



Dedicated to protecting and improving the health and environment of the people of Colorado

To: Members of the State Board of Health

From: Cary E. Ruble, Regulation Development and Enforcement Coordinator,
Division of Environmental Health and Sustainability

Through: Jeff Lawrence, Director
Division of Environmental Health and Sustainability (JL)

Date: December 17, 2014

Subject: **Request for Rulemaking Hearing**
Proposed Amendments to 6 CCR 1010-6, Rules and Regulations Governing
Schools in the State of Colorado, with a request for the rulemaking hearing to
occur in December 2014

The Division of Environmental Health and Sustainability (“Division”) is proposing revisions throughout 6 CCR 1010-6, *Rules and Regulations Governing Schools in the State of Colorado*, and is requesting that the Board of Health schedule a rulemaking hearing for adoption of the proposed amendments at the February 18, 2015, Board of Health Meeting.

In compliance with Executive Order D 2012-002 and the State Administrative Procedure Act (24-4-103.3, C.R.S.), the Department has conducted a mandatory review of the *Rules and Regulations Governing Schools in the State of Colorado*. Based on this review, it was determined that amendments to 6 CCR 1010-6 will be proposed since 6 CCR 1010-6 was last amended by the Board of Health in 2005.

The proposed revisions will keep Colorado schools consistent with current health and safety standards and nationally recognized science-based recommendations. Through a lengthy review process, the Division met with Stakeholders on four occasions throughout October, November and December 2014, to discuss proposed amendments to the regulations. The stakeholder group included representatives from local public health agencies, other CDPHE divisions, school associations, district and school representatives, and other government entities, is proposing revisions to the rule to provide clarity, transparency, consistency in application, and to more closely align with state and federal standards. Of the proposed revisions, the following amendments were identified as more consequential by stakeholders:

- Codifying existing practices to provide transparency, clarity, and consistency in application by schools and the Division (e.g., current versions of building codes, plumbing codes, health and safety requirements, all hazards and chemical hygiene plan preparation, sanitation and disinfection practices, etc.);
- Introduction of a self-certification checklist as part of the school inspection program. The self-certification program will reduce the regulatory burden on schools and increase regulatory compliance by more actively engaging school personnel in maintaining a safe and healthy school environment. Also, the implementation of the self-certification and the associated Division audit program will focus Department resources on schools with greater compliance assistance needs;
- Establishing the final compliance date of January 1, 2016, for all schools to develop a chemical hygiene plan;

- Transition from the Colorado-specific prohibited and restricted chemical lists to national standards. This transition addresses historically controversial and resource-consumptive disagreements over appropriately listed chemicals. Proposed revisions incorporate the lists contained in the *School Chemistry Laboratory Safety Guide*, developed by the National Institute for Occupational Safety and Health (NIOSH). The NIOSH lists were developed with the assistance of the American Chemical Society, the American Federation of Teachers/AFL-CIO, USEPA, and the National Science Teachers Association, among others;
 - In order to allow schools sufficient time to transition chemical inventories, the regulations will incorporate a final compliance date of January 1, 2017, for this requirement which allow schools to utilize inventories of chemicals allowed under the current regulations;
 - Adequate time to coordinate appropriate disposal, and;
 - The proposed revisions also include a chemical-use variance process to ensure that schools are provided the ability to utilize listed chemicals in advanced chemistry classes. Variances will expire upon a change of circumstances from those supporting the variance, for example changing the person responsible for assuring the safe management of the chemical, or the alleviation of the initial hardship created by limiting the availability of the chemical;
- Implementation of a public notification requirement as a non-punitive means to encourage compliance in cases involving recalcitrant schools with repetitive violations; and,
- Incorporation of a requirement that all schools contract with a registered nurse to provide for student health care and consultation, including supervision of unlicensed school staff to administer medication and carry out medical orders for students with special health care needs.

Less substantive proposed revisions include:

- Standardizing the format of the regulation to comply with the Colorado Secretary of State CCR style template;
- Updating definitions, citations, references, and administrative directives, and modernizing essential regulation language by eliminating arbitrary and/or redundant requirements;
- Increasing the clarity, consistency, effectiveness, specificity, and accuracy of regulatory language by incorporating standardized language from similar rules and/or from other rules that apply to schools; and
- Clarifying requirements based on implementation of the current rule.

To date, the Division has participated in six stakeholder meetings. These include two formative discussions with representatives from the Colorado School District Environmental Professionals (COSDEP) and the Colorado Chemistry Teachers Association (CCTA), and four formal regulation revision stakeholder meetings held on October 3, October 24, November 21, and December 12, 2014. Stakeholder meetings have resulted in consensus on the proposed revisions and have identified opportunities for the development of technical guidance to assist with implementation of the revised regulations.

**STATEMENT OF BASIS AND PURPOSE
AND SPECIFIC STATUTORY AUTHORITY
for Amendments to**

6 CCR 1010-6, Rules and Regulations Governing Schools in the State of Colorado

Basis and Purpose.

The purpose of the Board of Health's *Rules and Regulations Governing Schools in the State of Colorado*, 6 CCR 1010-6, is to establish provisions regulating the minimum requirements necessary to safeguard the health and safety of school occupants.

The amendments to 6 CCR 1010-6, are being implemented pursuant to the statutory authority granted the Board of Health in Sections 25-1-108(1)(c)(l), 25-1.5-101(1)(a), (h), (k), and (l), 25-1.5-102(1)(a) and (d), C.R.S. The Division of Environmental Health and Sustainability ("Division") is directed by Executive Order D 2012-002 and the State Administrative Procedure Act (24-4-103.3, C.R.S.) to review all regulations at least once every seven years to ensure that they are efficient, effective and essential. The school regulations were last amended in 2005.

The proposed revisions will keep Colorado schools consistent with current health and safety standards and science-based recommendations. Through a lengthy review process, the Division, in collaboration with a stakeholder group that included representatives from local public health agencies, other CDPHE divisions, school associations, district and school representatives, and other government entities, is proposing revisions to the rule to provide clarity and more closely align with state and federal standards.

Of the proposed revisions, and based on stakeholder feedback received by the Division, the following amendments were identified as more consequential to stakeholders:

- Codifying existing practices (e.g., current versions of building codes, plumbing codes, health and safety requirements, all hazards and chemical hygiene plan preparation, sanitation and disinfection practices, etc.). This provides transparency, clarity, and consistency in application by schools and the Division;
- Use of a self-certification checklist as part of the school inspection program. The self-certification program will increase regulatory compliance by more actively engaging school personnel in maintaining a safe and healthy school environment;
- Establishing the final compliance date of January 1, 2016, for all schools to develop a chemical hygiene plan;
- Transition from the historically controversial Colorado-specific prohibited and restricted chemical lists to national standards. Proposed revisions incorporate the lists contained in the *School Chemistry Laboratory Safety Guide*, developed by the National Institute for Occupational Safety and Health (NIOSH), with the assistance of the American Chemical Society, the American Federation of Teachers/AFL-CIO, and the National Science Teachers Association, among others.
 - The regulations will incorporate a final compliance date of January 1, 2017, for the NIOSH lists. This requirement will allow schools to exhaust inventories of chemicals allowed under the current regulations; and
 - The proposed revisions include a chemical-use variance process to ensure that schools are provided the ability to use listed chemicals in advanced chemistry classes under proper management. Variances will expire upon a change of circumstances, such as changing the person responsible for assuring the safe management of the chemical or the alleviation of the initial hardship created by the prohibition;

- Implementation of a public notification requirement as a non-punitive means to achieve compliance in cases involving recalcitrant schools with repetitive violations; and
- Incorporation of the requirement that all schools contract with a registered nurse to provide for student health care and consultation.

Proposed revisions also include standardizing the format of the regulation to comply with the Colorado Secretary of State CCR style template. Other, less substantive proposed revisions address:

- Increasing the consistency, effectiveness, and accuracy of regulatory language by incorporating standardized language from similar rules and/or from other rules that apply to schools;
- Updating definitions, citations, and references to provide transparency, clarity, and consistency in application;
- Modernizing essential regulation language by eliminating arbitrary and/or redundant requirements;
- Clarifying previously existing requirements based on implementation of the current rule.

To date, the Division has participated in six stakeholder meetings. These include two formative discussions with representatives from the Colorado School District Environmental Professionals (COSDEP) and the Colorado Chemistry Teachers Association (CCTA), and four formal regulation revision stakeholder meetings held on October 3, October 24, November 21, and December 12, 2014.

Stakeholder meetings have resulted in consensus on the proposed revisions and have identified opportunities for the development of technical guidance to assist with implementation of the revised regulations. The Division is requesting that the Board of Health schedule a rulemaking hearing for adoption of the proposed revision at the February 18, 2015, Board of Health Meeting.

Specific Statutory Authority.

These rules are promulgated pursuant to the following statutes: Sections 25-1-108(1)(c)(I), 25-1.5-101(1)(a), (h), (k), and (l), 25-1.5-102(1)(a) and (d), C.R.S.

SUPPLEMENTAL QUESTIONS

Is this rulemaking due to a change in state statute?

Yes, the bill number is _____; rules are ___ authorized ___ required.
 No

Is this rulemaking due to a federal statutory or regulatory change?

Yes
 No

Does this rule incorporate materials by reference?

Yes
 No

Does this rule create or modify fines or fees?

Yes
 No

REGULATORY ANALYSIS

for Amendments to

6 CCR 1010-6, *Rules and Regulations Governing Schools in the State of Colorado*

- 1. A description of the classes of persons who will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule.**

School administrators and representatives, students, parents of enrolled students, visitors to the schools, CDPHE, and local public health agencies are all potentially affected and will benefit from the proposed changes to the regulations.

Additional costs will not be incurred by the Department or by families with children enrolled in school. Many of the proposed revisions are codifications of current practices. For example, building codes, plumbing codes, health and safety requirements, all hazards and chemical hygiene plan preparation, sanitation and disinfection practices, etc., are now codified in regulation to reflect current inspectional practices, thereby, providing greater consistency of implementation.

Although negligible relative to the health and safety benefit, potential costs may be incurred by schools gaining compliance with specific new requirements or additions to the regulation (e.g., installation and maintenance of carbon monoxide (CO) detectors, disposal of prohibited chemicals, contracting with a registered nurse, etc).

Regarding prohibited chemical disposal, the Department recognizes that schools will require ample time to achieve compliance with the new chemical lists. To accommodate this, a compliance date of January 1, 2017 has been incorporated in order to allow school sufficient time to exhaust or dispose of their residual volumes of prohibited chemicals.

- 2. To the extent practicable, a description of the probable quantitative and qualitative impact of the proposed rule, economic or otherwise, upon affected classes of persons.**

By providing increased clarity, consistency in application, specificity, and accuracy in regulatory language, the proposed rule will qualitatively allow schools to more effectively and efficiently comply with regulation. Additionally, the proposed rule revisions provide for better alignment with nationally recognized health and safety standards and practices; thereby, providing a modern and appropriate level of protection for Colorado students and educators.

The proposed regulation includes revised prohibited and restricted chemical lists, which have historically have proven controversial. The Department recognized the potential regulatory and economic burden placed on stakeholders as a result of the chemical list rule revisions, and performed an exhaustive comparative evaluation of the current chemical lists versus lists from other states and organizations across the country. For example, the existing prohibited chemical list contains 209 chemicals, of which, 164 are unique to Colorado and are present on no other state or national list evaluated by the Department. In light of these inconsistencies, and in conjunction with on-going concerns expressed by stakeholders regarding the restrictive and sometimes arbitrary nature of the current list, the Department elected to propose an entirely new prohibited (and restricted) chemical list developed by the National Institute for Occupational Safety and Health (NIOSH). While the revised list contains 59 new prohibited chemicals, the overall number of prohibited chemicals is reduced from 209 to 87. A similar reduction was realized on the restricted chemical list (from 252 to 58).

The significant reduction in the number of prohibited chemicals, along with the delayed compliance date, and the chemical-use variance process, will minimize or eliminate the potential regulatory and economic burden on stakeholders. Additionally, the use of prohibited and restricted chemical lists vetted on a national level will facilitate more efficient and sustainable chemical management while continuing to assure safety in high school chemistry laboratories in Colorado. For those instances where potentially harmful chemicals remain in inventories which are not on the NIOSH lists, stakeholder input has identified opportunities for the development of technical guidance to maintain laboratory safety.

3. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues.

The implementation costs of the revised regulation to CDPHE and Division of Environmental Health and Sustainability are negligible. Although the Division may incur an increased level of effort associated with developing guidance, updating pertinent documents, and training of local health agencies and schools, no appreciable increase in Departmental costs have been identified. Also, since no increase in inspection time is anticipated, the proposed revisions to the regulation will not increase the overall costs to conduct inspections to local health agencies or to CDPHE. Conversely, it is anticipated that implementation of the self-certification process could more efficiently focus the Division's on-site inspection time and increase staff's availability to provide compliance assistance.

4. A comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of inaction.

At minimal or no cost for many schools, the benefits of the proposed revision to regulation include a greater degree of health and safety protection for students, faculty, and occupants of Colorado schools. The substantive proposed revisions (i.e. chemical lists, addition of a CO detector requirement, etc.) form the foundation for a more robust, effective, and beneficial regulation. Furthermore, it is anticipated that the implementation of self-certification by schools, when fully established, will result in a reduction in on-site inspection time for both the Department and the schools, while achieving an increase in the school's overall compliance with regulation.

The costs of inaction are minimal, and there are no benefits from inaction. Based on the high level of stakeholder engagement, and the depth and breadth of stakeholder-proposed revisions, inaction would be a disservice to the regulated community and would not comply with Department policy to review all regulations assure their relevance. The school regulations were last amended in 2005.

5. A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule.

There are no less costly or less intrusive methods for achieving the purpose of the revised regulation. The amendments are necessary to provide schools and the regulated community at large with sufficiently detailed, accurate and updated rules that are consistent with nationally recognized standards.

6. Alternative Rules or Alternatives to Rulemaking Considered and Why Rejected.

The school regulations were last revised in 2005. Due to Department policy regarding the periodic updating of all state regulation and the need for extensive revision, alternatives to rulemaking were not considered.

7. To the extent practicable, a quantification of the data used in the analysis; the analysis must take into account both short-term and long-term consequences.

The school regulation revision would positively impact all ~1,800 schools throughout the state. Considering all public and charter schools, the increase in health and safety provisions afforded by the proposed revisions would impact a total population of approximately 832,000 students and nearly 50,000 educators attending and teaching kindergarten through 12th grade in schools on a given day in Colorado. During evaluation of proposed revisions, the following sources of information were reviewed:

- Title 15, United States Code (USC) Section 8001 et. seq. (Virginia Graeme Baker Pool and Spa Safety Act)
- Environmental Protection Agency's, *Radon Measurements in Schools*, Revised Edition July 1993 (EPA Documents #402-R-92-014)
- 29 CFR 1910.107 and 1910.1200(g)
- U.S. Consumer Product Safety Commission's Publication No. 5015, Art and Craft Safety Guide
- American Conference of Governmental Industrial Hygienists 2014 *Threshold Limit Values and Biological Exposures Indices*
- 2006 International Building Code
- 2009 International Plumbing Code
- 2011 National Fire Protection Association Code 45 *Fire Protection for Laboratories Using Chemicals*
- 2012 National Fire Protection Association Code 30 Flammable and Combustible Liquids Code
- 2013 American Society of Heating, Refrigeration and Air Conditioning Engineers Standard 62.1-2013, Ventilation for Acceptable Indoor Air Quality
- 2014 National Electrical Code
- American National Standards Institute Z49.1-2014 Standard- *Safety in Welding, Cutting, and Allied Processes*
- American National Standards Institute Z87.1-2010 *Standard for Occupational and Educational Personal Eye and Face Protection Devices*
- American National Standards Institute Z358.1-2009 Standard
- UL Standards 217 and 2034
- Colorado Revised Statute (C.R.S.)
 - Article 4 of Title 24
 - Section 32-1-1006(1)(a)(I)
 - Section 25-1.5-2
 - Section 25-1.5-203
 - Section 25-3-101
 - Section 25-4-1605
 - Section 25-4-1607(9)(a)(I)
 - Sections 25-5-501 and 508, et. seq. (Colorado Hazardous Substance Act)
 - Sections 26-6-102(1.5), (2.5)(a), (5), (5.1), (8), (9), (10)(a)
 - Sections 25-8-702(1) and/or 25-10-105
- Colorado Air Quality Control Commission Regulation No. 8

- *2013 Colorado Retail Food Establishment Rules and Regulations*, 6 CCR 1010-2
- 6 CCR 1007-3 Part 261 of the Colorado Hazardous Waste Regulations
- *Rules and Regulations Pertaining to Radiation Control*, 6 CCR 1007-1
- 6 CCR 1009-2, *Rules Pertaining to the Infant Immunization Program, the Vaccines for Children Program, and the Immunization of Students Attending School*
- *Colorado Primary Drinking Water Regulations* 5 CCR § 1002-11
- Colorado Department of Public Health and Environment *Swimming Pool and Mineral Bath Regulations*, 5 CCR 1003-5
- 6 CCR 1007-2, Part 1, *Regulations Pertaining to Solid Waste Sites and Facilities* and 6 CCR 1007-3, Parts 260-268, and Parts 99 and 100

During evaluation of prohibited and restricted chemical lists, the following resources were reviewed:

- Prohibited chemical list
 - American Chemical Society restricted chemical list
 - NIOSH prohibited chemical list
 - NIOSH restricted chemical list
 - Rhode Island prohibited chemical list
 - Washington prohibited chemical list
 - Washington restricted chemical list
- Restricted chemical list - 252 items
 - American Chemical Society restricted chemical list
 - NIOSH prohibited chemical list
 - NIOSH restricted chemical list
 - Rhode Island prohibited chemical list
 - Washington prohibited chemical list
 - Washington restricted chemical list

STAKEHOLDER COMMENTS

for Amendments to

6 CCR 1010-6, *Rules and Regulations Governing Schools in the State of Colorado*

The following individuals and/or entities were included in the development of these proposed rules:

- School Program Stakeholders
 - Alice Huyler, Colorado Safety Resources Center, Department of Public Safety
 - Mary Bartholomew, Smokey Hill High School
 - Marilyn Kemp, Eaglecrest High School
 - Jay Mead, Pueblo Centennial High School
 - Devon Burke, Pueblo County High School
 - Corey Brueckner, Heritage High School
 - Elnore Grow
 - Jeanette Carpenter
 - Marti Maguire
 - Dr. Susan M. Schelble, Metropolitan State University of Denver
 - Laura Duncan, Boulder Valley School District
 - Don Cameron, Lakewood High School
 - Brian Hatak, Arapahoe High School
 - Linda Cummings, North High School
 - Kimberly Sanborn Brogan, Jefferson County Public Schools
 - Rita Davis, Aurora Public Schools
 - Karola Hanks, Durango Fire and Rescue
 - Kimberly Howard, Aurora Public Schools
 - Jim Austin, Montrose County Health and Human Services
 - Jon Weir, Colorado Division of Fire Prevention and Control
 - Lynnea Rappold, Alamosa County Public Health Department
 - Charles Pope, Mesa County Valley School District 51
 - Cheri Giammo
 - CJ Oliver, Aspen Environmental Health Department
 - Steve Smith, Animas High School
 - Lane Drager, Boulder County Public Health Department
 - Randy Walters, Polaris Expeditionary Learning School
 - Dan Collins, Broomfield Health & Human Services Department
 - Victor Crocco, Chaffee Environmental Health Department
 - Cindy Dicken, Clear Creek County Public and Environmental Health Department
 - Ken Nordstrom, Delta County Health Department
 - Bob McDonald, Denver Department of Environmental Health
 - Ray Merry, Eagle County Health Department
 - Jim Goodwin, El Paso County Public Health
 - Gary Hartzell, Elbert County Public Health Department
 - Sid Darden, Fremont County Environmental Health Services
 - Yvonne Long, Garfield County Public Health
 - Carol Lynn Scheller, Hinsdale County Public Health
 - Dave Volkel, Jefferson County Public Health
 - Kelly Alvarez, Kit Carson County Health & Human Services
 - Jackie Littlepage, Lake County Public Health Agency
 - Jim Devore, Larimer County Department of Health & Environment

- School Program Stakeholders (continued)
 - John Martinez, Las Animas-Huerfano County District Health Department
 - Monique Mull, Mesa County Health Department
 - Melissa Mathews, Montezuma County Health Department
 - Jim Austin, Montrose County Health & Human Services
 - Carmen Vandenbardk, Northeast Colorado Health Department
 - Rick Ritter, Otero County Health Department
 - Sheila Cross, Park County Health
 - Bryan Daugherty, Pitkin County Environmental Health & Natural Resources
 - Seth Odette, Prowers County Public Health
 - Vicki Carlton, Pueblo City-County Health Department
 - Jeremy Simmons, Rio Blanco County Nursing Service, Rangely Main Office
 - Heather Savalox, Routt County Department of Environmental Health
 - Marla Luckey, San Juan Basin Health Department
 - Chris Smith, San Miguel County Environmental Health Department
 - Dan Hendershott, Summit County Environmental Health Department
 - Aaron Doussett, Teller County Environmental Health Department
 - Brian Hlavacek, Tri-County Health Department, Aurora Office
 - Deb Adamson, Weld County Department of Public Health & Environment
 - Steve Braun, Colorado Springs School District 11
 - Roger Felch
 - Elizabeth Greenman, Byers School District
 - Marian Knowles, Denver Jewish Day School
 - Justin Laboe, Adams 12 Five Star Schools
 - Karen Minter, Jeffco Public Schools
 - Bridget Molloy
 - Daniel Moors, Colorado Springs School District 11
 - Jyoti More, Denver Public Schools
 - Daniel Price, Jeffco Public Schools
 - Jon Russell, Addenbrooke Classical Academy
 - Christina Welsby, Addenbrooke Classical Academy
 - Julie E. Furstenu, Ph.D., Thomas B. Doherty High School
 - Heather Schambach, Lakewood High School
 - Robert Cassady, Standley Lake High School
 - Tyler Nash, Coronado High School
 - Larry Welshon, Alpine Valley School
 - John Fennell, Eagle Crest High School
 - Lisa Johnson, Northridge High School
 - Kaysie Walter, Otero County Health Department
- CDPHE staff
 - Jeff Lawrence, Division of Environmental Health and Sustainability, Director
 - Sean Scott, Division of Environmental Health and Sustainability, Deputy Director
 - Therese Pilonetti, Division of Environmental Health and Sustainability, Delegated Programs Unit Manager
 - Cary Ruble, Regulation Development and Enforcement Coordinator
 - Gregory McConnell, Division of Environmental Health and Sustainability, Environmental Protection Specialist (EPS)
 - Erika Atherly, Division of Environmental Health and Sustainability, EPS
 - Kara Stone, Division of Environmental Health and Sustainability, EPS
 - Matt Brandt, Division of Environmental Health and Sustainability, EPS

- Zack Lustgarten, Division of Environmental Health and Sustainability, EPS
- Marion O'Connor, Hazardous Materials and Waste Management Division
- Tom Simmons, Disease Control and Environmental Epidemiology Division
- Cathy White, Prevention Services Division
- Derek Boer, Hazardous Materials and Waste Management Division
- Nisha Alden, Disease Control and Environmental Epidemiology Division
- Alisha Cronquist, Disease Control and Environmental Epidemiology Division
- Nicole Comstock, Disease Control and Environmental Epidemiology Division
- Jennifer House, Disease Control and Environmental Epidemiology Division
- Jamie Damico, Disease Control and Environmental Epidemiology Division
- Lynnsay Trefren, Disease Control and Environmental Epidemiology Division
- Christine Hoefler, Air Pollution Control Division

The following individuals and/or entities were notified that this rule-making was proposed for consideration by the Board of Health:

Along with the above individuals and entities, the Division notified interested parties via the Division's website and sent an email notice to the Division's stakeholder list.

On or before the date of publication of the notice in the Colorado Register, the Division sent notice to persons and/or groups considered by the division to be interested parties to the proposed rule-making, and those who have requested notification/ information from the division regarding the proposed rule-making? Yes No. The Division provided notice beginning on September 3, 2014.

Summarize Major Factual and Policy Issues Encountered and the Stakeholder Feedback Received. If there is a lack of consensus regarding the proposed rule, please also identify the Department's efforts to address stakeholder feedback or why the Department was unable to accommodate the request.

The Division has been tracking opportunities to improve and modernize this regulation since its last amendment in 2005. Beginning in 2014, the division participated in preliminary discussions with representatives from Colorado School District Environmental Professionals (COSDEP) and the Colorado Chemistry Teachers Association (CCTA) to discuss opportunities to improve the regulation through revision. Formal regulation revision stakeholder meetings were held on October 3, 2014, October 24, November 21, and December 12, 2014, and both internal and external stakeholder feedback was documented, tracked, and evaluated for possible inclusion in the revised regulation. To the extent the rule revision modifies the mandate to local government (i.e. school districts, local public health agencies) the rule revision provides schools more flexibility while maintaining nationally recognized public and environmental health standards. The standards have been carefully balanced to ensure schools can be successful within existing resources. Though the standards have changed, the net impact is to create efficiency for schools. To date the Division has received no comments that the rule contains an unfunded mandate to local governments and the Division is still working with the community.

The majority of stakeholder comments have been accepted as proposed revisions and incorporated into the amended regulation, while others have been rejected because they are either out of scope or conflict with the general intent and/or authority of the regulations. Stakeholder meetings to date have resulted in consensus on the proposed revisions and have identified opportunities for the development of technical guidance to assist with implementation of the revised regulations.

Please identify health equity and environmental justice (HEEJ) impacts. Does this proposal impact Coloradoans equally or equitably? Does this proposal provide an opportunity to advance HEEJ? Are there other factors that influenced these rules?

The proposed revisions will continue to promote healthy and safe schools for Colorado students, faculty and other occupants regardless of race, color, national origin, or income. The proposed revisions to the prohibited and restricted chemical lists (fewer chemicals on these lists) provide increased flexibility for schools and educators and as such create an opportunity for charter schools and schools wanting to enhance their science programs. The proposed changes allow these schools to obtain, maintain and dispose of chemicals in a manner that minimizes burdens on the school or school district. Costs to manage and dispose of chemicals formerly on the prohibited chemical list will be reduced, lessening the burden on economically disadvantaged schools. The proposed requirement for schools to contract with a registered nurse to provide oversight for student health care, administer medication and carry out medical orders for students with special health care needs, assures that these services are equitably available to all students in Colorado.

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Division of Environmental Health and Sustainability

6 CCR 1010-6

RULES AND REGULATIONS GOVERNING SCHOOLS
IN THE STATE OF COLORADO
DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Division of Environmental Health & Sustainability

6 CCR 1010-6

STATE BOARD OF HEALTH

RULES AND REGULATIONS GOVERNING SCHOOLS IN THE STATE OF COLORADO

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COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Division of Environmental Health and Sustainability

6 CCR 1010-6

RULES AND REGULATIONS GOVERNING SCHOOLS
IN THE STATE OF COLORADO

~~DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT~~

~~Division of Environmental Health & Sustainability~~

~~6 CCR 1010-6~~

~~STATE BOARD OF HEALTH~~

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

Chapter One-
General Provisions

Administration

1-1016.1 Authority

This regulation is adopted pursuant to the authority in Sections 25-1-108(1)(c)(l), 25-1.5-101(1)(a),(h), (k), and (l), and 25-1.5-102(1)(a) and (d), Colorado Revised Statute (C.R.S.), and is consistent with the requirements of the State Administrative Procedures Act, Section 24-4-101, et seq., C.R.S.

6.2 Scope and Purpose

A. Purpose: The purpose of these "Rules and Regulations" is to provide This regulation establishes provisions governing:

- 1. minimum-Minimum sanitation requirements for the operation and maintenance of schools; and
- 2. minimum-Minimum standards for exposure to toxic materials and environmental conditions in order to safeguard the health of the school occupants and the general public; and
- 3. Investigation, control, abatement and elimination of sources causing epidemic and communicable diseases affecting school occupants and public health.

B. This regulation does not apply to:

- 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;

50 2. Health facilities licensed by the Colorado Department of Public Health and
 51 Environment under provisions of Section 25-3-101, C.R.S.; and

52
 53 3. Child care facilities licensed by the Colorado Department of Human Services
 54 under provisions of Sections 26-6-102(1.5), (2.5)(a), (5), (5.1), (8), (9), (10)(a),
 55 C.R.S.

56
 57
 58 **6.3 Application: Applicability**

59
 60 ~~A. These "Rules and Regulations" shall apply~~ The provisions of this section shall be
 61 applicable to all schools, kindergarten through grade twelve, in the State of Colorado.

62 A.

- 63
 64 1. Schools in operation prior to the effective date of these regulations, which
 65 would require ~~capitol~~ capital expenditures to fully meet all of the design,
 66 construction and equipment requirements of these regulations, may be deemed
 67 acceptable if in good repair and capable of being maintained in a sanitary
 68 condition and pose no hazard to the health of the school occupants
- 69
 70 2. Any school shall have a right to challenge any rule that they feel has been too
 71 rigidly applied. All challenges must be submitted to the Department in writing,
 72 stating the rule being challenged and the reason for the challenge. The
 73 Department shall hear the challenge and make recommendations
 74 determinations pursuant to the statute.
- 75
 76 3. These regulations shall not limit the powers and duties of local governments to
 77 issue such orders and adopt regulations as stringent as or more stringent than
 78 the provisions contained herein; as may be necessary for public health.

79
 80 ~~1-103 The Department recommends that all schools with laboratories, and/or~~
 81 ~~engaging in industrial arts or hazardous vocational activities should be inspected a~~
 82 ~~minimum of once per year. All other schools should be inspected a minimum of once~~
 83 ~~per three years. If a school is provided with a non-community water system, as~~
 84 ~~defined in the Colorado Primary Drinking Water Regulations, 5 CCR 5 1003-1 the water~~
 85 ~~supply system should be inspected at least once annually and evaluated or assessed at~~
 86 ~~every inspectional opportunity of the school or other regulated activities.~~

87
 88 ~~School food service inspections shall be conducted at the frequency established in the~~
 89 ~~Colorado Retail Food Establishment Rules and Regulations, 6 CCR 5 1010-2.~~

90
 91 ~~1-104 All public school district facilities that are constructed or remodeled~~
 92 ~~must submit construction plans to the Colorado Department of Labor and Employment,~~
 93 ~~Division of Labor, Public Safety Section.~~

94 B. Plans and specifications shall be submitted prior to construction or extensive remodel
 95 when required by the Department for the installation of sanitary facilities in existing
 96 schools being remodeled to increase the occupant load. Submission to the
 97 Department does not remove the requirements of the Colorado Department of Public
 98 Safety, Division of Fire Safety or local building authorities regarding submissions of
 99 plans and specifications.

101 B.C. Swimming pools shall be constructed, operated, and maintained in accordance with
102 the Colorado Department of Public Health and Environment *Swimming Pool and*
103 *Mineral Bath Regulations*, 5 CCR 1003-5, and Title 15, United States Code (USC),
104 Section 8001 et seq.

105
106 6.4 DEFINITIONSDefinitions

107
108 1-105 Definitions - For the purpose of these rules and regulations:

- 109
110 1. American National Standards Institute (ANSI) means an accreditation agency
111 that certifies adherence to particular standards.
- 112
113 2. a. Approved ~~-Shall~~ means acceptable to the Colorado Department of
114 Public Health and Environment or its authorized agents or employees, ~~based on~~
115 ~~determination as to conformance with appropriate standards and good public~~
116 ~~health practices.~~
- 117
118
119 3. Bacteria means organisms with a cell wall that can survive inside and outside of
120 the body.
- 121
122 4. Campus means a fixed location that includes the grounds and the academic,
123 administration, and support structures and facilities.
- 124
125 5. Carbon Monoxide Detector means a device that detects carbon monoxide and
126 that: (a) produces a distinct, audible alarm; (b) is listed by a nationally
127 recognized, independent product-safety testing and certification laboratory to
128 conform to the standards for carbon monoxide alarms issued by such laboratory
129 or any successor standards; (c) plugs into a school's electrical outlet and has a
130 battery backup, is wired into a school's electrical system and has a battery
131 back-up, or is connected to an electrical system via an electrical panel; and (d)
132 may be combined with a smoke detecting device if the combined device
133 complies with both Underwriters Laboratories, Inc. (UL) Standards 217 and
134 2034 regarding both smoke detecting devices and carbon monoxide alarms and
135 that the combined unit produces an alarm, or an alarm and voice signal, in a
136 manner that clearly differentiates between the two hazards.
- 137
138 6. Chemical Hygiene Plan means a written program that promotes the safe
139 management of chemicals for students, faculty and staff and promotes a
140 culture of safety within the school. The plan is comprised of procedures for
141 general laboratory safety, chemical management (including procurement,
142 storage, handling, and disposal), and spill response. The plan also includes
143 procedures for the operation and testing of laboratory chemical hoods and
144 other emergency and safety equipment.
- 145
146 7. Chemical Inventory means a listing of all hazardous chemicals, compounds, and
147 substances present in a school and must include the name and the original
148 amount of the chemical and the date the material entered the school.
149 Prohibited and restricted chemicals should be designated as such in the
150 inventory. The chemical inventory should include all hazardous chemicals,
151 compounds, products and wastes that are used or generated in the school's

152 maintenance, custodial, and lawn care facilities, science laboratories,
153 vocational and industrial arts curriculum, classrooms and administrative office.
154 Building materials are excluded from this requirement.

155
156 4.8. Chemical Waste means any chemical discarded or intended to be discarded.
157 When chemicals are spent, expired, no longer used, or needed they become
158 waste. This can also include those chemicals that are partially or wholly
159 crystallized, solidified or otherwise changed physically, whose containers are
160 damaged or leaking, and those chemicals listed as prohibited in Appendix A.

161
162 2.9. b. Classroom ~~Any~~ means any room used for instructional purposes by
163 students and/or staff on a routine basis.

164
165 10. c. Clean ~~means to be free of dust and debris or to remove dirt and debris~~
166 by vacuuming or scrubbing and washing with soap and water~~Free from dirt and~~
167 impurities.

168
169 11. Contamination means the presence of infectious microorganisms or chemicals
170 at levels toxic to human health in or on the body, environmental surfaces
171 including but not limited to table tops, chairs, desks, and laboratory working
172 areas, articles of clothing, and/or in food or water.

173
174 3.12. Critical Violations means provisions of these rules and regulations that, if
175 deemed in noncompliance, are more likely than other violations to contribute
176 to illness or environmental hazards that may contribute to a disease outbreak.
177 Critical violations include inappropriate clean up of high hazard bodily fluids,
178 lack of handwashing, ineffective sanitization and disinfection, ill personnel
179 preparing food, unsafe water supply or sewage disposal, pest infestation, food
180 temperature abuse and mismanagement of toxic or hazardous materials.

181
182 13. d. Department ~~T~~ means the Colorado Department of Public Health and
183 Environment and its authorized agents and employees.

184
185 14. Disinfect means to eliminate most or all pathogenic microorganisms, with the
186 exception of bacterial spores by using effective bactericidal heat or
187 concentration of chemicals which are registered with the U.S. Environmental
188 Protection Agency.

189
190 15. Drinking Water means water that meets criteria as specified in Section 25-1.5-
191 2, C.R.S., Colorado Primary Drinking Water Regulations. Drinking water is
192 traditionally known as “potable water”. Drinking water includes the term
193 “water” except where the term used connotes that the water is not potable,
194 such as “boiler water,” “mop water,” “rainwater,” “reclaimed water,”
195 “wastewater,” and “nondrinking water”.

196
197 4.16. Easily Cleanable means materials or surfaces that are smooth, durable, non-
198 absorbent, such that the soil, filth, and/or unseen contamination can be
199 effectively removed by normal cleaning methods.

200
201 17. e. Extensively Remodeled ~~Means~~ means making any structural or other
202 premises changes that ~~result in;~~ requires a building or construction permit ~~being~~

~~required~~ issued by the Colorado Department of ~~Labor and Employment~~ Public Safety, Division of ~~Labor~~ Fire Safety, ~~Public Safety Section~~ or ~~the Local~~ local Building ~~building~~ Authority ~~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. Routine maintenance, repairs, or cosmetic changes shall not be defined as extensive remodeling.

~~5-18.~~ High Hazard Body Fluids include urine, feces, saliva, blood, nasal discharge, eye discharge and injury or tissue discharge.

~~6. f. Guidelines - Standards that are approved by the Department to provide for the protection of the school occupants.~~

~~7.~~

~~19. g. Hazard/Hazardous - A means a situation or condition where there is a significant potential for injury, illness or death. (e.g., use or exposure to potentially hazardous chemicals, equipment, devices, etc.).~~

20. Imminent Health Hazard means a substantial danger to public health or safety, or a significant threat or danger to health that is considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent illness or injury based on the nature, severity, and duration of the anticipated illness or injury.

21. Immunization means the process by which a person becomes protected (immune) against a disease.

22. Infection means a condition caused by the multiplication of an infectious agent in the body.

23. Infectious means capable of causing an infection.

24. Infestation means the presence of unwanted pests such as insects, rodents, bats, birds, or parasites at levels considered to pose either an economic or health threat.

25. Inspection means an evaluation of the school to determine conformance with these rules and regulations.

a. Routine Inspection means an on-site evaluation by the Department of the school during its normal hours of operation, with program staff in attendance, to determine conformance with these rules and regulations.

b. Self certification means a checklist of regulatory requirements completed by school personnel for the purpose of assessing compliance.

c. Audit means a verification of the same checklist of regulatory requirements by the Department.

~~8-26.~~ Prohibited Chemicals means those substances with greater hazardous nature than educational utility. 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.

~~27. h. Refuse - All combustible or non-combustible, putrescible, or non-putrescible wastes~~ means any garbage, trash, or other forms of solid waste.

~~28. Restricted Chemicals~~ means those substances with a hazardous nature, but may have potential educational utility. Restricted chemicals are listed in Appendix B to this regulation.

~~9-29. Safety Data Sheet (SDS)~~ means written or printed material concerning a hazardous chemical that is provided by the chemical manufacturer and prepared in accordance with 29 CFR 1910.1200(g). Digital or other electronic versions of SDS may be approved at the discretion of the local fire authority.

~~10-30. i. Sanitary Facilities - T~~ means toilets, urinals, lavatories, showers, drinking fountains, utility sinks, and the service rooms provided for the installation and use of these units.

~~11-31. 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~~ Sanitization means effective bactericidal treatment by a process that provides enough accumulative heat or concentration of chemicals, registered with the U.S. Environmental Protection Agency, for sufficient time to reduce the bacterial count, including pathogens, to a safe level.

~~32. k. Sanitize -~~ means the application of a process or bactericidal treatment, registered with the U.S. Environmental Protection Agency, for a period of time sufficient to reduce the bacterial count, including pathogens, to a safe level. ~~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.~~ [†]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.

~~12. —~~

~~13-33. l. School~~ - Any facility (public, proprietary, parochial, denominational, or eleemosynary) which is maintained for educational purposes for six or more persons except:

~~a. 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.~~

~~a. —~~

[†]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.

- 300
301 | b. 2.—Educational programs and health facilities licensed by the
302 Colorado Department of Public Health and Environment under provisions
303 of Section 25-3-101, Colorado Revised Statutes (C.R.S.).
304
305 c. Child care facilities licensed by the Colorado Department of Human
306 Services under provisions of Sections 26-6-102(1.5), (2.5)(a), (5), (5.1),
307 (8), (9), (10)(a), C.R.S.
308

309 34. Standards mean requirements that are approved by the Department to provide
310 for the protection of the school occupants.

311
312 35. Toxic Materials means substances capable of causing injury, illness or death
313 when ingested, inhaled or absorbed.

314
315 ~~m.—School Plant—A fixed location that includes the grounds and the~~
316 ~~academic, administration, and support structures and facilities.~~

317 14.36. n.—Toxic Material—A chemical or other substance that has the ability to
318 cause injury, illness or death to humans upon ingestion, inhalation or skin
319 contact. Virus means a microscopic organism smaller than a bacterium that may
320 cause disease. Viruses can grow or reproduce only in living cells.
321

322 1-1066.5 Incorporation by Reference

323
324 These regulations incorporate by reference (as indicated within) materials originally published
325 elsewhere. Such incorporation does not include later amendments to or editions of the
326 referenced material. The Department maintains certified copies of the complete text of any
327 material incorporated by reference for public inspection during regular business hours and
328 shall provide certified copies of the incorporated material at cost upon request. Information
329 regarding how to obtain or examine the incorporated material is available from the Division
330 Director, Division of Environmental Health & Sustainability, Colorado Department of Public
331 Health & Environment, 4300 Cherry Creek Drive South, Denver, CO 80246-1530.
332

333 —Copies of the incorporated materials have been provided to the State Publications
334 Depository and Distribution Center, and are available for interlibrary loan. Any incorporated
335 material may be examined at any State Publications Depository Library.
336

337 6.6 Compliance Procedures

338 6.6.1 Inspections

339
340
341 The Department shall conduct inspections to determine the condition of schools for the
342 purpose of safeguarding the health of students, faculty and patrons of the school.
343

344 1. The Department shall be permitted to enter and inspect any school at any
345 reasonable time to determine compliance with this regulation or to investigate
346 unhealthy conditions or complaints.
347

348 2. All schools with laboratories, and/or engaging in industrial arts or hazardous
349 vocational activities should be inspected a minimum of once per year. All
350 other schools should be inspected a minimum of once per three years.

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3. If a school is provided with water from a non-community water system, as defined in the *Colorado Primary Drinking Water Regulations*, 5 CCR § 1002-11 the water supply system should be inspected at the frequency established by 5 CCR § 1002-11.
 4. School food service inspections shall be conducted at the frequency established in the *Colorado Retail Food Establishment Rules and Regulations*, 6 CCR 1010-2.
 5. When an inspection of a school is made, it shall accurately reflect the sanitary conditions at the time of the inspection. Specific findings shall be recorded on the inspection report.
 6. Upon completion of the inspection by the Department, a copy of the completed inspection report identifying existing violations shall be furnished to and signed by the school contact.
 7. The completed and signed inspection report is a public document that shall be made available for public disclosure, according to law, to any person who requests it.
 8. If during an inspection, or at any other time, it is determined by the Department that an imminent health hazard exists, the school shall immediately cease operations unless dismissal of the students would be detrimental to their well being or unless an alternative plan for operation has been approved by the Department. Operations shall not be resumed until authorized by the Department.

380 6.6.2 Self-Certification

381
382 The Department may require schools to complete and submit a Self-Certification Checklist.

- 383
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401
1. A Self-Certification Checklist completed, certified, and signed by an authorized school representative shall be considered equivalent to an on-site inspection performed by the Department.
 2. Any school that receives a Self-Certification Checklist from the Department shall complete and return the checklist within the time specified in the instructions provided by the Department.
 3. A self-certification checklist is deemed returned on the date it is received by the Department. The Department may provide an extension of time to complete and return a checklist upon request.
 4. The Self-Certification Checklist shall contain a certification in substantially the following form, which must be signed by an authorized representative of the school:
 - a. “I, the undersigned school representative, certify that:

- 402 (1) I have personally examined and am familiar with the information
403 contained in this submittal;
- 404
- 405 (2) The information contained in this submittal is to the best of my
406 knowledge, true, accurate, and complete in all respects;
- 407
- 408 (3) I am fully authorized to make this certification on behalf of this
409 facility; and
- 410
- 411 (4) I am aware that there are significant penalties including, but not
412 limited to, possible fines for willfully submitting false,
413 inaccurate, or incomplete information.”
- 414

415 6.6.3 Compliance Assurance

- 416
- 417 A. Where a school has violated any provision of the *Rules and Regulations Governing*
418 *Schools in the State of Colorado*, the Department may issue a compliance advisory
419 requiring the school take actions to correct regulatory deficiencies. A compliance
420 advisory may require the school to design, redesign, install, modify, construct or
421 reconstruct facilities or to take other such corrective action to eliminate any public
422 health hazard.
- 423
- 424 B. All violations cited during an inspection shall be corrected as soon as possible, but in
425 any event, by the date specified by the Department. Compliance advisories will be
426 sent to the school contact, the Principal, and the District Superintendent.
- 427
- 428 C. Any school in receipt of a compliance advisory shall prepare and submit to the
429 Department a Plan of Action detailing the corrective measures and timeframe required
430 to rectify critical violations or other significant deficiencies noted during an
431 inspection. Prior to implementation, the Plan of Action must be approved by the
432 Department.
- 433
- 434 D. Unless provided with a written extension from the Department, a school’s failure to
435 complete and submit the Self-Certification Checklist to the Department may result in
436 the issuance of a compliance advisory.
- 437
- 438 E. A school’s failure to respond to a compliance advisory issued by the Department or
439 rectify critical violations of the *Rules and Regulations Governing Schools in the State*
440 *of Colorado* may result in enforcement action including, but not limited to, public
441 notification of unresolved critical violations and noncompliance with these rules and
442 regulations.
- 443
- 444 F. Prior to the Department initiating enforcement action, an informal meeting may be
445 scheduled by the Department with school officials and other interested persons. This
446 meeting will be to discuss the violations and the reason(s) for noncompliance, and to
447 agree on an appropriate and viable Plan of Action to achieve regulatory compliance.
- 448
- 449 G. A school contesting an enforcement action may request a hearing. Requests for such a
450 hearing shall be filed in writing with the Department within 30 days after service of
451 the action. Such requests shall state the grounds upon which the action is contested
452 and state the amount of time the school estimates will be required for the hearing.

453 Hearings on the enforcement action shall be held in accordance with applicable
454 provisions of Article 4 of Title 24, C.R.S.

455
456 H. The Department shall have the power and duty to close a school and forbid the
457 gathering of people therein to protect students, faculty, and patrons of the school
458 from the cause of epidemic and communicable diseases or physical conditions,
459 operations, or maintenance practices that pose an imminent health hazard.

460 **6.6.4 Variance Procedures**

461
462 Schools may apply for a variance to these rules and regulations where the regulation is too
463 stringently applied, the intent can be met in another way, or compliance is cost prohibitive or
464 restrictive to curriculum.

465
466 Variance requests will be considered for general provisions of the rules and regulations
467 provided public health is protected. Such variance requests shall include the name of the
468 school, the applicable section of the regulation and the reason for the request and supporting
469 information.

470
471
472 Variance requests will be considered to allow the use of prohibited chemicals and storage
473 limitations on restricted chemicals provided the safety of students and faculty is assured.
474 Such variance requests shall include the name of the school, chemical name (and associated
475 SDS), and procedures for the management of the chemical, including procurement, storage,
476 handling, disposal and spill response as well as the qualification of the person(s) responsible.

477
478
479 Requests will be reviewed by representatives of the Department. Decisions are final and will
480 expire upon a change of circumstances, including changes in responsible personnel or the
481 alleviation of the initial hardship.

482
483

484 **Chapter Two**
485 **Grounds**

486
487 ~~2-101 The ground shall be self draining and free from depressions in which water~~
488 ~~may stand and be allowed to stagnate. The grounds shall be kept free from refuse,~~
489 ~~weed overgrowth, and other hazards.~~

490
491 ~~2-102 Livestock or poultry shall be located more than fifty (50) feet from food~~
492 ~~service areas, offices, or classrooms except those offices and classrooms associated~~
493 ~~with animal husbandry activities.~~
494

495 | ~~Chapter Three~~

496 | ~~6.7 Sanitary Facilities~~ ~~And~~ ~~and~~ ~~Controls~~

497 |

498 | ~~6.7.1 Water Supply~~

499 |

500 | ~~A. 3-101~~ ~~—~~ ~~Adequate, uncontaminated, safe drinking water for the needs of the~~
501 | ~~school shall be provided in the building housing the establishment and shall be from a~~
502 | ~~source constructed, maintained, and operated according to the Colorado Primary~~
503 | ~~Drinking Water Regulations and regulations adopted pursuant to Title 25-1.5-203,~~
504 | ~~C.R.S., or~~

505 |

506 | ~~1. If the school does not meet the definition of a public water system pursuant to~~
507 | ~~the Colorado Primary Drinking Water Regulations, promulgated pursuant to 25-~~
508 | ~~1.5-101 and 25-1.5-203, C.R.S., the school shall provide:~~

509 |

510 | ~~a. Adequate treatment on a continuous basis; and~~

511 |

512 | ~~b. Bacteriological samples at a minimum of once per quarter or at a~~
513 | ~~frequency determined by the Department; and~~

514 |

515 | ~~c. An N, N diethyl-p-phenylene diamine (DPD) colorimetric drinking water~~
516 | ~~test kit capable of testing free chlorine at an accuracy of 0.1 mg/Liter;~~
517 | ~~and~~

518 |

519 | ~~d. Free chlorine shall range from a trace amount to 4 mg/Liter (0.2 to 1.2~~
520 | ~~mg/Liter recommended) at any fixture; and~~

521 |

522 | ~~e. The previous twelve months of water sample reports shall be retained~~
523 | ~~on file at the school and shall be available for review by the~~
524 | ~~Department when request; and the school shall immediately report~~
525 | ~~positive results to Department.~~

526 |

527 | ~~4.2. Schools with water supplies determined to be surface water or under the direct~~
528 | ~~influence of surface water shall be required to filter their water to 1 micron~~
529 | ~~absolute using National Science Foundation (NSF) approved equipment and~~
530 | ~~maintain a residual disinfectant concentration to ensure inactivation and/or~~
531 | ~~removal of giardia and other parasitic cysts and viruses. The water supply system~~
532 | ~~shall provide a safe, potable, adequate water supply which meets the~~
533 | ~~requirements of the Department, including the Colorado Primary Drinking~~
534 | ~~Water Regulations 5 CCR § 1003-1 and where applicable, Rules and Regulations~~
535 | ~~For Well Construction, Pump Installation, and Monitoring and Observation~~
536 | ~~Hole/Well Construction/Water Well Construction Rules, 2 CCR § 402-2 or~~
537 | ~~provisions of other approved local codes.~~

538 |

539 | ~~A.B. 3-102~~ ~~—~~ ~~The water supply system shall deliver water at normal operating~~
540 | ~~pressures (20 pounds per square inch minimum) to all plumbing fixtures.~~

541 |

542 | ~~B.C. 3-103~~ ~~—~~ ~~When a total water service interruption exceeds a period of two (2)~~
543 | ~~hours, the school shall be closed, unless dismissal of the pupils would be detrimental~~
544 | ~~to their physical well being, or unless accessible approved alternatives for providing~~
545 | ~~potable drinking water are available that meet the requirements of and approved by~~

546 | the Department prior to use.

547

548 | C.D. 3-104 — Faucets on non-potable water supply systems used for irrigation or
549 | similar purposes shall be physically separated from the ~~potable~~ drinking water supply
550 | system and the faucets on the non-potable water system shall be clearly marked as
551 | unsafe for drinking.

552

553 | D.E. 3-105 — The water storage, distribution system, treatment facilities and other
554 | mechanical equipment shall be protected from unauthorized access.

555

556 | E.F. 3-106 — Where water is supplied by the school's independent water supply
557 | system, plans for the water system shall be submitted to the Department for approval
558 | prior to construction.

559

560 | 6.7.2 Sewage Disposal

561

562 | A. 3-201 — Facilities, approved by the Department, shall be provided and
563 | maintained for the treatment and sanitary disposal of sewage.

564

565 | B. 3-202 — Where a public sewer system is available, all plumbing fixtures and all
566 | building sewer lines shall be connected thereto. (Pursuant to Section 32-1-
567 | 1006(1)(a)(I) C.R.S.)

568

569 | C. 3-203 — If a public sewer system is not available, a sewage disposal system
570 | meeting the requirements of the Department shall be provided, and all plumbing
571 | ~~fixtures, fixtures~~ and building sewer lines shall be connected thereto. (Pursuant to
572 | Sections 25-8-702(1) and/or 25-10-105 C.R.S.)

573

574 | D. 3-204 — Where a total sewer service interruption exceeds a period of two (2)
575 | hours, the school shall be closed unless dismissal of the pupils would be detrimental to
576 | their physical well being, or unless accessible ~~approved~~ alternatives for the sanitary
577 | disposal of sewage are available ~~that meet the requirements of~~ and approved by the
578 | Department prior to use.

579

580 | E. 3-205 — Where non-water carriage sanitary facilities, such as vaults or privies
581 | are permitted, they shall be provided and installed in accordance with requirements
582 | of the Department.

583

584 | F. 3-206 — In all new schools and schools modifying existing sewage disposal
585 | systems or expanding their usage beyond the design capacity of the sewage disposal
586 | system, plans shall be submitted to the Department for review and approval in
587 | accordance with provisions of Sections 25-8-702 and/or 25-10-105 C.R.S. prior to
588 | construction.

589

590 | 6.7.3 Refuse Disposal

591

592 | A. 3-301 — The storage, collection, transportation and disposal of refuse shall be
593 | conducted to control odors, insects, rodents, accidents, or other nuisance conditions.

594

595 | B. 3-302 — Durable non-absorbent, cleanable refuse, recycling and composting
596 | containers shall be provided, kept in a clean condition and placed in readily accessible

597 locations.

- 598
- 599 C. ~~3-303~~ Exterior refuse, recycling and compost containers shall be easily
 600 cleanable, provided with covers, stored on a smooth surface of non-absorbent
 601 material, such as concrete or machine laid asphalt, and kept in a clean, sanitary
 602 condition. ~~storage areas shall be kept in a clean, sanitary condition. Refuse~~
 603 ~~receptacles for exterior storage of garbage or putrescible wastes shall be provided~~
 604 ~~with covers. Exterior refuse containers shall be stored on a smooth surface of non-~~
 605 ~~absorbent material, such as a concrete or machine laid asphalt.~~
- 606
- 607 D. ~~3-304~~ Exterior putrescible waste refuse storage areas shall be located a
 608 minimum of at least twenty five (25) feet away from food service areas and
 609 classrooms.
- 610
- 611 D. ~~3-305~~ Interior garbage containers shall be easily cleanable and shall be
 612 emptied whenever full. Refuse shall be removed from the ~~buildings building and~~
 613 premises on a regular basis, or at a minimum every
 614 twice weekly when putrescible wastes are stored
 615 seven days, and in a manner which would prevent creation of a nuisance condition.
- 616
- 617 E. Disposal or removal of hazardous materials shall be conducted in a safe manner and in
 618 accordance with state, federal, and local provisions.

619

620 **6.7.4 Insect ~~And~~, Rodent Control ~~And and~~ Classroom Animals**

- 621
- 622 A. ~~3-401~~ Insects, rodents, bats and other pests shall be managed, when they
 623 reach levels considered to pose economic or health threats, with integrated strategies
 624 for long-term pest suppression, using the most cost effective means with the least
 625 possible hazard to people, property, and the environment. ~~Rodents and insects shall be~~
 626 ~~controlled to maintain the facility free from vermin.~~
- 627
- 628 B. ~~3-402~~ Animals used for instructional purposes shall be maintained in a sanitary
 629 condition and in a manner to prevent health hazards or nuisance conditions. Their
 630 enclosures or pens shall be provided with easily cleanable surfaces and maintained in
 631 good repair. Hygienic practices shall be supervised during and following contact with
 632 animals. Location and/or presence of animals shall be determined based on the
 633 protection of the health of students and staff with allergies and/or asthma.
- 634
- 635 C. ~~3-403~~ The use of toxic compounds to control rodents, insects, and other pests
 636 shall be implemented only after other means have been used for control, such as the
 637 elimination of harborages, cleaning food waste, and sealing of ports of entry. All
 638 pesticides shall be used in accordance with U.S Environmental Protection Agency (EPA)
 639 registered label directions and stored in a safe manner in an area accessible only to
 640 authorized personnel. Application of EPA "restricted use pesticides" shall be
 641 performed only by a certified pesticide applicator. ~~All pesticides shall be used in~~
 642 ~~accordance with registered label directions and stored in a safe manner in an area~~
 643 ~~accessible only to authorized personnel. Application of "restricted use pesticides"~~
 644 ~~shall be performed only by a certified pesticide applicator.~~

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6.7.5 Plumbing

- A. 3-501 In the absence of more stringent plumbing codes, all plumbing fixtures shall be installed and maintained in accordance with the 2000-2009 10 Colorado Plumbing Code (2000 Uniform International 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.
- B. 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.
- C. 3-503 The potable drinking water supply shall be installed and maintained to preclude the possibility of backflow or back-siphonage of non-potable, used, unclean, polluted and contaminated water, or other substances, into any part of the potable drinking water system.
- ~~C.~~ D. 3-504 A properly installed approved backflow prevention device shall be provided for all potable drinking water supply outlets which are capable of receiving a hose connection.

6.7.6 Toilet, Lavatory ~~And~~ and Bathing Facilities

- A. 3-601 Schools shall take active steps to ensure hand washing before eating, after restroom use, and any other time hands may be contaminated.
- B. Toilet, lavatory, bathing facilities and drinking fountains shall be provided and accessible for use by physically handicapped persons installed in accordance 28 CFR, Part 36, Nondiscrimination On The Basis Of Disability By Public Accommodations And In Commercial Facilities.
- C. Each hand washing and classroom sink shall be provided with hot and cold water through a mixing valve or combination faucet. Hot water at sinks accessible to children shall be at least 90° F and shall not exceed a temperature of 120° F.
- D. The use of hand sanitizers in lieu of hand washing is not approved for use within the facility. Hand sanitizers may be used for staff and children and only at times and in areas where hand washing facilities are not available, such as while out of doors in remote locations. Hand sanitizers shall be stored in an area where use can be monitored.
- E. Sanitizers are to be used on surfaces that commonly come into contact with food, hands, the mouth, eyes, nose, and exposed skin of children and staff. General surfaces, chairs, desks, tables, keyboards, computer mice must be cleaned and sanitized at least once a week or whenever visibly soiled.
1. Acceptance of sanitizers shall be determined by the following requirements:
- a. The chemical is registered with the U.S. Environmental Protection Agency and the use of the chemical is in accordance with labeled

- 696 instructions, including:
- 697 (1) Concentration
- 698 (2) Contact time
- 699 (3) Method and
- 700 (4) Surfaces; and
- 701 b. Sanitizers shall meet the formulation, concentration and application
- 702 requirements of the Department.
- 703
- 704 F. Disinfectants are to be used on surfaces that are commonly contaminated with high
- 705 hazard body fluids, such as but not limited to restroom surfaces, toilet, diaper changing
- 706 areas and surfaces that have been in contact with high hazard body fluids.
- 707 1. Acceptance of disinfectants shall be determined by the following requirements:
- 708 a. The chemical is registered with the U.S. Environmental Protection Agency
- 709 and the use of the chemical is in accordance with labeled instructions,
- 710 including:
- 711 (1) Concentration
- 712 (2) Contact time
- 713 (3) Method and
- 714 (4) Surfaces; and
- 715 a. Disinfectants shall meet the formulation, concentration and application
- 716 requirements of the Department.
- 717 b.
- 718 G. ~~3-602~~ Drinking fountains shall be conveniently located on each floor and easily
- 719 accessible to all school program activities. Drinking fountains shall not be located ~~on~~
- 720 ~~sinks in science or art areas or~~ in toilet rooms ~~or other areas with increased potential~~
- 721 ~~for contamination (e.g., science, vocational, industrial, photography or art education~~
- 722 ~~areas).~~
- 723
- 724 A.H. Drinking fountains shall be equipped with angled jets and orifice guards located above
- 725 the rim of the fountain. The pressure shall be regulated so that the water stream
- 726 does not come in contact with, and passes, the orifice guard or splash onto the floor.
- 727 Separate angle jet drinking fountains, when installed, shall be at an appropriate
- 728 height.
- 729
- 730 B.I. ~~3-603~~ Use of common drinking cups or vessels is prohibited.
- 731
- 732 C.J. ~~3-604~~ Toilet rooms shall be conveniently located at a travel distance of not
- 733 more than two hundred (200) feet from any room to be served. All toilet rooms shall
- 734 be provided with adequate lavatory facilities.
- 735
- 736 D.K. ~~3-605~~ Soap and single service towels shall be available for all lavatory
- 737 facilities, except that mechanical warm air dryers may be used in lieu of towels.
- 738
- 739 E.L. ~~3-606~~ Hot and cold water or tempered water under operating pressures (20 PSI

740 minimum) shall be available for bathing and washing. Hot water delivered to showers
 741 and lavatories shall be at least ninety degrees (90°F) and shall not exceed one hundred
 742 and twenty degrees (120°F). The temperature of hot water at other fixtures shall not
 743 exceed one hundred and forty degrees (140°F), except where necessary for sanitizing
 744 purposes.

745
 746 F.M. 3-607 Toilets ~~bowls~~ shall be equipped with non-absorbent, easily
 747 cleanable sanitary toilet seats. Toilet paper shall be available at each toilet mounted
 748 in an appropriate dispenser.

749
 750 G.N. 3-608 Floors, walls, and ceilings of all toilet, ~~shower~~ and locker rooms shall be
 751 smooth, easily cleanable, non-absorbent and shall be maintained in good repair and in
 752 a clean, sanitary condition.

753
 754 H.O. 3-609 ~~In new construction, a~~ floor drain and a keyed hose bib with a vacuum
 755 breaker shall be available for all toilet rooms having a total combination of two (2) or
 756 more water closets or urinals. The floors in these rooms shall slope to the floor
 757 drains.

758
 759 I.P. 3-610 Showers shall be installed in accordance with the 2009 International
 760 Plumbing Code or as approved by the Department. A minimum of nine (9) square feet
 761 of floor area shall be provided per shower head in existing structures. New structures
 762 shall have twelve (12) square feet of floor area per shower head. Centralized shower
 763 heads shall be located at least three (3) feet apart. Showers shall be constructed to
 764 prevent water flow into the drying or dressing room space and shall slope to the floor
 765 drains. Shower floors, ceilings, and walls shall be easily cleanable and shower floors
 766 shall have a non-skid surface.

767
 768 Q. 3-611 Functional ~~water outlets~~ hose bibs shall be available, where necessary,
 769 at designated refuse, compost and recycling storage areas and at high density student
 770 common use areas within fifty (50) feet of the building where heavy accumulations of
 771 refuse are generated to minimize hazards and to maintain such areas in a clean, safe
 772 condition.

773 774 6.7.7 Diapering and Toileting

775
 776 Where diapering or bowel/bladder hygiene care is necessary, a separate changing area with
 777 privacy shall be available with a cleanable impervious surface large enough to accommodate
 778 the individual in care.

779
 780 1. This changing area shall be located:

781
 782 a. Away from any food preparation, storage and servicing areas.

783
 784 b. Nearby a handwashing sink with soap and hot and cold running water.

785
 786 c. Adjacent to a washable, covered container lined with a plastic bag,
 787 inaccessible to children, and used for disposal of soiled diapers, wipes
 788 and gloves.

789

- 790 d. Items unrelated to diaper changing shall not be placed on the changing
791 tables or wall hung changing stations.
- 792
- 793 2. If a changing mat is used it shall be kept clean and in good repair and shall be
794 cleaned and disinfected after each use.
- 795
- 796 3. The following procedure shall be conducted each time bowel or bladder
797 hygiene is provided:
- 798
- 799 a. Whenever bowel or bladder hygiene is conducted, individuals shall wear
800 a new pair of disposable gloves prior to beginning.
- 801
- 802 b. The student shall be cleaned wherever necessary.
- 803
- 804 c. Soiled diapers/underwear and clothing shall be replaced with clean
805 diapers/underwear and clothing.
- 806
- 807 d. Soiled clothes shall be placed in a plastic bag for parents or guardians to
808 take home. Soiled diapers shall be placed in a covered, impervious
809 plastic lined receptacle.
- 810
- 811 e. The student's hands shall be washed.
- 812
- 813 (1) Any contaminated surfaces should be cleaned and disinfected.
- 814
- 815 a.f. The staff member shall then thoroughly wash his/her hands.
- 816
- 817 ~~b. 3-612 Plans and specifications for the installation of sanitary facilities in~~
818 ~~existing schools being remodeled to increase the occupant load shall be submitted for~~
819 ~~review and approval in accordance with Departmental regulations prior to construction.~~
- 820 ~~c.~~
- 821 ~~d. 3-613 Swimming pools shall be constructed, operated, and maintained in~~
822 ~~accordance with the Colorado Department of Public Health and Environment *Swimming*~~
823 ~~*Pool and Mineral Bath Regulations*, 5 CCR § 1003-5. Plans for new or extensively~~
824 ~~remodeled pools shall be submitted to the Department for review and approval prior to~~
825 ~~construction.~~
- 826

827
828
829
830 **Chapter Four**

831 **6.8 Buildings, Occupancy, Space And Use and Grounds**

832
833 **6.8.1 Buildings**

- 834
835 A. ~~4-101~~—The school ~~plant~~ campus and accessory buildings shall be maintained in
836 good repair and in a clean and sanitary condition and in a manner that minimizes
837 health and safety hazards to building occupants.
- 838
839 B. ~~4-102~~—Adequate space shall be provided for each person in classrooms,
840 libraries, shops, laboratories, vocational training rooms, dining rooms, and other
841 related activity rooms or areas to lessen the possibility of health hazards, and disease
842 transmission. ~~In the absence of more stringent guidelines~~ Adequate space is required
843 in accordance with the 1997 Uniform Building 2006 International Building Code ~~shall be~~
844 used as a guideline for determining adequacy of space.
- 845
846 C. ~~4-103~~—Where necessary, classroom windows shall be equipped with blinds,
847 shades ~~of translucent material~~, or other effective means to prevent glare and to
848 control natural light.
- 849
850 D. ~~4-104~~—Windows, when opened, shall not create a hazard such as noise, dust,
851 fumes or extreme temperatures or hazard that may result in physical injury.
- 852
853 E. ~~4-105~~—Exposure to noise, dusts, toxic chemicals, or other hazards shall be
854 controlled at all times including when the building or portion thereof is occupied
855 during construction or remodeling.
- 856
857 1. Prior to remodeling any portion of the school building, an inspection identifying
858 asbestos containing materials shall be conducted, and an asbestos management
859 plan complying with the provisions of the Colorado Air Quality Control
860 Commission Regulation No. 8 shall be developed and maintained.
- 861
862 1.2. Schools constructed after the effective date of these rules and regulations shall
863 complete radon tests within nineteen months of the date of occupancy.
864 Schools remodeled after the effective date of these rules and regulations shall
865 notify the Department of such remodeling in order that the Department may
866 assess the need for any additional radon testing. Radon tests shall be
867 conducted pursuant to the procedures described in the Environmental
868 Protection Agency's, Radon Measurements in Schools, Revised Edition July 1993
869 (EPA Documents #402-R-92-014). The results of these tests shall be on file at
870 each school and available for review.
- 871
872 F. ~~4-106~~—When there is a change in classroom use, the design and construction of
873 the classroom facilities shall be appropriate for the new use, including safety
874 provisions required by Section 6.12 of this regulation, where applicable.
- 875
876 G. Detached structures and modular classrooms not provided with plumbing shall be no
877 more than 500 feet from restrooms and drinking water fountains, accessible through

878 an unlocked door or key access during all hours of operation, and shall be adequately
879 ventilated.

880
881 H. The school campus shall be maintained in a manner that prevents fire hazards. Fire
882 control methods shall conform to state and local fire prevention regulations.

883
884 I. School buses shall be operated and maintained to avoid health and safety hazards.

885 6.8.2 Grounds

886
887
888 A. The ground shall be self draining and free from depressions in which water may stand
889 and be allowed to stagnate. The grounds shall be kept free from refuse, unused
890 equipment, weed overgrowth, and other hazards. All outdoor areas shall be
891 maintained in a sanitary condition and be free of insect and rodent harborages, open
892 or accessible wells, grease traps, cisterns, cesspools, septic tanks, and/or utility
893 equipment.

894
895 B. Raw agricultural products grown on-site shall be permitted in school cafeterias
896 provided school gardens and greenhouses conform to U.S. Department of Agriculture
897 Good Agricultural Practices.

898
899 C. Livestock or poultry shall be located more than fifty (50) feet from food service areas,
900 offices, or classrooms except those offices and classrooms associated with animal
901 husbandry activities.

902 6.9 Mechanical Requirements

903 6.9.1 Electrical

904
905
906
907
908 A. ~~5-101~~ Schools shall be provided with operational electrical service and
909 artificial lighting ~~throughout the school~~ at all times when occupied.

910
911 B. ~~5-102~~ The electrical system shall be maintained in good repair and shall not
912 present a hazard to health and safety. In the absence of more stringent electrical
913 codes, ~~installation, maintenance and use of the electrical system shall adhere to the~~
914 ~~2002-2014 National Electrical Code shall be used as a guideline for the installation,~~
915 ~~maintenance and use of the electrical system.~~

916
917 ~~B.C.~~ When an electrical service interruption exceeds a period of two (2) hours, the school
918 shall be closed, unless dismissal of the pupils would be detrimental to their physical
919 well being, or unless accessible approved alternatives for providing lighting,
920 temperature control, and hot water are available that meet the requirements of the
921 Department.

922 6.9.2 Lighting

923
924
925 A. ~~5-201~~ The electrical lighting system shall provide the following average light
926 level intensities: thirty-five (35) foot candles for classrooms, libraries, offices,
927 laboratories and shops; ~~fifty (50) foot candles for drafting, typing, sewing rooms and~~
928 ~~other rooms where close eye task activities are routinely conducted;~~ twenty (20) foot

929 | candles for reception rooms, rest-rooms, gymnasiums, service rooms, swimming areas
930 | and dining areas; ten (10) foot candles for auditoriums, locker rooms and stairways;
931 | and five (5) foot candles for corridors, hallways, storage and utility areas. Light level
932 | intensities shall be measured at the work surface or thirty (30) inches from the floor.
933 |

934 | B. ~~5-202~~ Extreme brightness ratios (glare and shadow) shall be minimized by
935 | avoiding glossy surfaces, by use of diffused lighting, by use of easily cleanable high
936 | light reflectance paints or other finishes for ceilings, walls, and floors, by use of
937 | window shades, routine cleaning and maintenance of electrical fixtures, and/or other
938 | measures necessary to prevent undue glare and maintain a high level of light
939 | effectiveness.
940 |

941 | C. ~~5-203~~ Appropriate measures shall be taken to assure that persons are not
942 | exposed to harsh lighting, ~~such as ultra-violet light~~, which may be harmful to the eyes,
943 | such as ultra-violet light.
944 |

945 | 6.9.3 Ventilation

946 |
947 | A. ~~5-301~~ Ventilation, mechanical or natural, shall be installed and maintained in
948 | accordance with the 2013 American Society of Heating, Refrigeration and Air
949 | Conditioning Engineers Standard 62.1-2013, Ventilation for Acceptable Indoor Air
950 | Quality and to minimize health hazards including excessive drafts, extreme
951 | temperatures, humidity, and temperature fluctuations. ~~The American Society of~~
952 | ~~Heating, Refrigeration and Air Conditioning Engineers 1989 Standard 62, Ventilation~~
953 | ~~for Acceptable Indoor Air Quality shall be used as a guideline for proper indoor~~
954 | ~~ventilation.~~
955 |

956 | B. ~~5-302~~ Ventilation system filters shall be cleaned or replaced regularly or
957 | according to manufacturer's recommendations to prevent excessive accumulation of
958 | dust or debris.
959 |

960 | C. ~~5-303~~ Each room provided with an exhaust system shall have air supplied to
961 | the room equal to the amount to be exhausted. Windows shall not be used for the
962 | purpose of providing makeup air.
963 |

964 | D. ~~5-304~~ Unvented combustion heaters, kitchen stoves, or hot plates shall be
965 | prohibited for space heating purposes. Portable electric heaters with exposed
966 | elements shall not be used in any student activity area.
967 |

968 | E. ~~5-305~~ Hot plates, skillets, or similar type cooking appliances shall be used for
969 | food preparation only in kitchen, home economics room, or in rooms specifically
970 | designated and equipped for such use.
971 |

971 | F. _____
972 | G.E. ~~5-306~~ ~~In schools where smoking of tobacco products is permitted indoors, such~~
973 | ~~smoking must be confined to an enclosed room(s) and the building ventilation system~~
974 | ~~shall effectively remove environmental tobacco smoke (ETS), so as to protect students~~
975 | ~~and nonsmoking staff from its irritating and harmful effects. Smoking areas must also~~
976 | ~~be segregated from common work and break areas, in order that workers who choose~~
977 | ~~to refrain from ETS exposure can, in the normal course of their duties, do so.~~
978 |

979 | **6.9.4** Heating

980 |

981 | ~~5-401~~ The heating system provided shall be properly maintained and provide, in all
982 | occupied rooms, minimum room temperatures of sixty (60°) F sixty (60) inches above the floor
983 | in shops and gymnasiums and sixty-five (65°) F thirty (30) inches above the floor in
984 | elementary, secondary, and higher educational school classrooms, and at floor level in
985 | kindergarten ~~and day care center areas~~. A plan that addresses operating during periods of
986 | extreme temperature, as it relates to indoor air, shall be developed.

987 |

988 |

989 | **Chapter Six**

990 | **6.10 Equipment ~~And~~ Supplies**

- 991
- 992 | A. ~~6-101~~ Instructional, athletic, recreational or other equipment used in or out of
993 | the classroom shall be maintained in a clean, safe condition.
- 994
- 995 | B. ~~6-102~~ Toys and equipment shall meet the current requirements of the
996 | Colorado Hazardous Substance Act (Section 25-5-501 and Section 25-5-508, et. seq.,
997 | C.R.S.).
- 998
- 999 | C. ~~6-103~~ Gym equipment shall be kept clean and in good repair. Body contact
1000 | equipment surfaces shall be routinely cleaned and sanitized.
- 1001
- 1002 | D. ~~6-104~~ Equipment used in physical therapy and special education shall be
1003 | cleaned and sanitized after each use.
- 1004
- 1005 | E. ~~6-105~~ Facilities shall be available for the proper storage of clean clothing, and
1006 | of athletic, instructional, and recreational equipment and supplies to minimize health
1007 | hazards and to facilitate cleaning.
- 1008
- 1009 | F. ~~6-106~~ Cleaning materials, tools, and maintenance equipment shall be provided
1010 | and shall be safely stored and secured in a locked area. Safety Data Sheets (SDS) for
1011 | pesticides, toxic or hazardous cleaning and maintenance chemicals and materials shall
1012 | be maintained and organized to be easy to locate in the event of a spill or accidental
1013 | exposure.
- 1014
- 1015 | G. ~~6-107~~ Pesticides, toxic or hazardous cleaning and maintenance chemicals and
1016 | materials shall be stored separately in a ventilated and locked cabinet or area
1017 | accessible only to authorized personnel. The ventilation requirement of this section
1018 | may not be required in areas where minimum quantities of the above mentioned
1019 | materials are stored for daily use. In the absence of more stringent guidelines
1020 | requirements flammable or combustible materials shall be stored in accordance with
1021 | the 2000-2015 National Fire Protection Association Code 30 Flammable and
1022 | Combustible Liquids Code.
- 1023
- 1024 | H. ~~6-108~~ Kindergartens, health service rooms, or other areas, where sleeping is
1025 | permitted shall be provided with sleeping facilities including cots or pads, with
1026 | washable or disposable covers. These sleeping facilities shall be maintained in good
1027 | repair and provided in a clean condition for each new user.
- 1028
- 1029 | I. ~~6-109~~ Towels and wash cloths, and other linens, where provided, shall be
1030 | laundered to insure exposure to a water temperature of at least one hundred ~~thirty~~
1031 | forty degrees (~~130°F~~ 140°F) for a combined wash and rinse period of at least twenty-
1032 | five (25) minutes or shall reach at least 140°F in a heat drying cycle. an equally
1033 | effective washing procedure. Such linens, towels, and wash cloths shall be issued
1034 | clean, used by only one person and shall be laundered after each use.
- 1035 |

Chapter Seven6.11 School Food Service

A. Food service activities shall be conducted in accordance with the requirements of the Colorado Retail Food Establishment Rules and Regulations, 6 CCR 1010-2.

1. 7-101 ~~Each s~~Schools preparing ~~food either off site or on site,~~ or serving food other than pre-packaged, non-potentially hazardous food or raw, unprocessed produce shall obtain a certificate-Retail Food Establishment License or Certificate of License as required by provisions of Section 25-4-1607(9)(a)(I) C.R.S.

B. 7-102 ~~Food service activities shall be conducted in conformance~~accordance with the ~~physical and operational~~ requirements of the *Colorado Retail Food Establishment Rules and Regulations* 6 CCR ~~§~~-1010-2.

C. 7-103 ~~Food served by~~Establishments serving food at the school but not prepared on-site by school staff shall be ~~obtained-licensed, from sources~~ inspected and approved by the Department. The ~~food~~Food shall be transported, stored and served in a manner to prevent contamination, time and temperature abuse or adulteration.

D. 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.~~

E. 7-105 ~~Plans and specifications for construction or alteration of food service facilities shall be submitted in accordance with the requirements of Section 25-4-1605 C.R.S.~~

Chapter Eight6.12 Laboratory, Industrial, Art, ~~And~~ and Vocational Hazards6.12.1 General Procedures

- A. 8-101 Provisions shall be made for the protection of students and staff engaging in arts, crafts, industrial arts, physical and biological sciences, vocational, educational or any activities where potentially hazardous chemicals, hazardous devices or hazardous equipment are used. These provisions include the development and posting of operating instructions, ~~regulations and procedures~~ regulations, procedures, and a chemical hygiene plan. All potentially hazardous chemicals, hazardous devices or hazardous equipment including those used in art, industrial art and vocational art areas shall be used only in accordance with the product labeling. If available, specific manufacturer's instructions and warnings for safe use of the product or equipment shall be followed. When available, products with the safest materials shall be used (e.g., those with few or no cautionary/warning labels). Additional guidance regarding potential hazards and health and safety provisions associated with industrial and vocational arts and crafts is provided in the U.S. Consumer Product Safety Commission's Publication No. 5015, Art and Craft Safety Guide.
- B. Exposure to noise, or toxic liquids, dusts, gases, mists, fumes or vapors or other hazards shall be controlled to avoid health hazards.
- C. A current SDS shall be provided in an organized and easily searchable format (e.g., alphabetically filed) for all toxic or hazardous substances and shall be available for review upon request. A copy of the SDS shall be kept on file in a location away from the areas where the aforementioned chemicals are stored. Digital or other electronic versions of SDS may be approved at the discretion of the local fire authority.
- D. In the absence of more stringent standards the 2012 National Fire Protection Association Code 30 Flammable and Combustible Liquids Code and 2011 National Fire Protection Association Code 45 Fire Protection for Laboratories Using Chemicals shall be used as standards for the proper storage, handling and use of chemicals in the school.
- E. A chemical hygiene plan which addresses all areas of the school where toxic or hazardous substances are used or stored shall be provided. All restricted chemicals present in the school, including those stored in laboratory, vocational, arts, and custodial areas, shall be individually addressed in the plan. A copy of the plan shall be kept on file in a location away from the areas where chemicals are stored. The chemical hygiene plan shall be reviewed and updated, as necessary, at least once annually. All schools must develop a Chemical Hygiene Plan by January 1, 2016.
- F. Procedures shall be established for the management of chemical waste and shall be addressed in the chemical hygiene plan. All containers of chemical waste shall be labeled to their contents and with the words "not for use" or "waste", maintained in good condition and separated by reactive group. Chemical waste shall be stored in a designated area away from normal classroom operations and away from sinks and floor drains. Chemical waste shall be handled and stored in a manner that minimizes the possibility of a fire, explosion, or release. A hazardous waste determination shall be

1116 made for all waste chemicals in accordance with 6 CCR 1007-3 Part 261 of the
1117 Colorado Hazardous Waste Regulations. Hazardous waste chemicals must be properly
1118 disposed of at a permitted facility and shall not be disposed of on-site. All other
1119 chemical waste shall be disposed of using an appropriate method as provided on the
1120 chemical SDS, or as indicated by the manufacturer.

1121
1122 G. A current list of emergency services with telephone numbers, including the name,
1123 address and telephone number of the school, shall be posted in one or more prominent
1124 place(s) in each school.

1125
1126 H. Aspirators or suction bulbs shall be used for drawing liquids into pipettes. The mouth
1127 must not be used directly on the pipettes.

1128 6.12.2 Safety Equipment

1129
1130
1131 A. Protective clothing, that meets the ANSI Z49.1-2014 Standard- *Safety in Welding,*
1132 *Cutting, and Allied Processes*, shall be worn by all students participating in, observing,
1133 or in close proximity to welding or other such activities that could result in sparks
1134 contacting clothing. Welding helmets, that meet the requirements of ANSI Z49.1-2014
1135 Standard- *Safety in Welding, Cutting, and Allied Processes*, shall be worn by all
1136 students participating in, observing, or in close proximity to welding. Protective
1137 clothing shall be maintained clean and in good repair.

1138
1139 B. Eye protection, that meet the ANSI Z87.1-2010 Standard for Occupational and
1140 Educational Personal Eye and Face Protection Devices must be worn by all students
1141 participating in, observing, or in close proximity to any experiment or activity which
1142 could result in eye injury. Eye protection glasses, goggles, face shields, and similar
1143 eye protection devices shall be issued clean, in good repair and properly sanitized
1144 between students and stored in a protected place. Sanitization of eye protection can
1145 be accomplished using a ultraviolet light case, a chemical sanitizer in accordance with
1146 Section 6.7.6, or other effective means approved by the Department.

1147
1148 C. An easily accessible fire blanket must be provided in all areas where an open flame is
1149 used.

1150
1151 D. Where there is potential for exposure to skin with toxic, infectious or irritating
1152 materials, a hand washing facility shall be available.

1153
1154 E. An easily accessible operational eye wash fountain that meets the ANSI Z358.1-2009
1155 Standard must be provided in each laboratory or other areas where corrosives or
1156 irritating materials are used. The eye wash fountain shall be maintained clean,
1157 permanently plumbed, and provide a hands-free continuous flow of water capable of
1158 flushing both eyes simultaneously. The use of portable eye wash bottles as substitutes
1159 is not permitted. Easily accessible means no more than 55 feet from the storage or
1160 use of corrosive or irritating materials so that it can be reached with impaired vision
1161 within 10 seconds or less. Eye wash fountains shall be tested annually with
1162 documentation available upon request.

1163
1164 F. An easily accessible operational safety shower that meets the ANSI Z358.1-2009,
1165 capable of providing continuous flowing water, shall be provided for each laboratory
1166 or other areas where corrosive or irritating chemicals are used. The safety shower can

1167 be centrally located so as to serve more than one area provided that it is within 55
1168 feet from the storage or use of corrosive or irritating materials and can be reached
1169 with impaired vision within 10 seconds or less. The safety shower shall be tested
1170 annually with documentation available upon request.

1171
1172 G. A master gas control valve (MGCV), is required on gas supply lines to vocational areas
1173 and science laboratories. The MGCV shall stop the flow of gas to all appliances/
1174 equipment located in the room and must function as a manually operated emergency
1175 gas shut-off. One MGCV shall be provided for each room and made easily accessible.
1176 Electric shut-off switches shall be provided in areas where power equipment is used.
1177 Master gas valves and electric shut-off switches shall be labeled for high visibility and
1178 tested annually with documentation available upon request.

1179
1180 H. Fire extinguishers are required in accordance with the 2011 National Fire Protection
1181 Association Code 45 Fire Protection for Laboratories Using Chemicals. Dry chemical
1182 Class ABC extinguishers are recommended for laboratory use. If combustible metals
1183 (e.g., Mg, Na, K) are present, laboratories must have a class D extinguisher or those
1184 agents shown to be effective in controlling combustible metal fires as well.

1185
1186 I. All emergency and safety equipment shall be tested annually with documentation
1187 available upon request and labeled for high visibility.

1188
1189 J. Radioactive materials and equipment shall conform to the Colorado Department of
1190 Public Health and Environment Rules and Regulations Pertaining to Radiation Control,
1191 6 CCR 1007-1.

1192 6.12.3 Storage Provisions

1193
1194
1195
1196 A. ~~8-102~~ Toxic or hazardous materials shall be stored in ~~approved safe and~~
1197 ~~appropriate laboratory~~ containers, separated by reactive group and stored in a
1198 ventilated, locked, fire-resistant ~~area or~~ cabinet. The ventilation requirement of this
1199 section may not be required where minimum quantities of such materials are stored
1200 for daily use. ~~Toxic or hazardous materials must be stored according to the chemical~~
1201 ~~manufacturer's storage temperature requirements at all times including during school~~
1202 ~~holidays and breaks.~~

1203
1204 B. ~~8-103~~ Original ~~c~~Containers of chemicals, poisons, corrosive substances and
1205 flammable liquids shall be clearly labeled with the name, ~~and original quantity~~ of the
1206 material and the date the material entered the school. ~~Secondary containers and/or~~
1207 ~~prepared solutions intended for storage shall be labeled with chemical name and, if~~
1208 ~~applicable, the formula, date of preparation, disposal date, and concentration.~~

1209
1210 C. ~~Prohibited chemicals are those chemicals that pose an inherent, immediate and~~
1211 ~~potentially life threatening risk, injury or impairment due to toxicity or other chemical~~
1212 ~~properties to the students, staff or other occupants of the school. These chemicals~~
1213 ~~are prohibited from use and/or storage at the school and the s~~Schools shall not ~~is~~
1214 ~~prohibited from~~ purchasing or accepting donations of ~~such prohibited~~ chemicals.
1215 ~~These chemicals are prohibited from use and/or storage at the school unless a~~
1216 ~~variance from this regulation is requested in writing by the school and approved by~~
1217 ~~Department. If prohibited chemicals are found in the school, they shall be identified~~

1218 on the container label as “not for use” or “waste” and segregated from the chemical
1219 inventory. Unless a variance has been granted by the Department, all schools must
1220 dispose of prohibited chemicals by January 1, 2017. Prohibited chemicals are listed in
1221 Appendix A to this regulation.

1222
1223 D. Restricted chemicals shall be removed from the schools if alternatives can be used.
1224 ~~Restricted chemicals are those chemicals that are restricted by use, and/or quantities.~~
1225 ~~If restricted chemicals are present at the school, each chemical shall be~~ identified in
1226 the school’s chemical inventory and addressed in the school’s written
1227 emergency chemical hygiene plan as ~~addressed required by~~ in sections Sections 8-112
1228 and 8-113.12.1(E)(F) of these regulations. Containers of restricted chemicals shall be
1229 labeled as such. ~~Restricted chemicals are listed in Appendix B to this regulation.~~ The
1230 amount of restricted chemical shall be no more than what can be used in one school
1231 year. Restricted chemicals are listed in Appendix B of this regulation.

1232
1233 ~~A. Restricted chemicals (demonstration use only) are a subclass in the restricted~~
1234 ~~chemical lists that are limited to instructor demonstration. Students may not participate in~~
1235 ~~the handling or preparation of restricted chemicals as part of a demonstration. If restricted~~
1236 ~~chemicals (demonstration use only) are present at the school, each chemical shall be~~
1237 ~~addressed in the school’s written emergency plan as addressed in sections 8-112 and 8-113 of~~
1238 ~~these regulations. Demonstration only chemicals are listed in Appendix B2 to this regulation.~~

1239
1240 ~~E. 8-107 Exposure to noise, or toxic liquids, dusts, gases, mists, fumes or vapors~~
1241 ~~or other hazards shall be controlled to avoid health hazards.~~

1242 ~~F.~~

1243 G.E. 8-108 All chemicals, compounds, solvents, and hazardous substances shall be
1244 inventoried by the school a minimum of once a year. The inventory shall include the
1245 name of the compound, the amount, and the date year it entered the school. If
1246 restricted or prohibited chemicals are present in the school, they shall be designated
1247 as such in the chemical inventory. A copy of the inventory shall be kept in the area of
1248 use and on file in a location away from the areas where ~~the aforementioned~~
1249 materials chemicals are stored. The updated inventory shall be available upon
1250 request.

1251
1252 ~~H. 8-109 A current material safety data sheet shall be provided for all poisonous,~~
1253 ~~toxic, or hazardous substances and shall be available for review upon request.~~

1254 ~~I.~~

1255 ~~J. 8-110 In the absence of more stringent guidelines the 2000 National Fire~~
1256 ~~Protection Association Code 30 Flammable and Combustible Liquids Code and 2000~~
1257 ~~National Fire Protection Association Code 45 Fire Protection for Laboratories Using~~
1258 ~~Chemicals shall be used as guidelines for the proper storage, handling and use of~~
1259 ~~chemicals in the school.~~

1260
1261 K.F. 8-111 Refrigerators used for flammable compounds shall be prominently
1262 marked to indicate they meet the appropriate design requirements for safe storage of
1263 flammable liquids. Food for consumption shall not be stored in refrigerators used for
1264 flammable or any other laboratory related materials. Food and food containers for
1265 experimentation shall be labeled as “not for consumption” and segregated from foods
1266 intended for consumption.

1267
1268 ~~B. 8-112 A written plan for response to and cleanup of chemical spills shall be~~

- 1269 | provided by the school. A copy of the plan shall be kept on file in a location away
1270 | from the areas where chemicals are stored.
- 1271 |
- 1272 | ~~L. 8-113 A written plan that explains the proper storage, handling and disposal~~
1273 | ~~procedures for all poisonous, toxic or hazardous substances shall be on file in each~~
1274 | ~~school in a location away from the areas where these substances are stored and shall~~
1275 | ~~be available for review upon request.~~
- 1276 | ~~M. _____~~
- 1277 | ~~N. 8-114 A list of first aid procedures for accidental poisoning shall be posted.~~
1278 | ~~The telephone number and location of the nearest poison control center shall be posted near~~
1279 | ~~the telephone.~~
- 1280 | ~~O. _____~~
- 1281 | P.G. 8-115 The storage, preparation, and consumption of food and drink is
1282 | prohibited in any area where there are ~~poisonous,~~ toxic or hazardous substances.
1283 | When a student's individual health care plan requires food to be readily available, it
1284 | shall be allowed in these areas as long as it is protected from contamination and not
1285 | available for general consumption.
- 1286 |
- 1287 | Q.H. 8-116 Glassware shall be properly constructed and designed for its intended
1288 | use and shall be handled and stored in a safe manner.
- 1289 |
- 1290 | ~~A. 8-117 Aspirators or suction bulbs shall be used for drawing liquids into pipets.~~
1291 | ~~The mouth must not be used directly on the pipets.~~
- 1292 |
- 1293 | ~~R. 8-118 Eye protection, that meet the American National Standards Institute~~
1294 | ~~1989 Z87.1 Standard - Practice for Occupational/Education Eye and Face Protection~~
1295 | ~~must be worn by all students participating in, observing, or in close proximity to any~~
1296 | ~~experiment or activity which could result in eye injury. Eye protection glasses,~~
1297 | ~~goggles, face shields, and similar eye protection devices shall be issued clean and~~
1298 | ~~properly sanitized and stored in a protected place.~~
- 1299 |
- 1300 | ~~B. 8-119 An easily accessible fire blanket must be provided in each laboratory or~~
1301 | ~~other area where an open flame is used.~~
- 1302 |
- 1303 | ~~C. 8-120 Where there is exposure to skin contamination with poisonous,~~
1304 | ~~infectious or irritating materials, a hand washing facility shall be available.~~
- 1305 |
- 1306 | ~~D. 8-121 An easily accessible operational eye wash fountain must be provided in~~
1307 | ~~each laboratory or other areas where corrosives or irritating chemicals are used. The~~
1308 | ~~eye wash fountain shall be clean and must be tested annually. The use of portable~~
1309 | ~~eye wash bottles as substitutes is not permitted.~~
- 1310 |
- 1311 | ~~E. 8-122 An easily accessible operational safety shower, capable of providing~~
1312 | ~~continuous flowing water, shall be provided for each laboratory or other areas where~~
1313 | ~~corrosive or irritating chemicals are used. The safety shower can be centrally located~~
1314 | ~~so as to serve more than one area if doors are not locked, and convenient prompt~~
1315 | ~~access is available.~~
- 1316 |
- 1317 | ~~F. 8-123 Master gas valves and electric shut-off switches shall be provided for~~
1318 | ~~each laboratory or areas where power equipment is used.~~
- 1319 |

1320 ~~G. 8-124 All emergency and safety equipment including master valves, shut off switches,~~
1321 ~~eye wash fountains, safety showers, fire extinguishers (appropriate for the intended~~
1322 ~~use), and fire alarm pull stations and other similar equipment shall be tested at least~~
1323 ~~once annually and labeled for high visibility~~

1324
1325 ~~H. 8-125 Use of X-ray machines and other electronic devices producing ionizing or~~
1326 ~~non-ionizing radiation and radioactive materials and equipment shall conform to the~~
1327 ~~Colorado Department of Public Health and Environment *Rules and Regulations*~~
1328 ~~*Pertaining to Radiation Control*, 6 CCR § 1007-1.~~

1329 **6.12.4 Ventilation**

1331
1332 A. ~~8-201~~ All areas shall be adequately ventilated through mechanical means so
1333 that exposures to hazardous or toxic materials are maintained to a safe level.
1334 Additional guidance in determining safe levels is provided in the American Conference
1335 of Governmental Industrial Hygienists, *Threshold Limit Values and Biological*
1336 *Exposures Indices*. In the absence of more stringent guidelines the American
1337 Conference of Governmental Industrial Hygienists 1989 *14Threshold Limit Values and*
1338 *Biological Exposures Indices* shall be used as a guideline to determine safe levels.

1339
1340 B. ~~8-202~~ Local exhaust ventilation shall be provided so that contaminants are
1341 exhausted away from the student and not through the breathing zone.

1342
1343 C. ~~8-203~~ Sufficient fume hood capacity ventilation shall be provided and shall be
1344 used for any activity producing hazardous toxic or noxious gases, mists, vapors, or
1345 dusts.

1346
1347 1. a. Hoods must exhaust directly to the outside and shall be located a
1348 minimum of 10 feet from any building air-intakes or building openings.

1349
1350 2. b. Discharges of any reportable air pollutant from any exhaust hood must
1351 meet applicable Colorado Air Pollution Standards.

1352
1353 ~~2.3.~~ Spray booths and finishing rooms where flammable or combustible materials
1354 are used shall be constructed in accordance with 29 CFR 1910.107.

1355
1356 ~~3.4.~~ c. A minimum face velocity of 100 feet ~~per~~ minute (fpm) and a maximum
1357 of 120 fpm for general laboratory hoods must be provided.

1358
1359 ~~4.5.~~ Air flow of fume hoods must be tested at least once a school year annually with
1360 documentation available upon request.

1361
1362 D. Operational carbon monoxide alarms shall be installed in areas where fossil fuel-fired
1363 heaters and appliances are used such as in boiler rooms and kitchens. Maintenance and
1364 installation of carbon monoxide detectors should comply with manufacturer's
1365 instructions. Carbon monoxide alarms must be tested at least annually with
1366 documentation available upon request. Carbon monoxide detectors that are only
1367 battery-powered should be tested monthly and the batteries should be replaced at
1368 least annually.

1369
1370 E. A current boiler inspection certificate shall be posted and available upon request.

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6.13 Health Service

- A. Each school must contract with a registered nurse to provide oversight for student health care, including training and supervision of unlicensed school staff to administer medication and carry out medical orders for students with special health care needs.
- B. Children in care shall be immunized as required by 6 CCR 1009-2, *Rules Pertaining to the Infant Immunization Program, the Vaccines for Children Program, and the Immunization of Students Attending School*. The official Certificate of Immunization, official Exemption form or written documentation of the student being In-Process shall be on file for each enrolled student. Upon request of state or local health agencies, schools are responsible for providing records with identifiers removed if the school is subject to the Family Educational Rights and Privacy Act (FERPA).
- A.C. ~~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, hand cleaner, small flashlight and extra batteries, scissors, tweezers, blanket and a triangular bandage shall be provided and kept conveniently available for emergency use.
- ~~1.~~ ~~The administration of syrup of ipecac and/or activated charcoal is prohibited without first consulting with a licensed physician or a poison control center.~~
- ~~2.1.~~ ~~b.~~ First aid supplies and equipment with an expiration date shall be discarded and replaced once that date has past.
- D. ~~9-102~~ At all times during the school day and during school sponsored ~~use~~ period events, including those off-site, at least one staff member shall be on duty in each school who has a current certification from a nationally recognized course in Standard First Aid and Cardio Pulmonary Resuscitation (CPR) certification course. ~~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.
- B.E. Schools that acquire Automated External Defibrillators (AEDs) shall ensure public health and safety in accordance with C.R.S. 13-21-108.1.
- C.F. ~~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.
- G. ~~9-104~~ Every emergency health care room or area must have an easily accessible restroom within 50 feet and 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. A sink with hot running water shall be located in the health care room or area.
- D.H. ~~9-105~~ Medication administered by trained school personnel with oversight by a registered nurse 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. ~~Emergency medications such as epinephrine shall be inaccessible to~~

- 1422 | students, immediately available to trained school personnel and not in a locked
1423 | cabinet. If refrigeration is required, the medication shall be stored:
1424 |
1425 | 1. a.—In a separate refrigerator maintained for that purpose only, or
1426 |
1427 | 2. b.—In an impervious secondary container in a designated area of a food
1428 | storage refrigerator, separated from food and inaccessible to children.
1429 |
1430 | E.I. 9-106—Telephone or radio communications shall be provided and kept available
1431 | in each school for emergency purposes.
1432 |
1433 | F.J. 9-107—A written plan ~~with common procedures for handling emergency~~
1434 | ~~medical services~~with common procedures for handling medical emergencies shall be
1435 | kept ~~in each school~~and made available for review. A current list of emergency
1436 | services with telephone numbers, including the address and telephone number of the
1437 | school, shall be posted in one or more prominent place(s) in each school.
1438 |
1439 | G.K. 9-108—A written all hazards plan for handling ~~internal and external natural or~~
1440 | ~~man-made~~ disasters and mass casualty events, such as natural disasters and large
1441 | outbreaks, shall be prepared by each school. A copy of this plan shall be maintained
1442 | in each school. Disaster training and review will be conducted each year at each
1443 | school. Principals, school personnel and students will periodically review and test
1444 | each disaster plan.
1445 |
1446 | H.L. Oxygen use in school by students should be in a non-flammable environment and there
1447 | should be signage posted in the school that oxygen is in use.
1448 |
1449 | I.M. Medications acquired by the school or abandoned by parents shall be disposed of in
1450 | accordance with 6 CCR 1007-2, Part 1, Regulations Pertaining to Solid Waste Sites and
1451 | Facilities and 6 CCR 1007-3, Parts 260-268, and Parts 99 and 100.
1452 |

APPENDICES

Appendix A

Prohibited Chemicals

(Substances With Greater Hazardous Nature Than Educational Utility)

Appendix A - Prohibited Chemicals**(Substances With Greater Hazardous Nature Than Educational Utility)**

- A. Chemicals used in the laboratory may be hazardous because of the following:
1. Safety risks (i.e., highly flammable or explosive material)
 2. Acute and chronic health hazards
 3. Environmental harm
 4. Impairment of indoor air quality
- B. Assessment of the chemicals in this list indicates that their hazardous nature is greater than their potential usefulness in many school programs. Evaluation included physical hazards (i.e., flammability, explosive propensity, reactivity, corrosivity) and health hazards (i.e., toxicity, carcinogenicity).
- C. This following list of chemicals was generated from the *Manual of Safety and Health Hazards in the School Science Laboratory* published by U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health [1984].
- D. Carcinogenic substances were identified from the *Report on Carcinogens* (10th Edition) generated by the National Toxicology Program (2002).

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Acrylonitrile</u>	<u>107-13-1</u>	<u>Flammable (NFPA = 3), reasonably anticipated human carcinogen</u>
<u>Ammonium chromate</u>	<u>7788-98-9</u>	<u>Oxidizer, known human carcinogen</u>
<u>Aniline</u>	<u>62-53-3</u>	<u>Combustible, may be fatal if inhaled, ingested or absorbed through the skin</u>
<u>Aniline hydrochloride</u>	<u>142-04-1</u>	<u>May be fatal if inhaled, ingested, or absorbed through the skin</u>
<u>Antimony trichloride</u>	<u>10025-91-9</u>	<u>Corrosive</u>
<u>Arsenic and its compounds</u>	<u>N/A</u>	<u>Known human carcinogen</u>
<u>Asbestos</u>	<u>1332-21-4</u>	<u>Known human carcinogen</u>
<u>Ascarite II</u>	<u>N/A</u>	<u>Corrosive, may be fatal if ingested</u>
<u>Benzene</u>	<u>71-43-2</u>	<u>Flammable (NFPA = 3), known human carcinogen, mutagen</u>
<u>Benzoyl peroxide</u>	<u>94-36-0</u>	<u>Flammable (NFPA = 3), explosive, oxidizer</u>
<u>Calcium cyanide</u>	<u>592-01-8</u>	<u>May be fatal if inhaled or ingested</u>

Appendix A - Prohibited Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Carbon disulfide</u>	<u>75-15-0</u>	<u>Flammable (NFPA = 4), acute cns toxicity and peripheral neurotoxicity</u>
<u>Carbon tetrachloride</u>	<u>56-23-5</u>	<u>May be fatal if inhaled or ingested, reasonably anticipated human carcinogen</u>
<u>Chloral hydrate</u>	<u>302-17-0</u>	<u>Controlled barbiturate</u>
<u>Chlorine</u>	<u>7782-50-5</u>	<u>Oxidizer, corrosive, may be fatal if inhaled</u>
<u>Chloroform</u>	<u>67-66-3</u>	<u>Reasonably anticipated human carcinogen</u>
<u>Chlorpromazine</u>	<u>50-53-3</u>	<u>Controlled substance</u>
<u>Chromium hexavalent compounds</u>	<u>N/A</u>	<u>Known human carcinogen</u>
<u>Chromium trioxide</u>	<u>1333-82-0</u>	<u>Oxidizer, Corrosive, known human carcinogen</u>
<u>Colchicine</u>	<u>64-86-8</u>	<u>May be fatal if ingested, mutagen</u>
<u>p-Dichlorobenzene</u>	<u>106-46-7</u>	<u>Combustible, reasonably anticipated human carcin</u>
<u>Dimethylaniline</u>	<u>121-69-7</u>	<u>May be fatal if inhaled, ingested, or absorbed through the skin</u>
<u>p-Dioxane</u>	<u>123-91-1</u>	<u>Flammable (NFPA = 3), forms peroxides (Group 2), reasonably anticipated human carcinogen</u>
<u>Ethylene dichloride (1,2-Dichloroethane)</u>	<u>107-06-2</u>	<u>Flammable (NFPA = 3), reasonably anticipated human carcinogen, mutagen</u>
<u>Ethylene oxide</u>	<u>75-21-8</u>	<u>Flammable (NFPA = 4), explosive (NFPA = 3), may be fatal if inhaled or absorbed through the skin, known human carcinogen</u>
<u>Gunpowder</u>	<u>N/A</u>	<u>Explosive</u>

Appendix A - Prohibited Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Hexachlorophene</u>	<u>70-30-4</u>	<u>May be fatal if inhaled, ingested or absorbed through the skin, possible teratogen</u>
<u>Hydrobromic acid</u>	<u>10035-10-6</u>	<u>Corrosive, may be fatal if inhaled or ingested</u>
<u>Hydrofluoric acid</u>	<u>7664-39-3</u>	<u>Corrosive, may be fatal if inhaled or ingested (liquid and vapor can cause severe burns not always immediately painful or visible but possibly fatal)</u>
<u>Hydrogen</u>	<u>1333-74-0</u>	<u>Flammable (NFPA = 4)</u>
<u>Hydriodic acid</u>	<u>10034-85-2</u>	<u>Corrosive, may be fatal if inhaled or ingested</u>
<u>Lead arsenate</u>	<u>7784-40-9</u>	<u>Known human carcinogen, teratogen</u>
<u>Lead carbonate</u>	<u>1319-46-6</u>	<u>May be fatal if inhaled or ingested, neurotoxic</u>
<u>Lead (VI) chromate</u>	<u>7758-97-6</u>	<u>May be fatal if inhaled or ingested, known human carcinogen</u>
<u>Lithium, metal</u>	<u>7439-93-2</u>	<u>Combustible, water reactive</u>
<u>Lithium nitrate</u>	<u>7790-69-4</u>	<u>Oxidizer</u>
<u>Magnesium, metal (powder)</u>	<u>7439-95-4</u>	<u>May ignite spontaneously on contact with water or damp materials</u>
<u>Mercury</u>	<u>7439-97-6</u>	<u>Corrosive, may be fatal if inhaled or ingested</u>
<u>Mercuric chloride</u>	<u>7487-94-7</u>	<u>May be fatal if inhaled, teratogen</u>
<u>Methyl iodide (iodomethane)</u>	<u>74-88-4</u>	<u>May be fatal if inhaled, ingested or absorbed through the skin, potential carcinogen (NIOSH)</u>
<u>Methyl methacrylate</u>	<u>80-62-6</u>	<u>Flammable (NFPA = 3), explosive (vapor)</u>
<u>Methyl orange</u>	<u>547-58-0</u>	<u>Possible mutagen</u>
<u>Methyl red</u>	<u>493-52-7</u>	<u>Possible mutagen</u>

Appendix A - Prohibited Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Nickel, metal</u>	<u>7440-02-0</u>	<u>Reasonably anticipated human carcinogen, mutagen</u>
<u>Nickel oxide</u>	<u>1314-06-3</u>	<u>Reasonably anticipated human carcinogen, mutagen</u>
<u>Nicotine</u>	<u>45-11-5</u>	<u>May be fatal if inhaled, ingested, or absorbed through the skin</u>
<u>Osmium tetroxide</u>	<u>20816-12-0</u>	<u>May be fatal if inhaled or ingested</u>
<u>Paris green</u>	<u>12002-03-8</u>	<u>May be fatal if inhaled, ingested or absorbed through the skin, known human carcinogen</u>
<u>Phenol</u>	<u>108-95-2</u>	<u>Combustible (liquid and vapor), corrosive, may be fatal if inhaled, ingested or absorbed through the skin</u>
<u>Phosphorus pentoxide</u>	<u>1314-56-3</u>	<u>Water reactive, corrosive</u>
<u>Phosphorous, red, white</u>	<u>7723-14-0</u>	<u>May ignite spontaneously in air</u>
<u>Phthalic anhydride</u>	<u>85-44-9</u>	<u>Combustible/finely dispersed particles form explosive mixtures in air, corrosive</u>
<u>Potassium, metal</u>	<u>7440-09-7</u>	<u>Flammable (nfpa = 3), water reactive, forms peroxides</u>
<u>Potassium oxalate</u>	<u>583-52-8</u>	<u>Corrosive, may be fatal if ingested</u>
<u>Potassium sulfide</u>	<u>1312-73-8</u>	<u>Spontaneously combustible, explosive in dust or powder form, corrosive</u>
<u>Pyridine</u>	<u>110-86-1</u>	<u>Flammable (nfpa = 3), possible mutagen</u>
<u>Selenium</u>	<u>7782-49-2</u>	<u>Severe irritant</u>
<u>Silver cyanide</u>	<u>506-64-9</u>	<u>May be fatal if inhaled, ingested or absorbed through the skin</u>
<u>Silver nitrate</u>	<u>7761-88-8</u>	<u>Oxidizer, corrosive, may be fatal if ingested</u>
<u>Silver oxide</u>	<u>20667-12-3</u>	<u>Oxidizer</u>

Appendix A - Prohibited Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Sodium arsenate</u>	<u>7778-43-0</u>	<u>May be fatal if inhaled or ingested, known human carcinogen</u>
<u>Sodium arsenite</u>	<u>7784-46-5</u>	<u>Known human carcinogen, teratogen</u>
<u>Sodium azide</u>	<u>26628-22-8</u>	<u>Explosive, may be fatal if ingested or absorbed through the skin</u>
<u>Sodium chromate</u>	<u>7775-11-3</u>	<u>Oxidizer, corrosive, known human carcinogen</u>
<u>Sodium cyanide</u>	<u>143-33-9</u>	<u>May be fatal if inhaled, ingested or absorbed through the skin</u>
<u>Sodium dichromate</u>	<u>10588-01-9</u>	<u>Oxidizer, corrosive, may be fatal if ingested, known human carcinogen</u>
<u>Sodium nitrite</u>	<u>7632-00-0</u>	<u>Oxidizer</u>
<u>Sodium sulfide</u>	<u>1313-82-2</u>	<u>Corrosive, may be fatal if inhaled or ingested</u>
<u>Sodium thiocyanide</u>	<u>540-72-7</u>	<u>Contact with acid liberates very toxic gas</u>
<u>Stannic chloride (anhydrous)</u>	<u>7646-78-8</u>	<u>Corrosive, hydrochloric acid liberated upon contact with moisture and heat</u>
<u>Stearic acid</u>	<u>57-11-4</u>	<u>May form combustible dust concentration in the air</u>
<u>Strontium</u>	<u>7440-24-6</u>	<u>Water reactive</u>
<u>Strontium nitrate</u>	<u>10042-76-9</u>	<u>Oxidizer</u>
<u>Sudan IV</u>	<u>85-83-6</u>	<u>Irritant, toxic properties have not been thoroughly evaluated</u>
<u>Sulfuric acid, fuming</u>	<u>8014-95-7</u>	<u>Corrosive, may be fatal if ingested</u>
<u>Tannic acid</u>	<u>1401-55-4</u>	<u>Irritant</u>
<u>Tetrabromoethane</u>	<u>79-27-6</u>	<u>May be fatal if inhaled, ingested or absorbed through the skin</u>
<u>Thioacetamide</u>	<u>62-55-5</u>	<u>Reasonably anticipated human carcinogen</u>

Appendix A - Prohibited Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Thiourea</u>	<u>62-56-6</u>	<u>Reasonably anticipated human carcinogen</u>
<u>Titanium trichloride</u>	<u>7705-07-9</u>	<u>Water reactive, corrosive</u>
<u>Titanium tetrachloride</u>	<u>7550-45-0</u>	<u>Water reactive, corrosive, may be fatal if inhaled</u>
<u>o-Toluidine</u>	<u>95-53-4</u>	<u>Reasonably anticipated human carcinogen, mutagen</u>
<u>Uranium</u>	<u>7440-61-1</u>	<u>Radioactive material</u>
<u>Uranyl acetate</u>	<u>541-09-3</u>	<u>Radioactive material</u>
<u>Urethane</u>	<u>51-79-6</u>	<u>Combustible, reasonably anticipated human carcinogen</u>
<u>Wood's metal</u>	<u>8049-22-7</u>	<u>May be fatal if inhaled or ingested, known human carcinogen (cadmium), neurotoxic</u>

Appendix B

Restricted Chemicals

(Substances With a Hazardous Nature, but May Have Potential Educational Utility)

Appendix B - Restricted Chemicals**Substances With a Hazardous Nature, but May Have
Potential Educational Utility**

- A. These chemicals should be removed from the schools if alternatives can be used. For those that must be retained, amounts should be kept to a minimum. These are appropriate for advanced-level High School classes only.
- B. This following list was generated from the *Manual of Safety and Health Hazards in the School Science Laboratory* published by U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health [1984].
- C. Carcinogenic substances were identified from the *Report on Carcinogens* (10th Edition) generated by the National Toxicology Program (2002).

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Acetamide</u>	<u>60-35-5</u>	<u>Combustible solid</u>
<u>Aluminum chloride</u>	<u>7446-70-0</u>	<u>Water reactive, corrosive</u>
<u>Ammonium bichromate</u>	<u>7789-09-5</u>	<u>Oxidizer, corrosive, known human carcinogen</u>
<u>Ammonium oxalate</u>	<u>1113-38-8</u>	<u>May be fatal if inhaled or ingested</u>
<u>Ammonium vanadate</u>	<u>7803-55-6</u>	<u>May be fatal if inhaled or ingested</u>
<u>Antimony</u>	<u>7440-36-0</u>	<u>May be fatal if inhaled, irritant</u>
<u>Antimony oxide</u>	<u>1309-64-4</u>	<u>Irritant</u>
<u>Antimony potassium tartrate</u>	<u>11071-15-1</u>	<u>Irritant</u>
<u>Barium chloride</u>	<u>10361-37-2</u>	<u>May be fatal if ingested, irritant</u>
<u>Benzene (phenylbutazone)</u>	<u>50-33-9</u>	<u>Irritant</u>
<u>Beryllium carbonate</u>	<u>66104-24-3</u>	<u>Irritant</u>
<u>Bromine</u>	<u>7726-95-6</u>	<u>Oxidizer, corrosive, may be fatal if inhaled or ingested</u>
<u>Cadmium and cadmium compounds</u>	<u>N/A</u>	<u>Known human carcinogen</u>
<u>Carmine</u>	<u>860-22-0</u>	<u>Irritant, burning may produce carbon monoxide, carbon dioxide, sulfur oxides, and nitrogen oxides.</u>
<u>Catechol</u>	<u>120-80-9</u>	<u>Corrosive</u>
<u>Chromic acid</u>	<u>7738-94-5</u>	<u>Oxidizer, known human carcinogen</u>
<u>Chromium acetate</u>	<u>1066-30-4</u>	<u>Irritant</u>

Appendix B - Restricted Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Cobalt, metal</u>	<u>7440-48-4</u>	<u>Possible human carcinogen (IARC, Group 2B)</u>
<u>Cobalt nitrate</u>	<u>10141-05-6</u>	<u>Oxidizer, irritant</u>
<u>Cyclohexane</u>	<u>110-82-7</u>	<u>Flammable (NFPA = 3)</u>
<u>Cyclohexene</u>	<u>110-83-8</u>	<u>Flammable (nfpa = 3), corrosive, forms peroxides</u>
<u>Dichloroindophenol sodium salt</u>	<u>620-45-1</u>	<u>Irritant</u>
<u>2,4-Dinitrophenol</u>	<u>51-28-5</u>	<u>Irritant</u>
<u>Ferrous Sulfate</u>	<u>7720-78-7</u>	<u>Irritant</u>
<u>Formaldehyde (formalin)</u>	<u>50-00-0</u>	<u>Flammable (NFPA = 3), reasonably anticipated human carcinogen</u>
<u>Fuchsin (acid/basic)</u>	<u>3244-88-0/632-99-5</u>	<u>Irritant</u>
<u>Gasoline</u>	<u>8006-61-9</u>	<u>Flammable (NFPA = 3)</u>
<u>Hematoxylin</u>	<u>517-28-2</u>	<u>Irritant</u>
<u>Hydrogen sulfide</u>	<u>7783-06-4</u>	<u>Corrosive</u>
<u>Hydroquinone</u>	<u>123-31-9</u>	<u>May be fatal if ingested</u>
<u>Isoamyl alcohol (isopentyl alcohol)</u>	<u>123-51-3</u>	<u>Irritant, combustible liquid and vapor</u>
<u>Isobutyl alcohol</u>	<u>78-83-1</u>	<u>Flammable (NFPA = 3)</u>
<u>Magnesium chlorate</u>	<u>10326-21-3</u>	<u>Irritant</u>
<u>Methyl ethyl ketone</u>	<u>78-93-3</u>	<u>Irritant, flammable (NFPA = 3)</u>
<u>Methyl oleate</u>	<u>112-62-9</u>	<u>Toxic properties not investigated</u>
<u>Nickel carbonate</u>	<u>3333-67-3</u>	<u>Reasonably anticipated human carcinogen</u>
<u>Nickelous acetate</u>	<u>373-02-4</u>	<u>Reasonably anticipated human carcinogen</u>
<u>Paradichlorobenzene</u>	<u>106-46-7</u>	<u>Irritant</u>
<u>Pentane</u>	<u>109-66-0</u>	<u>Irritant, flammable (NFPA = 4)</u>
<u>Petroleum ether</u>	<u>8032-32-4</u>	<u>Flammable (NFPA = 4)</u>
<u>1-Phenyl-2-Thiourea (Phenylthiocarbamide)</u>	<u>103-85-5</u>	<u>May be fatal if inhaled or ingested</u>

Appendix B - Restricted Chemicals

<u>Chemical</u>	<u>CAS Number</u>	<u>Hazard</u>
<u>Potassium chlorate</u>	<u>3811-04-9</u>	<u>Oxidizer</u>
<u>Potassium chromate</u>	<u>7789-00-6</u>	<u>Oxidizer, known human carcinogen</u>
<u>Potassium periodate</u>	<u>7790-21-8</u>	<u>Oxidizer</u>
<u>Potassium permanganate</u>	<u>7722-64-7</u>	<u>Oxidizer, corrosive</u>
<u>Salol (phenyl salicylate)</u>	<u>118-55-8</u>	<u>Irritant</u>
<u>Sodium bromate</u>	<u>7789-38-0</u>	<u>Oxidizer</u>
<u>Sodium chlorate</u>	<u>7775-09-9</u>	<u>Oxidizer</u>
<u>Sodium fluoride</u>	<u>7681-49-4</u>	<u>May be fatal if inhaled or ingested</u>
<u>Sodium oxalate</u>	<u>62-76-0</u>	<u>Corrosive, may be fatal if ingested</u>
<u>Sodium nitrate</u>	<u>7631-99-4</u>	<u>Oxidizer, irritant</u>
<u>Sodium silicofluoride</u>	<u>16893-85-9</u>	<u>Toxic</u>
<u>Sudan III</u>	<u>85-86-9</u>	<u>Decomposes to oxides of nitrogen</u>
<u>Sulfamethazine</u>	<u>57-68-1</u>	<u>Irritant</u>
<u>Toluene</u>	<u>108-88-3</u>	<u>Flammable (NFPA = 3), irritant, may be fatal if ingested</u>
<u>Trichloroethylene</u>	<u>79-01-6</u>	<u>Reasonably anticipated human carcinogen</u>
<u>Urethane</u>	<u>51-79-6</u>	<u>Combustible, reasonably anticipated human carcinogen</u>
<u>Xylenes</u>	<u>1330-20-7</u>	<u>Flammable (NFPA = 3), irritant, may be fatal if ingested</u>

~~**FINDINGS OF EMERGENCY AND JUSTIFICATION FOR EMERGENCY ADOPTION**~~~~REVISIONS TO THE RULES AND REGULATIONS
GOVERNING SCHOOLS IN THE STATE OF COLORADO~~~~April 4, 2003 Rulemaking~~

~~Emergency adoption of these rule changes is imperatively necessary to comply with state statute and regulations and for the preservation of public health, safety or welfare. Compliance with the requirements of C.R.S. § 24-4-103 would be contrary to public interest. Emergency adoption of these rule changes is to comply with the requirements of C.R.S. § 24-4-103 for materials incorporated by reference based on the review conducted by the Colorado General Assembly, Office of Legislative Legal Services. The purpose of the emergency adoption is to assure that the sections 8-110, 8-118, and 8-201 of the Rules and Regulations Governing Schools in the State of Colorado do not expire on May 15, 2003 under the terms of Senate Bill 03-88. Failure to have the sections within the governing regulation would remove requirements for the proper storage of hazardous and toxic chemicals the use of appropriate eye protection and ventilation systems in laboratories and vocational areas in schools.~~

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	378-92-2	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	AlP	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						

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Antimony Compounds						
Arsenic And Arsenic Compounds						
Azides						
Azidocarbonyl Guanidine						
Barium	Ba	2	2	1		W
Barium Chlorate	Ba(ClO ₃) ₂ *H ₂ O	13477-00	1	2	0	OX
Barium Oxide (Anhydrous)	BaO	1304-28-5	2	3	0	
Barium Peroxide	BaO ₂	1304-29-6	0	1	0	OX
Benzene	C ₆ H ₆	71-43-2	0	2	3	
Benzene Diazonium Chloride						
Benzotriazole	C ₆ H ₅ N ₃	95-14-7	0	2	1	
Benzoyl Peroxide	(C ₆ H ₅ CO) ₂ O ₂	94-36-0	4	1	4	OX
Benzyl Alcohol	C ₆ H ₅ CH ₂ OH	100-51-6	0	2	1	
Bismuth Nitrate	Bi(NO ₃) ₃ *5H ₂ O	10035-06	3	1	0	OX
Borane, Boranes, Diboranes						
Boron Tribromide			2	3	0	W
Boron Trifluoride			1	4	0	
Bromine Pentafluoride	BrF ₅	7789-30-2	3	4	0	W,O
Bromine Trifluoride			3	4	0	W,O
Butadiene	C ₄ H ₆ /CH ₂ =(CH) ₂ =CH	106-99-0	0	2	4	
Butenetriol Trinitrate						
Cadmium and Cadmium Compounds						
Calcium Nitrate, Anhydrous	Ca(NO ₃) ₂	10124-37	3	1	0	OX
Calcium Permanganate	Ca(MnO ₄) ₂					
Carbon Tetrachloride	CCl ₄	56-23-5	0	3	0	
Chloral Hydrate	CCl ₃ CH(OH) ₂	302-17-0				

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Chlorine	Cl ₂	7782-50-5	0	4	0	OX
Chlorine Dioxide	ClO ₂	10049-04				OX
Chlorine Trifluoride			3	4	0	W,O
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						
Diazoethane						
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						

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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	
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

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Lithium Nitride						
Lithium Peroxide						
Magnesium (except Mg-ribbon & turnings)	Mg	7439-95-4	2	0	1	W
Magnesium Peroxide						
Mannitol Hexanitrate						
Mercury And Mercury Compounds (except in sealed devices)						
Methyl Acetylene	C ₃ H ₄	74-99-7	2	2	4	
Methyl Cyclopentane	C ₆ H ₁₂	96-37-7	0	2	3	
Methyl Isocyanate	CH ₃ NCO	624-83-9	2	4	3	W
Methyl Methacrylate, Monomer	C ₅ H ₈ O ₂	80-62-6	2	2	3	
M-Trinitroresol						
Nessler's Reagent (Mercury Compound)	Hg+KI+NaOH	NA26				
Nicotine	C ₁₀ H ₁₄ N ₂	54-11-5	0	4	1	
Nitroglycerin			4	2	2	
Nitrosoguanidine						
Osmic Acid	OsO ₄	20816-12	0	4	0	
Osmium Tetroxide	OsO ₄	20816-12	0	4	0	
O-Toluidine	C ₇ H ₉ N	95-53-4	0	2	3	
Pentaerythritol Tetranitrate (PETN)		78-11-5				
Perchloric Acid	HClO ₄	7601-90-3	3	3	0	OX
Phenol	C ₆ H ₆ O	108-95-2	0	4	2	
Phenyl Thiourea	C ₇ H ₈ N ₂ S	103-85-5A	0	4	0	
Phosphorus Halides and Oxides						
Phosphorus, Phosphides						

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Phthalic Anhydride, Picrates, Picramide, and Picryl Compounds	C ₈ H ₄ O ₃	85-44-9	2	3	1	
Picric Acid	C ₆ H ₃ N ₃ O ₇	88-89-1	4	3	4	
P-Nitrophenol	NO ₂ C ₆ H ₄ OH	100-02-7	2	3	1	
Polyvinyl Nitrate						
Potassium Amide						
Potassium Cyanide	KCN	151-50-8	0	3	0	
Potassium Dinitrobenzofuroxan						
Potassium Nitrite	KNO ₂	7758-09-0	3	2	0	OX
Potassium Perchlorate	KClO ₄	7778-74-7	2	1	0	
Potassium Periodate	KIO ₄	7790-21-8	3	2	0	OX
Potassium Peroxide	KO ₂	12030-88	3	3	0	
Potassium Superoxide	KO ₂	12030-88	3	3	0	
RDX		121-82-4				
Sec-Butyl Alcohol (2-Butanol)	C ₄ H ₁₀ O	78-92-2A	0	1	3	
Silanes and 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	H ₂ NNa	7782-92-5	2	2	3	W
Sodium Amide	H ₂ NNa	7782-92-5	2	2	3	W
Sodium Arsenate	Na ₃ AsO ₄ *12H ₂ O	7778-43-0	0	3	0	

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Sodium Arsenite	NaAsO ₂	7784-46-5	0	3	0	
Sodium Chlorate	NaClO ₃	7775-09-9	2	1	0	OX
Sodium Chlorite			1	1	0	OX
Sodium Cyanide	NaCN	143-33-9	1	3	0	
Sodium Dithionite	Na ₂ S ₂ O ₄	7775-14-6	2	3	1	W
Sodium Hydrosulfite	Na ₂ S ₂ O ₄ *2H ₂ O	7775-14-6	2	2	1	
Sodium Methylate	CH ₃ ONa	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	NaMnO ₄	10101-50	2	2	1	OX
Sodium Peroxide	Na ₂ O ₂	1313-60-6	2	3	0	W,O
Strontium Perchlorate		13450-97				
Styrene Monomer	C ₈ H ₈	100-42-5	2	2	3	
Sulfur Trioxide	SO ₃	7446-11-9	2	3	0	W
Sulfuryl Chloride (Sulfonyl)	Cl ₂ O ₂ S	7791-25-5	2	3	0	W
Sulfuryl Chloride Fluoride	ClFO ₂ S	13637-84	2	3	1	W
T-Butyl Hypochlorite						
Tetrafluoroethylene			3	2	4	
Tetrahydrofuran	C ₄ H ₈ O	109-99-9	1	2	3	
Tetrahydronaphthalene	C ₁₀ H ₁₂	119-64-2	0	1	2	
Tetranitromethane		509-14-8				
Tetraselenium						
Tetranitride						
Tetrazene						
Tetryl		479-45-8	4	2	2	
Thallium Nitride						
Thermit	Fe ₂ O ₃ + Al	69012-31	0	0	0	

Appendix A—Prohibited Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Thermite Igniting Mixture Thiocarbonyl	Al	Unknown	1	0	1	
Tetrachloride	CCl ₄ S	594-42-3	2	3	0	
Thionyl Chloride	SOCl ₂	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						
Triisobutyl Aluminum		100-99-2				
Trimethyl Aluminum		75-24-1				
Trinitroanisole						
Trinitrobenzene			4	2	4	
Trinitrobenzoic Acid						
Trinitronaphthalene						
Trinitroresorcinol						
Trinitrotoluene	C ₇ H ₅ N ₃ O ₆	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)	CH ₃ COC ₂ H ₅	78-93-3A	0	1	3	
Acetamide	CH ₃ CONH ₂	60-35-5	1	3	1	
Acetanilide	CH ₃ CONHC ₆ H ₅	103-84-4	0	3	1	
Acetic Acid	CH ₃ COOH	64-19-7A	1	2	2	
Acetic Anhydride	(CH ₃ CO) ₂ O	108-24-7	1	3	2	W
Acetone	CH ₃ COCH ₃	67-64-1	0	1	3	
Acetyl Halides						
Acetylcholine Bromide	CH ₃ CO ₂ C ₂ H ₄ N(C	66-23-9	0	2	0	
Acridine Orange	UNDEFINED	10127-02	0	2	0	
Adipoyl Chloride	ClOC(CH ₂) ₄ COCl	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(C ₂ H ₃ O ₂) ₂ OH	142-03-0	1	1	0	
Aluminum Bromide	AlBr ₃	7727-15-3	1	3	1	
Aluminum Chloride,						
Hydrate	ALCL ₃ *6H ₂ O	7784-13-6	0	3	0	
Aluminum Fluoride	AlF ₃	7784-18-1	0	2	0	
Aluminum Hydroxide	Al(OH) ₃ *3H ₂ O	21645-51	1	1	0	
Aluminum Nitrate	Al(NO ₃) ₃ *9H ₂ O	7784-27-2	0	1	0	OX
Aluminum						
Tetrahydroborate						

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ammonia, Anhydrous						
(use restrictions)	NH ₃	7664-41-7	0	3	1	
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 ₂ O	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	

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Ammonium Tartrate	(NH ₄) ₂ C ₄ H ₄ O ₆	3164-29-2	0	2	0	
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)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	
Boric Acid	H ₃ BO ₃	10043-35-	0	2	0	

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Boron-Bromodiiodide						
Boron-Dibromoiodide						
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	
Ceric (IV) Sulfate	Ce(SO ₄) ₂ *4H ₂ O	13590-82	0	3	0	OX

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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 CINO	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	
Dichloroethane	C ₂ H ₄ Cl ₂	107-06-2B	0	2	3	
Dichloromethane	CH ₂ Cl ₂	75-09-2A	0	2	1	

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Diethyl Aluminum Chloride	C ₄ H ₁₀ AlCl	96-10-6				
Diethyl Zinc	C ₄ H ₁₀ Zn	557-20-0				
Diisopropyl Beryllium						
Dimethyl Magnesium						
Diphenyl Diisocyanate						
Diphenylamine	(C ₆ H ₅) ₂ NH	122-39-4	0	3	1	
Ethanol	C ₂ H ₅ OH	64-17-5B	0	0	3	
Ethyl Acetate	CH ₃ COOC ₂ H ₅	141-78-6	0	1	3	
Ethyl Alcohol	C ₂ H ₅ OH	64-17-5A	0	0	3	
Ethyl Methacrylate	CH ₂ CCH ₃ COOC ₂ H ₅	97-63-2	0	2	3	
Ethylene Dichloride	C ₂ H ₄ Cl ₂	107-06-2A	0	2	3	
Ethylenediamine	NH ₂ CH ₂ CH ₂ NH ₂	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	FeCl ₃	7705-08-0	1	3	0	
Ferric Nitrate	Fe(NO ₃) ₃ ·9H ₂ O	7782-61-8	1	1	0	OX
Fluorine Monoxide						
Fluorosulfonic Acid						

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Formalin	CH ₂ O	50-00-08	0	2	2	
Formic Acid	HCOOH	64-18-6	0	3	2	
Gasoline	UNDEFINED	8006-61-9	0	1	3	
Glutaraldehyde	OCH(CH ₃) ₃ CHO	111-30-8	1	3	0	
Gold Acetylide						
Hematoxylin	C ₁₆ H ₁₄ O ₆ ·3H ₂ O	517-28-2	1	1	0	
Heptane, N	CH ₃ (CH ₂) ₅ CH ₃	142-82-5	0	1	3	
Hexamethylene Diisocyanate	C ₈ H ₁₂ N ₂ O ₂	822-06-0	0	1	2	W
Hexamethylenediamine	H ₂ N(CH ₂) ₆ NH ₂	124-09-4	0	3	2	
Hexane, N	CH ₃ (CH ₂) ₄ CH ₃	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)	H ₂ O ₂		1	3	0	OX
Hydroquinone	C ₆ H ₄ (OH) ₂	123-31-9	0	2	1	
Hydroxylamine						
Hydrochloride	NH ₂ OH·HCl	5470-11-1	1	3	1	
Iodine	I ₂	7553-56-2	1	3	0	OX

Appendix B — Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Iodine Monochloride	ICI	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
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

Appendix B — Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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		C3H9Al2Br3				
Methyl Aluminum Sesquichloride	C3H9Al2Cl3	12542-85-				
Methyl Ethyl Ketone (MEK)	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	CH ₃ IMg					
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 ₁₄ O	71-36-3B	0	1	3	
N-Butyl Lithium						
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	

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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
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

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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
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

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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	
Sulfur Pentafluoride						
Sulfuric Acid (<10%)	H ₂ SO ₄	7664-93-9	0	3	0	
Sulfuric Acid (>10%) (2.5-limit)	H ₂ SO ₄	7664-93-9	2	3	0	W
T-Butanol	(CH ₃) ₃ COH	75-65-0	0	1	3	
Terpineol	C ₁₀ H ₁₇ OH	98-55-5	0	0	2	
Thiophosphoryl Chloride	Cl ₃ SP	3982-91-0	0	3	0	
Tin	Sn	7440-31-5	1	1	1	

Appendix B — Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
Toluene	C ₇ H ₈	108-88-3	0	2	3	
Toluene Diisocyanate	C ₉ H ₆ N ₂ O ₂	584-84-9	1	3	1	
Toluidine Blue	CH ₃ C ₆ H ₄ NH ₂	95-53-4	0	3	2	
Trichloroethane 1,1,1	C ₂ H ₃ Cl ₃	71-55-6	1	3	1	
Trichloroethylene	C ₂ HCl ₃	79-01-6	0	2	1	
Triethanolamine	C ₆ H ₁₅ NO ₃	102-71-6	1	2	1	
Triethyl Stibine						
Trimethylpentane 2,2,4	C ₈ H ₁₈	540-84-1	0	0	3	
Tri-N-Butyl Aluminum						
Trioctyl Aluminum						
Triphenyl Tetrazolium Chloride		C ₁₉ H ₁₅ N ₄ Cl	298-96-4	1	2	1
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

Appendix B Restricted Chemicals

Name	Formula	CAS #	NFPA Reactive	NFPA Health	NFPA Flammable	NFPA Special
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)	H₂	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)	CH₃COCH₂CH(CH₃)₂	108-10-1	1	2	3	
Pentane (100-ml limit)	C₅H₁₂	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)	KClO₃	3811-04-9	0	2	0	OX
Silver Oxide (100-g limit)	Ag₂O	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.~~