, or toxic liquids, dusts, gases, mists, fumes or vapors or other hazards shall be controlled to avoid health hazards.

- 8-108 All chemicals, solvents, and hazardous substances shall be inventoried by the school a minimum of once a year. The inventory shall include the name of the compound, the amount, and the date it entered the school. A copy of the inventory shall be kept on file in a location away from the areas where the aforementioned materials are stored.
- 8-109 A current material safety data sheet shall be provided for all poisonous, toxic, or hazardous substances and shall be available for review upon request.
- 8-110 The appropriate National Fire Protection Association Codes shall be used as guidelines for the proper storage, handling and use of chemicals in the school.
- 8-111 Refrigerators used for flammable compounds shall be prominently marked to indicate they meet the appropriate design requirements for safe storage of flammable liquids.
- 8-112 A written plan for response to and cleanup of chemical spills shall be provided by the school. A copy of the plan shall be kept on file in a location away from the areas where chemicals are stored.
- 8-113 A written plan that explains the proper storage, handling and disposal procedures for all poisonous, toxic or hazardous substances shall be on file in each school in a location away from the areas where these substances are stored and shall be available for review upon request.
- 8-114 A list of first aid procedures for accidental poisoning shall be posted. The telephone number and location of the nearest poison control center shall be posted near the telephone.
- 8-115 The storage, preparation, and consumption of food and drink is prohibited in any area where there are poisonous, toxic or hazardous substances.
- 8-116 Glassware shall be properly constructed and designed for its intended use and shall be handled and stored in a safe manner.
- 8-117 Aspirators or suction bulbs shall be used for drawing liquids into pipets. The mouth must not be used directly on the pipets.
- 8-118 Eye protection, that meet the American National Standards Institute 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.

- 8-119 An easily accessible fire blanket must be provided in each laboratory or other area where an open flame is used.
- 8-120 Where there is exposure to skin contamination with poisonous, infectious or irritating materials, a hand washing facility shall be available.
- 8-121 An easily accessible operational eye wash fountain must be provided in each laboratory or other areas where corrosives or irritating chemicals are used. The eye wash fountain shall be clean and must be tested annually. The use of portable eye wash bottles as substitutes is not permitted.
- 8-122 An easily accessible operational safety shower, capable of providing continuous flowing water, shall be provided for each laboratory or other areas where corrosive or irritating chemicals are used. The safety shower can be centrally located so as to serve more than one area if doors are not locked, and convenient prompt access is available.
- 8-123 Master gas valves and electric shut-off switches shall be provided for each laboratory or areas where power equipment is used.
- 8-124 All emergency and safety equipment including master valves, shut off switches, eye wash fountains, safety showers, fire extinguishers (appropriate for the intended use), and fire-alarm pull stations and other similar equipment shall be tested at least once annually and labeled for high visibility.
- 8-125 Use of X-ray machines and other electronic devices producing ionizing or non-ionizing radiation and radioactive materials and equipment shall conform to the Colorado Department of Health 1978 Rules and Regulations Pertaining to Radiation Control, as amended.

VENTILATION

- 8-201 All areas shall be adequately ventilated so that exposures to hazardous or toxic materials are maintained to a safe level. In the absence of more stringent guidelines the American Conference of Governmental Industrial Hygienists 1989 Threshold Limit Values and Biological Exposures Indices shall be used as a guideline to determine safe levels.
- 8-202 Local exhaust ventilation shall be provided so that contaminants are exhausted away from the student and not through the breathing zone.

- 8-203 Sufficient fume hood capacity ventilation shall be provided and shall be used for any activity producing hazardous toxic or noxious gases, mists, vapors, or dusts.
- a. Hoods must exhaust directly to the outside and shall be located a minimum of 10 feet from any building air-intakes or building openings.
 - b. Discharges from any exhaust hood must meet applicable Colorado Air Pollution Standards.
 - c. A minimum face velocity of 100 feet/minute for general laboratory hoods must be provided.
 - d. Air flow of fume hoods must be tested at least once a school year.

CHAPTER NINE - HEALTH SERVICE

- 9-101 Basic first aid equipment and medical supplies including: gauze pads and roller gauze, adhesive tape, cold pack, plastic bags, disposable gloves, band-aids, handcleaner, small flashlight and extra batteries, scissors, tweezers, blanket, triangular bandage, syrup of ipecac, antiseptic ointment, and activated charcoal shall be provided and kept conveniently available for emergency use.
- 9-102 At all times during the school day and during school sponsored use periods, at least one staff member shall be on duty in each school who has a current certification from the American Red Cross Standard First Aid Course or an equivalent. A list of persons currently certified, as described above, shall be maintained in each school office.
- 9-103 Separate rooms or areas shall be available in every school for emergency use in providing care for persons who are ill, infested with parasites, or suspected of having communicable diseases.
- 9-104 Every emergency care room or area shall be provided with at least one cot for each four hundred (400) students or part thereof. Each cot and pillow shall have an easily cleanable, non-absorbent surface or cover which is sanitized after each use.
- 9-105 Medication administered by school personnel shall be inaccessible to children and shall be stored in the original container in a controlled area separated from food, cleaning compounds and other toxic substances. If refrigeration is required, the medication shall be stored:
- a. In a separate refrigerator maintained for that purpose only, or
 - b. In an impervious secondary container in a designated area of a food storage refrigerator, separated from food and inaccessible to children.
- 9-106 Telephone or radio communications shall be provided and kept available in each school for emergency purposes.
- 9-107 A written plan with common procedures for handling emergency medical services shall be kept in each school. A current list of emergency services with telephone numbers shall be posted in one or more prominent place(s) in each school.
- 9-108 A written plan for handling internal and external natural or man made disasters shall be prepared by each school. A copy of this plan shall be maintained in each school. Disaster training and review will be conducted each year at each school. Principals, school personnel and students will periodically review and test each disaster plan.

CHAPTER TEN - MISCELLANEOUS

- 10-101 An asbestos management plan complying with the provisions of the Colorado Air Quality Control Commission Regulation No. 8 shall be on file in each school and available for review by the Department.
- 10-102 Each school shall complete radon tests by March 1, 1991. Schools constructed after the effective date of these rules and regulations shall complete radon tests within nineteen months of the date of occupancy. Schools remodeled after the effective date of these rules and regulations shall notify the department of such remodeling in order that the department may assess the need for any additional radon testing. Radon tests shall be conducted pursuant to the procedures described in the Environmental Protection Agency's, Radon Measurements in Schools, an Interim Report, March 1989. The results of these tests shall be on file at each school and available for review.
- 10-103 Procedures shall be established, as may be indicated, at each school district to provide for the protection of the health of the students and other users.
- 10-104 The school plant shall be maintained and used in a safe manner to minimize health, safety and fire hazards. Fire control methods shall conform to state and local fire prevention regulations.
- 10-105 School buses shall be operated and maintained to avoid health and safety hazards.

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
2-Butanol (Sec-Butyl Alcohol)	C ₂ H ₅ CH(OH)CH ₃	78-92-2	0	1	3	
Acetal			0	2	3	
Acetaldehyde	CH ₃ CHO	75-07-0	2	3	4	
Acetyl Chloride	CH ₃ COCl	75-36-5	2	3	3	W
Acetyl Nitrate						
Acrolein	CH ₂ CHCHO	107-02-8	3	4	3	
Acrylic Acid	H ₂ C=CHCO ₂ H	79-10-7	2	2	2	
Acrylonitrile	CH ₂ CHCN	107-13-1	2	4	3	
Alcohols (Allylic, Benzylic)						
Alkyl-Substituted Cycloaliphatics						
Aluminum Hydrophosphide						
Aluminum Phosphide	AIP	20859-73-	2	4	4	W
Amatol						
Ammonal						
Ammonium Bromate						
Ammonium Chlorate						
Ammonium Hexanitrocobaltate						
Ammonium Nitrite						
Ammonium Perchlorate	NH ₄ ClO ₄	7790-98-9	4	1	0	OX
Ammonium Periodate						
Ammonium Permanganate			3	0	0	OX
Ammonium Tetraperoxychromate						
Antimony Compounds Arsenic And Arsenic Compounds						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Azides						
Azidocarbonyl Guanidine						
Barium	Ba	2	2	1		W
Barium Chlorate	Ba(ClO3)2*H2O	13477-00-	1	2	0	OX
Barium Oxide (Anhydrous)	BaO	1304-28-5	2	3	0	
Barium Peroxide	BaO2	1304-29-6	0	1	0	OX
Benzene	C6H6	71-43-2	0	2	3	
Benzene Diazonium Chloride						
Benzotriazole	C6H5N3	95-14-7	0	2	1	
Benzoyl Peroxide	(C6H5CO)2O2	94-36-0	4	1	4	OX
Benzyl Alcohol	C6H5CH2OH	100-51-6	0	2	1	
Bismuth Nitrate	Bi(NO3)3*5H2O	10035-06-	3	1	0	OX
Borane, Boranes, Diboranes						
Boron Tribromide			2	3	0	W
Boron Trifluoride			1	4	0	
Bromine Pentafluoride	BrF5	7789-30-2	3	4	0	W, O
Bromine Trifluoride			3	4	0	W, O
Butadiene	C4H6/CH2=(CH)2=CH	106-99-0	0	2	4	
Butenetroil Trinitrate						
Cadmium and Cadmium Compounds						
Calcium Nitrate, Anhydrous	Ca(NO3)2	10124-37-	3	1	0	OX
Calcium Permanganate	Ca(MnO4)2					
Carbon Tetrachloride	CCl4	56-23-5	0	3	0	
Chloral Hydrate	CCl3CH(OH)2	302-17-0				
Chlorine	Cl2	7782-50-5	0	4	0	OX
Chlorine Dioxide	ClO2	10049-04-				OX
Chlorine Trifluoride			3	4	0	W, O

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Chlorine Trioxide						
Chloroacetylene						
Chloroform	CHCl ₃	67-66-3	0		2	0
Chloropicrin	CCl ₃ NO ₂	76-06-2	3	4	0	
Chloroprene						
Chlorotrifluoroethylene						
Chromium (IC) Chloride	CrCl ₃ *6H ₂ O	10060-12-	2	1	0	
Chromium (Powder)	Cr	7440-47-3	1	2	1	
Chromyl Chloride	CrO ₂ Cl ₂	14977-61-	2	3	0	W
Cobalt (powder)	Co	7440-48-4				
Colchicine	C ₂₂ H ₂₅ NO ₆	64-86-8	0	4	1	
Copper Acetylide						
Cumene	C ₆ H ₅ CH(CH ₃) ₂	98-82-8	1	2	3	
Cycloheptanone	C ₇ H ₁₂ O	502-42-1	2	3		
Cyclohexanol	C ₆ H ₁₁ OH	108-93-0	1	2	2	
Cyclopentene	C ₅ H ₈	142-29-0	1	1	3	
Diacetylene						
Diazidoethane						
Diazodinitrophenol						
Diazomethane	CH ₂ N ₂	334-88-3				
Dicyclopentadiene	C ₁₀ H ₁₂	77-73-6	1	1	3	
Diisopropyl Ether	C ₆ H ₁₄ O	108-20-3	1	2	3	
Dinitrophenol	C ₆ H ₃ OH(NO ₂) ₂	51-28-5				
Dioxane	C ₄ H ₈ O ₂	123-91-1	1	2	3	
Dipentaerythritol						
Hexanitrate						
Disulfur Dinitride						
Divinyl Acetylene			3		3	
Divinyl Ether			2	2	4	
Ethyl Ether	(C ₂ H ₅) ₂ O	60-29-7A	1	1	4	
Ethyl Nitrite			4	3	4	

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ethylene Glycol Dimethyl Ether (Glyme)			0	1	2	
Ethylene Glycol Dinitrate	C ₂ H ₄ N ₂ O ₆	628-96-6				
Ethylene Oxide	C ₂ H ₄ O	75-21-8	3	3	4	
Formaldehyde	CH ₂ O	50-00-0A	0	3	2	
Furan			1	1	4	
Glycol Dinitrate	C ₂ H ₄ N ₂ O ₆	628-96-6				
Glycol Monolactate Trinitrate						
Grignard Reagents (Ether Solvents)						
Guanyl Nitrosaminoguanyl Hydrazine						
Hexyl Alcohol	CH ₃ (CH ₂) ₄ CH ₂ OH	111-27-3	0	1	2	
HMX			4	3		
Hydrazoic Acid						
Hydrofluoric Acid	HF	7664-39-3	0	4	0	
Hydrogen Peroxide (30%)	H ₂ O ₂	7722-84-1	1	3	0	OX
Hydrogen Peroxide (60%)	H ₂ O ₂	7722-84-1	3	2	0	OX
Hydrogen Sulfide	H ₂ S	7783-06-4	0	4	4	
Isopropyl Ether			1	1	3	
Lead Arsenate	Pb ₃ (AsO ₄) ₂	7784-40-9	0	2	0	
Lead Dinitride (Azide)	Pb ₃ (N ₃) ₂	13424-46-				
Lead Dinitrorescorcinatate (Styphnate)			4	3	4	
Lead Dioxide, Brown	PbO ₂	1309-60-0	3	3	0	OX
Lead Mononitrorescorcinatate						
Lithium Nitrate	LiNO ₃	7790-69-4	3	2	0	OX
Lithium Nitride						
Lithium Peroxide						
Magnesium (except Mg ribbon & turnings)	Mg	7439-95-4	2	0	1	W
Magnesium Peroxide						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Mannitol Hexanitrate						
Mercury And Mercury Compounds (except in sealed devices)						
Methyl Acetylene	C3H4	74-99-7	2	2	4	
Methyl Cyclopentane	C6H12	96-37-7	0	2	3	
Methyl Isocyanate	CH3NCO	624-83-9	2	4	3	W
Methyl Methacrylate, Monomer	C5H8O2	80-62-6	2	2	3	
M-Trinitrocresol						
Nessler's Reagent (Mercury Compound)	Hg+KI+NaOH	NA26				
Nicotine	C10H14N2	54-11-5	0	4	1	
Nitroglycerin			4	2	2	
Nitrosoguanidine						
Osmic Acid	OsO4	20816-12-	0	4	0	
Osmium Tetroxide	OsO4	20816-12-	0	4	0	
O-Toluidine	C7H9N	95-53-4	0	2	3	
Pentaerythritol Tetranitrate (PETN)		78-11-5				
Perchloric Acid	HClO4	7601-90-3	3	3	0	OX
Phenol	C6H6O	108-95-2	0	4	2	
Phenyl Thiourea	C7H8N2S	103-85-5A	0	4	0	
Phosphorus Halides and Oxides						
Phosphorus, Phosphides						
Phthalic Anhydride Picrates, Picramide, Picryl Compounds.	C8H4O3	85-44-9	2	3	1	
Picric Acid	C6H3N3O7	88-89-1	4	3	4	
P-Nitrophenol	NO2C6H4OH	100-02-7	2	3	1	
Polyvinyl Nitrate						
Potassium Amide						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Potassium Cyanide	KCN	151-50-8	0	3	0	
Potassium Dinitrobenzfuroxan						
Potassium Nitrite	KNO2	7758-09-0	3	2	0	OX
Potassium Perchlorate	KClO4	7778-74-7	2	1	0	
Potassium Periodate	KIO4	7790-21-8	3	2	0	OX
Potassium Peroxide	KO2	12030-88-	3	3	0	
Potassium Superoxide	KO2	12030-88-	3	3	0	
RDX		121-82-4				
Sec-Butyl Alcohol (2-Butanol)	C4H10O	78-92-2A	0	1	3	
Silanes, Chlorosilanes						
Silicon Tetrachloride			2	3	0	W
Silver Acetylide						
Silver Cyanide	AgCN	506-64-9	1	3	0	
Silver Dinitrorescorcinat (Styphnate)						
Silver Fulminate (Cyanate)	AgOCN	3315-16-0	0	1	0	
Silver Nitride						
Silver Oxalate						
Silver Tetrazene						
Sodamide	H2NNa	7782-92-5	2	2	3	W
Sodium Amide	H2NNa	7782-92-5	2	2	3	W
Sodium Arsenate	Na3AsO4*12H2O	7778-43-0	0	3	0	
Sodium Arsenite	NaAsO2	7784-46-5	0	3	0	
Sodium Chlorate	NaClO3	7775-09-9	2	1	0	OX
Sodium Chlorite			1	1	0	OX
Sodium Cyanide	NaCN	143-33-9	1	3	0	
Sodium Dithionite	Na2S2O4	7775-14-6	2	3	1	W
Sodium Hydrosulfite	Na2S2O4*2H2O	7775-14-6	2	2	1	

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Sodium Methylate	CH3ONa	124-41-4	2	3	3	W
Sodium Perborate	UNDEFINED	7632-04-4	0	3	0	
Sodium Perchlorate			2	2	0	W, O
Sodium Permanganate	NaMnO4	10101-50-	2	2	1	OX
Sodium Peroxide	Na2O2	1313-60-6	2	3	0	W, O
Strontium Perchlorate		13450-97-				
Styrene Monomer	C8H8	100-42-5	2	2	3	
Sulfur Trioxide	SO3	7446-11-9	2	3	0	W
Sulfuryl Chloride (Sulfonyl)	Cl2O2S	7791-25-5	2	3	0	W
Sulfuryl Chloride Fluoride	ClFO2S	13637-84-	2	3	1	W
T-Butyl Hypochlorite						
Tetrafluoroethylene			3	2	4	
Tetrahydrofuran	C4H8O	109-99-9	1	2	3	
Tetrahydronaphthalene	C10H12	119-64-2	0	1	2	
Tetranitromethane		509-14-8				
Tetraselenium						
Tetranitride						
Tetrazene						
Tetryl		479-45-8	4	2	2	
Thallium Nitride						
Thermit	Fe2O3 + Al	69012-31-	0	0	0	
Thermite Igniting Mixture Thiocarbonyl	Al	Unknown	1	0	1	
Tetrachloride	CCl4S	594-42-3	2	3	0	
Thionyl Chloride	SOCI2	7719-09-7	2	4	0	W
Titanium (Powder)	Ti	7440-32-6	2	1	1	
Titanium Tetrachloride			2	3	0	
Triethyl Aluminum		97-93-8				
Triethyl Arsine						

Appendix A – Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Triisobutyl Aluminum		100-99-2				
Trimethyl Aluminum		75-24-1				
Trinitroanisole						
Trinitrobenzene			4	2	4	
Trinitrobenzoic Acid						
Trinitronaphthalene						
Trinitroresorcinol						
Trinitrotoluene	C7H5N3O6	118-96-7	4	2	4	
Trisilyl Arsine						
Uranium Compounds						
Uranyl Acetate	UO ₂ (C ₂ H ₃ O ₂) ₂	541-09-3	0	0	0	
Uranyl Nitrate	UO ₂ (NO ₃) ₂ ·6H ₂ O	10102-06-	0	1	0	
Urea Nitrate						
Vinyl Acetate	C ₄ H ₆ O ₂	108-05-4	2	2	3	
Vinyl Acetylene			3	2	4	
Vinyl Chloride	C ₂ H ₃ Cl	75-01-4	2	2	4	
Vinyl Ethers			2	2	4	
Vinylidene Chloride (1,1-DCE)	C ₂ H ₂ Cl ₂	75-35-4	2	2	4	
Zinc Peroxide						

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
2-Butanone (MEK)	CH3COC2H5	78-93-3A	0	1	3	
Acetamide	CH3CONH2	60-35-5	1	3	1	
Acetanilide	CH3CONHC6H5	103-84-4	0	3	1	
Acetic Acid	CH3COOH	64-19-7A	1	2	2	
Acetic Anhydride	(CH3CO)2O	108-24-7	1	3	2	W
Acetone	CH3COCH3	67-64-1	0	1	3	
Acetyl Halides						
Acetylcholine Bromide	CH3CO2C2H4N(C	66-23-9	0	2	0	
Acridine Orange	UNDEFINED	10127-02-	0	2	0	
Adipoyl Chloride	ClOC(CH2)4COCl	111-50-2	0	2	2	
Alizarin Red	UNDEFINED	130-22-3	0	2	1	
Alkyl Aluminum Chloride						
Aluminum	Al	7429-90-5	1	0	1	
Aluminum Acetate	Al(C2H3O2)2OH	142-03-0	1	1	0	
Aluminum Bromide	AlBr3	7727-15-3	1	3	1	
Aluminum Chloride, Hydrate	ALCL3*6H2O	7784-13-6	0	3	0	
Aluminum Fluoride	AlF3	7784-18-1	0	2	0	
Aluminum Hydroxide	Al(OH)3*3H2O	21645-51-	1	1	0	
Aluminum Nitrate	Al(NO3)3*9H2O	7784-27-2	0	1	0	OX
Aluminum Tetrahydroborate						
Ammonia, Anhydrous (use restrictions)	NH3	7664-41-7	0	3	1	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ammonia, Liquid	NH ₃	1336-21-6	0	3	1	
Ammonium Acetate	NH ₄ C ₂ H ₃ O ₂	631-61-8	1	1	1	
Ammonium Bicarbonate	NH ₄ HCO ₃	1066-33-7	1	1	0	
Ammonium Bichromate	(NH ₄) ₂ Cr ₂ O ₇	7789-09-5	1	1	1	OX
Ammonium Bromide	NH ₄ Br	12124-97-	0	2	0	
Ammonium Carbonate	NH ₄ CO ₃	10361-29-	2	2	0	
Ammonium Chloride	NH ₄ Cl	12125-02-	0	2	0	
Ammonium Chromate	(NH ₄) ₂ CrO ₄	7788-98-9	1	1	1	OX
Ammonium Fluoride	NH ₄ F	12125-01-	0	3	0	
Ammonium Hydroxide	NH ₄ OH	1336-21-6	0	3	1	
Ammonium Iodide	NH ₄ I	12027-06-	1	2	0	
Ammonium Molybdate	(NH ₄) ₆ Mo ₇ O ₂₄ *4H	12054-85-	1	2	0	
Ammonium Nitrate (500 g limit)	NH ₄ NO ₃	6484-52-2	3	0	0	OX
Ammonium Oxalate	(NH ₄) ₂ C ₂ O ₄ *H ₂ O	6009-70-7	1	3	0	
Ammonium Phosphate, Dibasic	(NH ₄) ₂ H ₂ PO ₄	7783-28-0	1	2	0	
Ammonium Phosphate, Monobasic	NH ₄ H ₂ PO ₄	7722-76-1	0	2	0	
Ammonium Sulfate	(NH ₄) ₂ SO ₄	7783-20-2	0	3	0	
Ammonium Sulfide	(NH ₄) ₂ S*H ₂ O	12135-76-	0	3	3	
Ammonium Tartrate	(NH ₄) ₂ C ₄ H ₄ O ₆	3164-29-2	0	2	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ammonium Thiocyanate	NH ₄ SCN	1762-95-4	1	2	1	
Amyl Acetate	CH ₃ COOC ₅ H ₁₁	628-63-7	0	1	3	
Amyl Alcohol(N)	CH ₃ (CH ₂) ₃ CH ₂ OH	71-41-0A	0	1	3	
Aniline	C ₆ H ₅ NH ₂	62-53-3	0	3	2	
Aniline Hydrochloride	C ₆ H ₅ NH ₂ *HCL	142-04-1	3	1		
Anisoyl Chloride	C ₈ H ₇ ClO ₂	100-07-2	0	3	2	
Barium Acetate	Ba(C ₂ H ₃ O ₂) ₂ H ₂ O	543-80-6	0	2	0	
Barium Carbide						
Barium Chloride, Hydrate	BaCl ₂ *2H ₂ O	10326-27-	0	3	0	
Barium Nitrate	Ba(NO ₃) ₂	10022-31-	0	1	0	OX
Benzaldehyde	C ₆ H ₅ CHO	100-52-7	0	2	2	
Benzene						
Phosphorus Dichloride						
Benzoic Acid	C ₆ H ₅ COOH	65-85-0	2	1		
Benzyl Chloride	C ₆ H ₅ CH ₂ Cl	100-44-7	1	3	2	
Benzyl Sodium						
Benzylamine	C ₆ H ₅ CH ₂ NH ₂	100-46-9	0	3	2	
Beryllium Tetrahydroborate						
Biphenyl (Diphenyl)	C ₆ H ₅ C ₆ H ₅	92-52-4	0	2	1	
Bismuth Pentafluoride	BiF ₅	7787-62-4	0	1	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Boric Acid	H3BO3	10043-35-	0	2	0	
Boron Bromodiiodide						
Boron Dibromiodide						
Boron Phosphide						
Boron Trichloride						
Bromine Monofluoride						
Bromine Water	Br ₂ + H ₂ O	7726-95-6				OX
Bromobenzene	C ₆ H ₅ Br	108-86-1	0	2	2	
Bromodiethylaluminum						
Bromoform	CHBr ₃	75-25-2	0	3	0	
Butanol (N-Butyl Alcohol)	CH ₃ (CH ₂) ₃ OH	71-36-3	0	1	3	
Butyric Acid	CH ₃ CH ₂ CH ₂ COH	107-92-6	0	3	2	
Calcium (100 g limit)	Ca	7440-70-2	2	3	1	W
Calcium Bromide	CaBr ₂	7789-41-5	1	1	0	
Calcium Hypochlorite	Ca(OCl) ₂	7778-54-3	1	3	0	OX
Calcium Nitrate Tetrahydrate	Ca(NO ₃) ₂ *4H ₂ O	13477-34-	1	2	0	OX
Calcium Phosphide						
Camphor (+/-)	C ₁₀ H ₁₆ O	21368-68-	0	0	2	
Carbon Disulfide (BI)	CS ₂	75-15-0	0	2	3	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ceric (IV) Sulfate	Ce(SO ₄) ₂ *4H ₂ O	13590-82-	0	3	0	OX
Cesium Amide						
Cesium Phosphide						
Chlorine Monofluoride						
Chlorine Pentafluoride						
Chloroacetic Acid	C ₂ H ₃ ClO ₂	79-11-8B	0	3	1	
Chloroacetyl Chloride	C ₂ H ₂ Cl ₂ O/ClCH ₂ C	79-04-9	1	3	0	
Chlorobenzene	C ₆ H ₅ Cl	108-90-7	0	2	3	
Chlorodiisobutyl Aluminum						
Chlorophenyl Isocyanate	C ₇ H ₄ ClNO	3320-83-0				
Chromic Acid	CrO ₃	1333-82-0	1	3	0	OX
Chromium (IC) Nitrate	Cr(NO ₃) ₃ *9H ₂ O	7789-02-8	1	3	0	OX
Chromium Sulfate	Cr ₂ (SO ₄) ₃ *nH ₂ O	10101-53-	0	2	0	
Chromium Trioxide	CrO ₃	1333-82-0	1	3	0	
Cobalt (ous) Nitrate	Co(NO ₃) ₂ *6H ₂ O	10026-22-	0	2	0	OX
Cupric Bromide, Anhydrous	CuBr ₂	7789-45-9	0	2	0	
Cyclohexane	CH ₂ (CH ₂) ₄ CH ₂	110-82-7	0	1	3	
Dichlorobenzene	C ₆ H ₄ Cl ₂	106-46-7B	0	2	2	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Dichloroethane	C2H4Cl2	107-06-2B	0	2	3	
Dichloromethane	CH2Cl2	75-09-2A	0	2	1	
Diethyl Aluminum Chloride	C4H10AlCl	96-10-6				
Diethyl Zinc	C4H10Zn	557-20-0				
Diisopropyl Beryllium						
Dimethyl Magnesium						
Diphenyl Diisocyanate						
Diphenylamine	(C6H5)2NH	122-39-4	0	3	1	
Ethanol	C2H5OH	64-17-5B	0	0	3	
Ethyl Acetate	CH3COOC2H5	141-78-6	0	1	3	
Ethyl Alcohol	C2H5OH	64-17-5A	0	0	3	
Ethyl Methacrylate	CH2CCH3COOC2	97-63-2	0	2	3	
Ethylene Dichloride	C2H4Cl2	107-06-2A	0	2	3	
Ethylenediamine	NH2CH2CH2NH2	107-15-3	0	3	2	
Faa Solution	UNDEFINED	NA14	0	2	3	
Fehlings Solution A	UNDEFINED	7758-99-8	1	3	0	
Fehlings Solution B	UNDEFINED	NA15	1	3	0	
Ferric Chloride, Anhydrous	FeCl3	7705-08-0	1	3	0	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Erric Nitrate	Fe(NO3)3*9H2O	7782-61-8	1	1	0	OX
Fluorine Monoxide						
Fluorosulfonic Acid						
Formalin	CH2O	50-00-0B	0	2	2	
Formic Acid	HCOOH	64-18-6	0	3	2	
Gasoline	UNDEFINED	8006-61-9	0	1	3	
Glutaraldehyde	OCH(CH3)3CHO	111-30-8	1	3	0	
Gold Acetylide						
Hematoxylin	C16H14O6*3H2O	517-28-2	1	1	0	
Heptane, N-	CH3(CH2)5CH3	142-82-5	0	1	3	
Hexamethylene Diisocyanate	C8H12N2O2	822-06-0	0	1	2	W
Hexamethylenediamine	H2N(CH2)6NH2	124-09-4	0	3	2	
Hexane, N-	CH3(CH2)4CH3	110-54-3	0	1	3	
Hydriodic Acid	HI	10034-85-	0	3	0	
Hydrobromic Acid	HBr	10035-10-	0	3	0	
Hydrochloric Acid	HCl	7647-01-0	0	3	0	
Hydrogen Peroxide (30% or less)	H2O2		1	3	0	OX
Hydroquinone	C6H4(OH)2	123-31-9	0	2	1	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Hydroxylamine						
Hydrochloride	NH ₂ OH*HCl	5470-11-1	1	3	1	
Iodine	I ₂	7553-56-2	1	3	0	OX
Iodine Monochloride	ICl	7790-99-0	1	3	0	
Iron	Fe	7439-89-6	1	3	1	
Isoamyl Alcohol	(CH ₃) ₂ CHCH ₂ CH ₂	123-51-3A	0	1	2	
Isobutyl Alcohol	(CH ₃) ₂ CHCH ₂ OH	78-83-1	0	1	3	
Isopentyl Alcohol	(CH ₃) ₂ CHCH ₂ CH ₂	123-51-36	0	1	3	
Isopropyl Alcohol	(CH ₃) ₂ CHOH	67-63-0	0	1	3	
Kerosene	UNDEFINED	8008-20-6	0	0	2	
Lead Nitrate	Pb(NO ₃) ₂	10099-74-	0	1	0	OX
Lead Oxide, Red	Pb ₃ O ₄	1314-41-6	1	3	1	OX
Lead Peroxide (DI)	PbO ₂	1309-60-0	1	3	0	OX
Lithium Amide						
Lithium Bromide	LiBr	7550-35-8	0	2	0	
Lithium Ferrosilicon						
Lithium Silicon						
Lithium Sulfate	Li ₂ SO ₄ *H ₂ O	10102-25-	0	2	0	
Lye	NaOH	1310-73-2	1	3	0	
Magnesium (ribbon)	Mg	7439-95-4	2	0	1	W

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Magnesium Nitrate	Mg(NO ₃) ₂ *6H ₂ O	13446-18-	0	1	0	OX
Manganese Carbonate	MnCO ₃	598-62-9	1	0	0	
Manganese Dioxide	MnO ₂	1313-13-9	1	2	0	OX
Manganese Nitrate (ous)	Mn(NO ₃) ₂ *6H ₂ O	10377-66-	0	3	0	OX
Manganese Oxide	MnO ₂	1313-13-9	0	1	0	
Methyl Alcohol	CH ₃ OH	67-56-1	0	1	3	
Methyl Aluminum Sesquibromide	C ₃ H ₉ Al ₂ Br ₃					
Methyl Aluminum Sesquichloride	C ₃ H ₉ Al ₂ Cl ₃	12542-85-				
Methyl Ethyl Ketone	CH ₃ COC ₂ H ₅	78-93-3B	0	1	3	
Methyl Magnesium Bromide	CH ₃ BrMg	75-16-1				
Methyl Magnesium Chloride	CH ₃ ClMg	676-58-4				
Methyl Magnesium Iodide						
Methylene Chloride	CH ₂ CL ₂	75-09-2B	0	2	1	
Naphthalene	C ₁₀ H ₈	91-20-3	0	2	2	
Napthol-1 (A)	C ₁₀ H ₇ OH	90-15-3	1	3	1	
N-Butyl Alcohol	C ₆ H ₁₀ O	71-36-3B	0	1	3	
N-Butyl Lithium						

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Nickel Antimonide						
Nickel(II) Nitrate	Ni(NO ₃) ₂ *6H ₂ O	13478-00-	1	2	0	
Nickel(II) Sulfate	NiSO ₄ *6H ₂ O	10101-97-	0	2	0	
Nitric Acid	HNO ₃	7697-37-2	0	3	0	OX
Nitrobenzene	C ₆ H ₅ NO ₂	98-95-3	1	3	2	
Nitrogen	N ₂	7727-37-9	0	3	0	
Octyl Alcohol	CH ₃ (CH ₂) ₆ CH ₂ OH	111-87-5	0	1	2	
O-Dichlorobenzene	C ₆ H ₄ Cl ₂	95-50-1	0	2	2	
Oxalic Acid, Hydrate	H ₂ C ₂ O ₄ *2H ₂ O	6153-56-6	0	2	1	
Oxygen	O ₂	7782-44-7	0	3	0	OX
P-Dichlorobenzene	C ₆ H ₄ Cl ₂	106-46-7	0	2	2	
Pentyl Alcohol (Amyl)	CH ₃ (CH ₂) ₄ OH	71-41-0B	0	1	3	
Petroleum Ether (500 ml limit)	UNDEFINED	8032-32-4	0	1	4	
Phosphoric Acid	H ₃ PO ₄	7664-38-2	0	3	0	
Phthalic Acid	C ₆ H ₄ (COOH) ₂	88-99-3	1	0	1	
Polyphenyl Polymethyl Isouanta						
Polyvinyl Alcohol	CH ₂ CH(OH)	9002-89-5	0	0	2	
Potassium Bromate	KBrO ₃	7758-01-2	0	2	0	OX

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Potassium Chromate	K ₂ CrO ₄	7789-00-6	1	3	0	OX
Potassium Dichromate	K ₂ Cr ₂ O ₇	7778-50-9	1	3	1	OX
Potassium Ferricyanide	K ₃ Fe(CN) ₆	13746-66-	1	1	0	
Potassium Ferrocyanide	K ₄ Fe(CN) ₆ ·3H ₂ O	14459-95-	1	1	0	
Potassium Hydroxide	KOH	1310-58-3	1	3	0	
Potassium Iodate	KIO ₃	7758-05-6	1	1	0	OX
Potassium Nitrate	KNO ₃	7757-79-1	0	1	0	OX
Potassium Permanganate	KMnO ₄	7722-64-7	0	1	0	OX
Potassium Persulfate	K ₂ S ₂ O ₈	7727-21-1	0	1	0	OX
Potassium Sulfide	K ₂ S	1312-73-8	0	3	1	
Propane (use restrictions)	CH ₃ CH ₂ CH ₃	74-98-6	0	1	4	
Propionic Acid	C ₃ H ₆ O ₂	79-09-4	0	2	2	
Propyl Alcohol	C ₃ H ₈ O	71-23-8	0	1	3	
Pyridine	C ₅ H ₅ N	110-86-1	0	3	3	
Pyrosulfuryl Chloride						
Silver Nitrate	AgNO ₃	7761-88-8	0	1	0	OX
Silver Sulfate	Ag ₂ SO ₄	10294-26-	0	2	0	
Sodium Bisulfite	NaHSO ₃	7631-90-5	1	1	0	
Sodium Chromate	Na ₂ CrO ₄	7775-11-3	1	3	0	OX

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Sodium Cobaltinitrite	Na ₃ Co(NO ₂) ₆	13600-98-	0	2	0	OX
Sodium Dichromate, Hydrate	Na ₂ Cr ₂ O ₇ *2H ₂ O	7789-12-0	1	1	0	
Sodium Fluoride	NaF	7681-49-4	0	3	0	
Sodium Hydroxide	NaOH	1310-73-2	1	3	0	
Sodium Hypochlorite	NaClO	7681-52-9	1	2	0	
Sodium Iodate	NaIO ₃	7681-55-2	1	1	0	OX
Sodium Iodide	NaI	7681-82-5	1	2	0	
Sodium Meta-Bisulfite	Na ₂ S ₂ O ₅	7681-57-4	1	3	0	
Sodium Nitrate	NaNO ₃	7631-99-4	1	1	0	OX
Sodium Nitrite	NaNO ₂	7632-00-0	1	2	0	OX
Sodium Phosphate, Tribasic	Na ₃ PO ₄ *12H ₂ O	7601-54-9	1	2	0	
Sodium Potassium Alloy						
Sodium Sulfide	Na ₂ S*9H ₂ O	1313-84-4	1	3	1	
Sodium Thiocyanate	NaSCN	540-72-7	1	3	0	
Sodium Thiosulfate	Na ₂ S ₂ O ₃ *5H ₂ O	10102-17-	1	0	0	
Stannic Chloride	SnCl ₄	7646-78-8	1	3	0	
Strontium Nitrate	Sr(NO ₃) ₂	10042-76-	0	1	0	OX
Sulfur Chloride	Cl ₂ S ₂	10025-67-	1	2	1	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Sulfur Pentafluoride						
Sulfuric Acid (<10%)	H2SO4	7664-93-9	0	3	0	
Sulfuric Acid (>10%) (2.5 l limit)	H2SO4	7664-93-9	2	3	0	W
T-Butanol	(CH3)3COH	75-65-0	0	1	3	
Terpineol	C10H17OH	98-55-5	0	0	2	
Thiophosphoryl Chloride	Cl3SP	3982-91-0	0	3	0	
Tin	Sn	7440-31-5	1	1	1	
Toluene	C7H8	108-88-3	0	2	3	
Toluene Diisocyanate	C9H6N2O2	584-84-9	1	3	1	
Toluidine Blue	CH3C6H4NH2	95-53-4	0	3	2	
Trichloroethane-1,1,1	C2H3Cl3	71-55-6	1	3	1	
Trichloroethylene	C2HCl3	79-01-6	0	2	1	
Triethanolamine	C6H15NO3	102-71-6	1	2	1	
Triethyl Stibine						
Trimethylpentane 2,2,4	C8H18	540-84-1	0	0	3	
Tri-N-Butyl Aluminum						
Trioctyl Aluminum						
Triphenyl Tetrazolium Chloride	C19H15N4Cl	298-96-4	1	2	1	

Appendix B – Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Tripropyl Stibine						
Trisodium Phosphate	Na ₃ H ₃ PO ₄	7601-54-9	1	2	0	
Trivinyl Stibine						
Tungsten	W	7440-33-7	1	1	2	
Turpentine	C ₁₀ H ₁₆	8006-64-2	0	1	3	
Vanadium Trichloride	VCl ₃	7718-98-1				
Xylene	C ₈ H ₁₀	1330-20-7	0	2	3	
Zinc (powder)	Zn	7440-66-6	1	1	1	W
Zinc Acetylide						
Zinc Nitrate (500 g limit)	Zn(NO ₃) ₂ *6H ₂ O	10196-18-	2	1	1	OX
Zinc Phosphide	Zn ₃ P ₂	1314-84-7	1	3	3	

Appendix B2 – Restricted Chemicals (Demonstration Use Only)

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Aluminum Chloride, Anhydrous (25 g limit)	AlCl ₃	7446-70-0	2	3	0	W
Ammonium Dichromate (100 g limit)	(NH ₄) ₂ Cr ₂ O ₇	7789-09-5	3	4	1	OX
Ammonium Persulfate (100 g limit)	(NH ₄) ₂ S ₂ O ₈	7727-54-0	3	2	0	OX
Antimony Metal (50 g limit)	Sb	7440-36-0				
Bromine (3 - 1 g ampules limit)	Br ₂	7726-95-6	0	4	0	OX
Calcium Carbide (100 g limit)	CaC ₂	75-20-7	2	1	3	W
Chromium Oxide (20 g limit)	Cr ₂ O ₃	1308-38-9	3	4	0	OX
* Collodion (100 ml limit)	C ₂₅ H ₃₃ O ₁₃ (NO ₃) ₇	9004-70-0	0	1	4	
* Cyclohexanone (100 ml limit)	C ₆ H ₁₀ O	108-94-1	0	1	2	
* Cyclohexene (100 ml limit)	C ₆ H ₁₀	110-83-8	0	1	3	
* Cyclopentanone (100 ml limit)	C ₅ H ₈ O	120-92-3	0	2	3	
* Diethyl Ether (500 ml limit)	(C ₂ H ₅) ₂ O	60-29-7B	1	2	4	
* Diglyme (500 ml limit)	(CH ₃ O) ₂ CH ₂	111-96-6	1	1	2	
Dinitrophenylhydrazine (100 g limit)	C ₆ H ₆ N ₄ O ₄	119-26-6	2	1	2	
Hydrides, Borohydrides (100 g limit)						

Appendix B2 – Restricted Chemicals (Demonstration Use Only)

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Hydrogen (limited to 2 cu ft lecture bottle)	H ₂	1333-74-0	0	0	4	
Lithium (20 g limit)	Li	7439-93-2	2	1	1	W
Magnesium (turnings) (100 g limit)	Mg	7439-95-4	2	0	1	W
* Methyl Isobutyl Ketone (MIBK) (250 ml limit)	CH ₃ COCH ₂ CH(CH ₃)	108-10-1	1	2	3	
Pentane (100 ml limit)	C ₅ H ₁₂	109-66-0	0	1	4	
Phosphorus, Red (Amorphous) (50 g limit)	P	7723-14-0	1	1	1	W
Potassium (1 bottle – w/5 demonstration-size pieces)	K	7440-09-7	2	3	1	W
Potassium Chlorate (100 g limit)	KClO ₃	3811-04-9	0	2	0	OX
Silver Oxide (100 g limit)	Ag ₂ O	20667-12-	2	1	1	OX
Sodium (100 g limit)	Na	7440-23-5	2	3	3	W
Wright's Stain (HG Containing) (100 ml limit)	Undefined	68988-92-	0	0	3	

(*) Indicates those compounds that have peroxide forming potential that must be addressed in the written chemical management plan.