

# DEPARTMENT OF EDUCATION

## OFFICE OF THE SECRETARY

Statutory Authority: 14 Delaware Code, Section 122(d) (14 Del.C. §122(d))  
14 DE Admin. Code 885

### PROPOSED

#### Education Impact Analysis Pursuant To 14 Del.C. Section 122(d)

#### 885 Safe Management and Disposal of Chemicals in the Delaware Public School System

##### A. Type of Regulatory Action Required

Amendment to Existing Regulation

##### B. Synopsis of Subject Matter of the Regulation

The Secretary of Education intends to amend 14 DE Admin. Code 885 Safe Management and Disposal of Chemicals in the Delaware Public School System. The amendments include, but are not limited to, the following: 1) a purpose statement; 2) addition of definitions; 3) explicit delineation of the areas the regulation applies; 4) requirements for a Chemical Safety Plan; 5) requirements for chemicals with special conditions; 6) expansion of the requirements around the storage, management and disposal of chemicals; and 7) requirements for instructional area(s) where chemicals are used.

Persons wishing to present their views regarding this matter may do so in writing by the close of business on or before **December 2, 2011** to Susan Haberstroh, Education Associate, Regulation Review, Department of Education, at 401 Federal Street, Suite 2, Dover, Delaware 19901. A copy of this regulation is available from the above address or may be viewed at the Department of Education business office.

##### C. Impact Criteria

1. Will the amended regulation help improve student achievement as measured against state achievement standards? The amendments are related to the safe management and disposal of chemicals and not specifically related to student achievement as measured against state achievement standards.

2. Will the amended regulation help ensure that all students receive an equitable education? The amendments are related to the safe management and disposal of chemicals and not specifically related to ensuring all students receive an equitable education.

3. Will the amended regulation help to ensure that all students' health and safety are adequately protected? The amendments are related to the safe management and disposal of chemicals and will help ensure all students' health and safety are adequately protected.

4. Will the amended regulation help to ensure that all students' legal rights are respected? The amendments are related to the safe management and disposal of chemicals and not specifically related to students' legal rights.

5. Will the amended regulation preserve the necessary authority and flexibility of decision making at the local board and school level? The amended regulation preserves the necessary authority and flexibility of decision making at the local board and school level.

6. Will the amended regulation place unnecessary reporting or administrative requirements or mandates upon decision makers at the local board and school levels? The amended regulations does not place unnecessary reporting or administrative requirements or mandates upon decision makers at the local board and school levels.

7. Will the decision making authority and accountability for addressing the subject to be regulated be placed in the same entity? The decision making authority and accountability for addressing the subject to be regulated is placed in the same entity and did not change.

8. Will the amended regulation be consistent with and not an impediment to the implementation of other state educational policies, in particular to state educational policies addressing achievement in the core academic subjects of mathematics, science, language arts and social studies? The amended regulation is consistent with and not an impediment to the implementation of other state educational policies.

9. Is there a less burdensome method for addressing the purpose of the regulation? There is not a less burdensome method for addressing the purpose of the regulation.

10. What is the cost to the State and to the local school boards of compliance with the regulation? There may be some costs to the local schools for compliance with the regulation because of current storage deficiencies or safety equipment for instructional areas.

#### 885 Safe Management and Disposal of Chemicals in the Delaware Public School System

## **4.0 Mercury and Mercury Compounds**

- 1.1 Mercury and mercury compounds, both organic and inorganic, shall not be used in the science classrooms in the public schools in Delaware later than January 1, 2005. Instruments which contain mercury such as thermometers, hydrometers, barometers, etc. shall be replaced at all grade levels in order to guard against spillage.

## **2.0 Storage of Chemicals**

- 2.1 The storage of all chemicals shall conform to the specifications stated in *Safety First: Guidelines for Safety in the Science or Science Related Classrooms*.

## **3.0 Inventory of Chemicals, Hazardous and Non Hazardous**

- 3.1 All laboratories and science storage in the Delaware public schools shall be inventoried each year during the month of September. The list of the chemicals shall be kept by the school principal. The inventory of chemicals both hazardous and nonhazardous shall contain the following information:
- 3.2 Who may handle the chemical and use it;
- 3.3 The name of the chemical;
- 3.4 The amount on hand;
- 3.5 The location where the chemical is stored;
- 3.6 The date purchased; and
- 3.7 The date discarded.

## **4.0 Inventory of Surplus Chemicals**

- 4.1 For purposes of this regulation, surplus shall refer to chemicals which are no longer usable or needed.
- 4.2 Each district and charter school shall prepare a list of surplus chemicals and send a copy to the Education Associate, Science Environmental Education by October 15 of each year. The Department shall duplicate and disseminate these lists to school districts and charter schools so that they may negotiate, trade or exchange their surplus chemicals.

## **5.0 Disposal of Surplus Non Hazardous Chemicals**

- 5.1 Disposal of surplus nonhazardous chemicals shall be carried out by the school district and charter school in accordance with procedures outlined in the Flinn Chemical Catalog Reference Manual, using trained staff.

## **6.0 Disposal of Non Surplus Transportable Hazardous Chemicals**

- 6.1 Surplus hazardous chemicals such as diethyl ether, picric acid, benzoyl peroxide and other materials that are listed in *Safety First: Guidelines for Safety in the Science or Science Related Classrooms*, must be disposed of through the use of a licensed waste hauler.
- 6.1.1 Each district and charter school shall prepare a list of surplus hazardous chemicals and submit it to the Education Associate for Science and Environmental Education by November 15 of each year. The Department shall arrange for a licensed waste hauler to take the chemicals to a proper waste facility for disposal. The cost of disposal shall be prorated among the districts and charter schools based upon the weight of the hazardous materials.

**8-DE-Reg-346 (8/1/04)**

**10-DE-Reg-1432 (03/01/07)**

## **1.0 Purpose**

The purpose of this regulation is to outline the criteria and processes for Chemical Storage and for Chemical use in the classroom, laboratory, or other Instructional Areas in Delaware public schools. This regulation sets forth the requirements for the safe management, storage, and disposal of chemicals. Additional information may be found in the *Safety First: Safe Instructional Practices in the Classroom and Laboratory* manual.

## **2.0 Definitions:**

The following words and terms, when used in this regulation, shall have the following meaning unless the context clearly states otherwise:

"Carcinogen" means any Chemical that can cause cancer. Included are known or suspected. Carcinogens such as formaldehyde, benzene, carbon tetrachloride, nickel salts, sodium dichromate and sodium chromate.

“**Chemical**” means any element, compound, or mixture of elements and/or compounds.

“**Chemical Name**” means the scientific designation of a Chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name which will clearly identify the Chemical for the purpose of conducting a hazard evaluation.

“**Common Name**” means any designation or identification such as a code name, code number, trade name, brand name, or generic name used to identify a Chemical other than its Chemical name.

“**Corrosive**” means a Chemical that causes visible destruction of or irreversible alterations in, living tissue by Chemical action at the site of contact.

“**Explosive**” means a Chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

“**Expose or Exposure**” means an instance where an individual is subjected to a Hazardous Chemical through any route of entry (inhalation, ingestion, skin contact or absorption, etc.) and includes potential (e.g., accidental or possible) Exposure.

“**Hazardous Chemical**” means any element, compound or mixture of elements and/or compounds which presents a Physical Hazard or Health Hazard.

“**Health Hazard**” means a Chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "Health Hazard" includes Chemicals which are Carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, Corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. The Material Safety Data Sheet (MSDS) will provide information to determine whether or not the Chemical is a Health Hazard.

“**Instructional Area**” means a room or defined space used for an educational activity. An Instructional Area may be a classroom, a laboratory, a field, a special building such as a greenhouse, or any other space where educational activities may take place.

“**Long-Term Storage**” means the storage of any Chemical for a time period past the end of the school day.

“**Material Safety Data Sheet (MSDS)**” means a document that contains information on the potential health effects of exposure to Chemicals, or other potentially dangerous substances, and on safe working procedures when handling Chemical products. It contains hazard evaluations on the use, Storage, handling and emergency procedures related to that material. The Material Safety Data Sheet (MSDS) contains much more information about the material than the label and is prepared by the supplier. It is intended to tell what the hazards of the product are, how to use the product safely, what to expect if the recommendations are not followed, what to do if accidents occur, how to recognize symptoms of overexposure, and what to do if such incidents occur.

“**Non-hazardous Chemical**” means any element, compound or mixture of elements and/or compounds which do not present a Physical Hazard or Health Hazard.

“**Occupational Safety and Health Administration (OSHA)**” means the government agency in the Department of Labor that develops guidelines to maintain a healthy and safe working environment.

“**Physical Hazard**” means a Chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, Explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive. The Material Safety Data Sheet (MSDS) will provide information to determine whether or not the Chemical is a Physical Hazard.

“**Safety First: Safe Instructional Practices in the Classroom and Laboratory Manual**” means the collection of documents that outline the mandatory safety procedures regarding the safe management, storage, and disposal of chemicals for Instructional Areas in Delaware public schools and which may be amended from time to time as published in the Delaware Registrar of Regulations. The manual also provides safety practices that are governed by this regulation. This document is available on the Delaware Department of Education Website ([www.doe.k12.de.us](http://www.doe.k12.de.us)).

“**Short-Term Storage**” means the storage of any Chemical for a time period before the end of the school day.

“**Storage**” means a space for the containment of Chemicals or other materials.

“**Surplus Chemical**” means any Chemical that is no longer Useable or needed.

“**Useable**” means that the Chemical or other material has not surpassed its expiration date.

### **3.0 Applicable Areas**

This regulation is applicable to all public schools, including charter schools and all programs they offer, not already regulated by OSHA standards, including but not limited to science education (including classrooms, laboratories, combination classroom and laboratory settings, and outdoor education settings); Career and Technical Education; Technology and Engineering Education; Agricultural Education; Family and Consumer Science Education, Art Education; and Athletics/Athletic Training.

#### **4.0 Chemical Safety Plan**

- 4.1 All Delaware public schools shall have a Chemical Safety Plan that outlines specific district or charter school procedures in the area of staff and student Chemical safety. The plan shall include at least the following:
  - 4.1.1 Identification of at least one Chemical Safety Officer for the district or charter school who shall:
    - 4.1.1.1 Act as liaison between teachers, building and administration, and facilities staff regarding Chemical safety issues;
    - 4.1.1.2 Maintain the Chemical inventory for the school(s);
    - 4.1.1.3 Approve all Chemical orders by the district or charter school.
    - 4.1.1.4 Maintain a supply of Material Safety Data Sheets (MSDS) for all Chemicals in the Chemical inventory;
    - 4.1.1.5 Assist with maintenance requests related to safety equipment; and
    - 4.1.1.6 Identify and coordinate disposal of Hazardous Chemical wastes.
  - 4.1.2 Standard operating procedures associated with Chemical use, Chemical Storage, Chemical disposal (both Hazardous and Non-hazardous), and the handling of Chemical spills.

#### **5.0 Inventory of Chemicals, Hazardous and Non-Hazardous**

- 5.1 Each district and charter school shall prepare an inventory of Chemicals by September 15 of each year. A copy of this inventory of Chemicals, along with the respective Material Safety Data Sheet (MSDS), shall be maintained by the school principal, chief custodian, and the Chemical Safety Officer. Additionally, copies shall be maintained in the Chemical Storage area and with the school nurse or school health manager. The inventory of Chemicals, both Hazardous and Non-hazardous, shall contain at least the following information:
  - 5.1.1 The name of the Chemical;
  - 5.1.2 The amount of the Chemical (in appropriate measurement units);
  - 5.1.3 The location where the Chemical is stored; and
  - 5.1.4 The date of purchase.

#### **6.0 Chemicals with Special Conditions**

- 6.1 Mercury and mercury compounds, both organic and inorganic, shall not be present in or used in public schools in Delaware. Schools may continue to use mercury discharge tubes and fluorescent lights even though they contain a small amount of mercury gas because the mercury is enclosed in the glass container.
- 6.2 Known Carcinogens shall not be present in or used in public schools in Delaware. A listing of known Carcinogens can be found in *Safety First: Safe Instructional Practices in the Classroom and Laboratory*.
- 6.3 All schools shall comply with current Environmental Protection Agency (EPA) regulations regarding regulated refrigerants.

#### **7.0 Storage of Chemicals**

- 7.1 The Storage of all Chemicals shall conform to the mandatory specifications stated in *Safety First: Safe Instructional Practices in the Classroom and Laboratory*.
- 7.2 Chemicals in the Instructional Area shall be for immediate use only (Short-Term Storage). All Long-Term Storage of Chemicals shall be in a properly equipped Chemical Storage room.
- 7.3 Pressurized Storage of liquids and gases shall conform to OSHA Storage and handling regulations.

#### **8.0 Management of Chemicals**

- 8.1 Instructional staff shall provide training in the safe management of Chemicals to all students in Instructional Areas that use Chemicals annually. All students shall sign a student safety contract at the conclusion of this training. The training shall include at least the following:
  - 8.1.1 An overview of the school safety program;
  - 8.1.2 The location of all Hazardous Chemical containers in the Instructional Area;

- 8.1.3 An explanation of how to read labels on containers;
- 8.1.4 The location, availability and content of Material Safety Data Sheets (MSDS) and an explanation of how they are used;
- 8.1.5 An explanation of the nature of Health Hazards and Physical Hazards associated with the use of all Hazardous Chemicals (regardless of quantity) to which they may be exposed;
- 8.1.6 An explanation of the proper handling, Storage and disposal methods for each of the Hazardous Chemicals present in the Instructional Area; and
- 8.1.7 Measures taken by the instructional staff and school personnel to prevent or control Exposure such as engineering controls, personal protective equipment, and emergency procedures for spills or leaks.

## **9.0 Disposal of Surplus Chemicals**

- 9.1 Disposal of Surplus Non-hazardous Chemicals shall be carried out by the school district or charter school in accordance with procedures outlined in the Material Safety Data Sheet (MSDS).
- 9.2 Disposal of Surplus Chemicals, that meet the definition of Hazardous Chemical, shall only be disposed of through the use of a licensed waste hauler.
  - 9.2.1 Each district and charter school shall prepare a list of Surplus Hazardous Chemicals and submit it to the Education Associate, Science by November 15 of each year. The Department of Education shall arrange for a licensed waste hauler to take the Chemicals to a proper waste facility for disposal. The cost of disposal shall be prorated among the participating schools. Alternatively, a school district or charter school may independently contract with a licensed waste hauler. An official letter shall be sent to the Education Associate, Science describing the school's intentions and naming the licensed waste hauler.

## **10.0 Facility Requirements for Instructional Areas that use Hazardous Chemicals**

- 10.1 Basic safety equipment shall be installed in all Instructional Areas that use Hazardous Chemicals and shall conform to the requirements outlined in *Safety First: Safe Instructional Practices in the Classroom and Laboratory*. Non-traditional instructional areas such as an outdoor classroom or an agricultural field shall include all of the safety equipment as warranted and deemed necessary based on the hazard level of the lesson and materials being used in the instruction of students. Basic safety equipment shall include at least the following items:
  - 10.1.1 Eyewash (running water, continuous flow style)
  - 10.1.2 Acid/Chemical shower (continuous flow style)
  - 10.1.3 Eye protection (wrap-around, splash-shield style goggles)
  - 10.1.4 Fire extinguisher
  - 10.1.5 Fire blanket
  - 10.1.6 Chemical spill equipment
- 10.2 A properly functioning fume hood and/or other industry-standard ventilation system shall be used when mixing Chemicals, using Chemicals, and/or for Short-term Storage of Chemicals that release hazardous fumes. The determination that hazardous fumes may be released is determined by a hazard analysis and a review of the MSDS document(s). Fume hoods and other ventilation systems shall conform to the requirements outlined in *Safety First: Safe Instructional Practices in the Classroom and Laboratory*.
- 10.3 All Instructional Areas that use Hazardous Chemicals which are constructed, reconfigured, or renovated after September 1, 2011 shall provide adequate space for student work at a minimum of 50 square feet per student.
- 10.4 All Instructional Areas that use Hazardous Chemicals shall have at least two means of egress. The second exit may pass through another room and/or a Non-Chemical Storage room if it is used only as an emergency exit.

**8 DE Reg. 346 (8/1/04)**

**10 DE Reg. 1432 (03/01/07)**

**15 DE Reg. 586 (11/01/11) (Proposed)**