

<b>DSHM-PES-05-03</b> <b>Pesticide Storage Guidelines</b>
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New York State Department of Environmental Conservation
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<b>DEC Program Policy</b>
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<b>Issuing Authority:</b> Carl Johnson, Deputy Commissioner
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<b>Date Issued:</b> 6/4/91
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## **I. SUMMARY**

**This Program Policy was formerly identified as TAGM 91-03.**

This Policy consolidates the Bureau of Pesticides Management's guidelines on pesticide storage which are currently distributed to all Registered Pesticide Businesses, Commercial Permit Holders, Pesticide Wholesalers, Distributors, and Pesticide Applicators. The recommended standards and practices for storage of pesticides set forth in this document were developed to minimize the potential for the human health and environmental hazards associated with the storage of pesticides.

## **II. POLICY**

This policy provides accepted standards and practices for storage of pesticides so as to minimize the associated risks to human health and the environment. These guidelines are not intended to be utilized for enforcement purposes. Regulations are being developed, which will then serve as the basis for enforcement actions.

## **III. PURPOSE AND BACKGROUND**

This Policy was created to summarize Pesticide Storage Guidelines for the regulated community for compliance with 6 NYCRR 326.11 which states: "No person shall store any restricted pesticide or empty containers thereof in such a manner as may be injurious to human, plant or animal life or to property or which unreasonably interferes with the comfortable enjoyment of life and property throughout such areas of the State as shall be affected thereby." Pesticide Storage Requirements which may be found on pesticide labels, is enforced under 6 NYCRR 325.2 (b), which states: "Pesticides are to be used only in accordance with label and labeling direction or as modified or expanded and approved by the Department."

It will be used by the Bureau of Pesticides Management Central Office staff involved in the processing of applications for: Pesticide Businesses, Commercial Permits, Certified Applicators (Private, Commercial, and Technicians). Central Office staff may attach a copy of this Policy when mailing out Commercial Permits, Business Registrations, Pesticide Applicator identification cards or requests for pesticide storage information from the regulated community.

#### **IV. RESPONSIBILITY**

The Department's Division of Solid & Hazardous Materials, Bureau of Pesticides Management, is responsible for interpreting, implementing, maintaining and updating this policy. Any questions regarding Pesticide Storage that cannot be answered by this Policy, should be directed to the Pesticide Compliance Section, Bureau of Pesticides Management, 518-402-8781.

#### **V. PROCEDURE**

##### **1. Pesticide Business Registrations**

The processing of both new applications and renewal applications for Pesticide Business Registration is accomplished by the Bureau of Pesticides Management, Pesticide Business Registration Unit. When mailing out a Certificate of Pesticide Business Registration, the Central Office staff will provide a photocopy of Section four of this policy entitled: "Pesticide Storage Guidelines for Registered Businesses," along with the certificate to the applicant.

##### **2. Commercial Permit Holders and Pesticide Wholesalers or Distributors**

The processing of both new applications and renewal applications for Commercial Permits is accomplished by the Bureau of Pesticides Management, Reporting and Certification Section. When mailing out a Commercial Permit to an applicant or when a request for information on pesticide storage is received from a Pesticide Wholesaler or Distributor, the Central Office staff may provide a photocopy of Section five of this policy entitled: "Pesticide Storage Guidelines for Commercial Permit Holders, and Pesticide Wholesalers or Distributors," to the applicant or requestor.

### **3. Certified Commercial Pesticide Applicators and Certified Commercial Pesticide Technicians**

The processing of applications for Private Pesticide Applicators, Certified Commercial Pesticide Applicators and Certified Commercial Pesticide Technicians (new applications, renewal applications, recertification applications and reciprocity applications) is accomplished by the Bureau of Pesticides Management's, Reporting and Certification Section. When mailing out a Private Pesticide Applicator, Certified Commercial Pesticide Applicator or Certified Commercial Pesticide Technician Identification Card or when a request for information on pesticide storage is received, the Bureau of Pesticides Management Central or Regional Office staff may provide a photocopy of Section six of this policy entitled: "Pesticide Storage Guidelines for Private Pesticide Applicators, Certified Commercial Pesticide Applicators and Certified Commercial Pesticide Technicians," to the applicant or requestor.

### **4. Pesticide Storage Guidelines for Registered Pesticide Businesses**

The purpose of these Guidelines is to recommend standards for pesticide storage by Registered Pesticide Businesses. Registered Pesticide Businesses that store pesticides present potential human health and environmental hazards. Precautions should be taken in siting, constructing, operating and maintaining these facilities, to minimize the risks associated with pesticide storage.

#### **a. Facility Structural Recommendations**

Pesticide storage areas should be structurally separated from office and residential spaces, livestock quarters, water supply sources and food, feed or seed storage areas. Pesticide storage areas should have separate entries if possible. The National Fire Protection Association (NFPA) has standards which provide useful references for the storage of Pesticides. NFPA-30 lists the Flammable and Combustible Liquids Code, and NFPA-434 lists the Storage of Pesticides Code.

The pesticide storage area of a building should have security and access control provisions, including a locked door, windows which prohibit access and a perimeter fence with locked gate.

The floor of the pesticide storage area should be free of cracks and composed of an impermeable surface material. All joints should be sealed. The building should have a containment system, either a bermed floor which will contain at least 25% of the total stored liquid volume or a sloped floor with sump containment which can hold the same volume.

The building should have a ventilation system sufficient to prevent accumulation of vapors. Building temperatures should be kept under 95 degrees Fahrenheit and above pesticide freezing points.

All electrical fixtures and appliances should be non-sparking units approved for use in facilities storing flammable and combustible liquids.

**b. Pesticide Bulk Storage**

If pesticides are stored in mini-bulk (55-1,000 gallons) or portable storage units, the following additional precautions should be followed:

- i. All such tanks should have inlet and outlet locks which remain locked when not in use.
- ii. The tanks should be stored on a bermed, impermeable pad or floor which is capable of containing at least 100% of the total tank volume. If the tank is not protected from precipitation or surface run-on, a greater containment capacity is recommended.
- iii. Areas where tanks are stored should be fenced or walled in.
- iv. Areas should be locked when not in use.
- v. Tanks should be routinely inspected and tested, to ensure that system is functioning properly.

**c. Storage of Pesticide Products**

Pesticides should be segregated by hazard class and pesticidal function; incompatible materials should be physically separated from each other. Flammable and combustible liquids should not be stored with other pesticides. Herbicides should be separated from insecticides and fungicides. Potentially reactive materials should be separated from other materials by dike, berm, wall or other physical barrier. If pesticides need to be transferred to other containers because of deterioration, the new container should be clean and must be labeled with the new contents label information, as required by Section §33-1301(1) of the ECL. However, these new containers may no longer be offered for sale.

Pesticides should be stored on impermeable shelves, racks or pallets, maintaining adequate aisle space for easy access, particularly in the case of

an emergency. Pesticide containers should be arranged so that labels, including all warning statements, are clearly visible from the aisles. NFPA-30 requirements are for proper aisle spacing and pile volumes, depending on the type of combustible, flammable or ignitable material being stored.

Pesticide containers should be kept tightly sealed when in storage and should be inspected periodically for signs of leakage, severe rusting or other defects. If pesticides need to be transferred to other containers because of deterioration, the new container should be clean and should be clearly labeled with the new contents label information.

**d. Safety and Emergency Procedures**

Personal protection equipment, such as respirators, gloves, aprons and boots should be available and stored near, but outside of, the pesticide storage area. An emergency eye wash and shower facility should be immediately accessible from the pesticide storage area.

Routine wash-up facilities should be provided near the storage area, particularly if pesticide mixing is done in the area. Spill kits and fire extinguishers appropriate for all stored pesticides should be readily available within the storage area.

All staff working in or having access to the storage area should receive training in safe pesticide handling; spill prevention and response (containment and cleanup); and selection, use and maintenance of personal protection equipment (at least to OSHA standards).

The manager of the pesticide storage area should provide personal protection equipment, emergency response information, written standards for pesticide segregation pertinent to that facility, and postings and warnings in compliance with OSHA Hazard Communication and NYS Worker Right-To-Know standards.

The owner, operator or manager of a pesticide storage facility should notify the local fire department annually of the types and quantities of pesticides stored in compliance with NYS Department of State Hazardous Materials requirements. This notification should note any typical seasonal variations in types or quantities of materials stored. The local fire department should be invited to visit the facility to familiarize them with the layout and materials stored.

The owner, operator or manager of the facility should prepare an emergency response plan with which all employees or persons having access to the pesticide storage area are familiar. The local fire department, rescue squad and local hospital should also be given copies of this plan. In addition, the owner, operator, or manager should at all times maintain a current inventory of the pesticides in storage and keep a copy of that inventory at a location separate from and accessible in the event of an emergency involving the pesticide storage area.

A first-aid kit appropriately equipped for initial response to pesticide poisonings must be readily available, but should not be kept in the pesticide storage area. All persons having access to the storage area should be familiar with this kit and its use.

- e. **Pesticide Mixing Areas**  
Areas used for the mixing of pesticides should have additional precautions. Health standards require that water supplies be protected with anti-siphoning devices (see DEC Program Policy PES-05-09, Backflow Prevention Devices). Areas where pesticide concentrates are handled should be equipped with vent hoods, fans or other vapor removal equipment. Empty container storage should be a separate, secure section within the general pesticide storage area. All rinsates, including wash waters from cleaning of spray equipment, should be collected and stored above ground. Stored rinsates should be appropriately recycled, for example, as make up water in later tank loads.

## **5. Pesticide Storage Guidelines for Commercial Permit Holders, and Pesticide Wholesalers or Distributors**

The purpose of these Guidelines is to recommend standards for pesticide storage by commercial permit holders, pesticide wholesalers and distributors. Facilities that store pesticides present potential human health and environmental hazards. Precautions should be taken in siting, constructing, operating and maintaining these facilities, to minimize the risks associated with pesticide storage. Such Facilities are already required to meet NYS Department of State Hazardous Materials notification and posting standards. They may also be subject to OSHA Hazard Communication and personal protection standards, the NYS Worker Right-to-Know requirements, and future NYS Hazardous Substances Bulk Storage regulations.

**a. Facility Structural Recommendations**

Pesticide storage areas should be structurally separated from office and residential spaces, livestock quarters, water supply sources and food, feed or seed storage areas. Pesticide storage areas should have separate entries if possible. The National Fire Protection Association (NFPA) has standards which provide useful references for the storage of Pesticides. NFPA-30 lists the Flammable and Combustible Liquids Code, and NFPA-434 lists the Storage of Pesticides Code.

The building should have a ventilation system sufficient to prevent accumulation of vapors. If possible, the facility should be equipped with a forced ventilation system capable of three to four exchanges per hour. Building temperatures should be kept under 95 degrees Fahrenheit and above pesticide freezing points.

The pesticide storage area of a building should have security and access control provisions, including a locked door, windows which prohibit access and a perimeter fence with locked gate.

The floor of the pesticide storage area should be free of cracks and composed of an impermeable surface material. All joints should be sealed. The building should have a containment system, either a bermed floor which will contain at least 25% of the total stored liquid volume or a sloped floor with sump containment which can hold the same volume.

All electrical fixtures and appliances should be non-sparking units approved for use in facilities storing flammable and combustible liquids.

**b. Pesticide Bulk Storage**

If pesticides are stored in mini-bulk (55-1,000 gallons) or portable storage units, the following additional precautions should be followed:

- i. All such tanks should have inlet and outlet locks which remain locked when not in use.
- ii. The tanks should be stored on a bermed, impermeable pad or floor which is capable of containing at least 100% of the total tank volume. If the tank is not protected from precipitation or surface run-on, a greater containment capacity is recommended.
- iii. Areas where tanks are stored should be fenced or walled in; areas should be locked when not in use.

iv. Tanks should be routinely inspected and tested, to ensure that system is functioning properly.

c. Storage of Pesticide Products

Pesticides should be segregated by hazard class and pesticidal function; incompatible materials should be physically separated from each other. Flammable and combustible liquids should not be stored in the same area as other pesticides. Herbicides should be separated from other materials by dike, berm, wall or other physical barrier.

If pesticides need to be transferred to other containers because of deterioration, the new container should be clean and must be labeled with the new contents label information, as required by Section §33-1301(1) of the ECL. However, these new containers may no longer be offered for sale.

NFPA-30 contains specific provisions for indoor and outdoor storage requirements, including storage distances from property lines. In the situation where adjacent properties are residential, the storage of pesticides should be at least 50 feet from the adjacent property line.

Pesticides should be stored in impermeable shelves, racks or pallets, maintaining adequate aisle space for easy access, particularly in the case of an emergency. Pesticide containers should be arranged so that labels, including all warning statements, are clearly visible from the aisles. NFPA-30 contains requirements for proper aisle spacing and pile volumes, depending on the type of combustible, flammable or ignitable material being stored.

Pesticide containers should be kept tightly sealed when in storage and should be inspected periodically for signs of leakage, severe rusting or other defects. If pesticides need to be transferred to other containers because of deterioration, the new container should be clean and should be clearly labeled with the new contents label information.

Pesticides should not be stored in the basement of facilities. If pesticides cannot be stored in a dedicated building, the pesticide storage area should be separated from the remainder of the building by firewalls and fire doors. Fire doors should be kept closed or equipped with automatic closing devices. Pesticide storage areas should be limited-access, so that the public (particularly in retail stores) cannot enter these areas.

**d. Safety and Emergency Procedures**

Personal protection equipment, such as respirators, gloves, aprons and boots should be available and stored near, but outside of, the pesticide storage area. An emergency eye wash and shower facility should be immediately accessible from the pesticide storage area. Routine wash-up facilities should be provided near the storage area, particularly if pesticide mixing is done in the area. Spill kits and fire extinguishers appropriate for all stored pesticides should be readily available within the storage area.

All staff working in or having access to the storage area should receive training in safe pesticide handling, spill prevention and response (containment and cleanup), and selection use and maintenance of personal protection equipment (at least to OSHA standards).

The manager of the pesticide storage area should provide personal protection equipment, emergency response information, written standards for pesticide segregation pertinent to that facility and postings and warnings in compliance with OSHA Hazard Communication and NYS Worker Right-to-Know standards.

The owner, operator or manager of a pesticide storage facility should notify the local fire department annually of the types and quantities of pesticides stored in compliance with NYS Department of State Hazardous Materials requirements. This notification should note any typical seasonal variations in types or quantities of materials stored. The local fire department should be invited to visit the facility to familiarize them with the layout and materials stored.

The owner, operator or manager of the facility should discuss the need for a neighborhood evacuation plan, in the event of an emergency, with the local fire department. Considerations such as an automatic alarm signal to the fire department, and procedures for notifying surrounding residents or building occupants should be considered.

The owner, operator or manager of the facility should prepare an emergency response plan with which all employees or persons having access to the pesticide storage area are familiar. In addition, the local fire department, rescue squad and local hospital should also be given copies of this plan. In addition, the owner, operator, or manager should at all times maintain a current inventory of the pesticides in storage and keep a copy of that inventory at a location removed from and accessible in the event of an emergency involving the pesticide storage area.

A first-aid kit appropriately equipped for initial response to pesticide poisonings must be readily available, but should not be kept in the pesticide storage area. All persons having access to the storage area should be familiar with this kit and its use.

The facility should be clearly posted on all exterior sides with warning signs describing pesticide storage hazards. The local fire department should be contacted for local sign requirements.

**e. Pesticide Mixing Areas**

Areas used for the mixing of pesticides should have additional precautions. Health standards require that water supplies be protected with anti-siphoning devices. Areas where pesticide concentrates are handled should be equipped with vent hoods, fans or other vapor removal equipment. Empty container storage should be a separate, secure section within the general pesticide storage area. Rinsate should be confined and stored above ground. All rinsates, including wash waters from cleaning of spray equipment, should be collected and stored above ground. Stored rinsates should be appropriately recycled, for example, as make-up water in later tank loads.

**6. Pesticide Storage Guidelines for Private Pesticide Applicators, Certified Commercial Pesticide Applicators and Certified Commercial Pesticide Technicians**

The purpose of the Guidelines is to recommend standards and practices for pesticide storage by private and other individual pesticide applicators. Storage of pesticides may present potential human health and environmental hazards. Precautions should be taken to minimize these risks. The guidelines are intended to assist private and other applicators to achieve effective pesticide storage.

Pesticide storage areas should be structurally segregated from residential, office, and general work areas; livestock quarters; food, feed, or seed storage; and water supply sources, preferably in a separate building or shed.

The pesticide storage area should have a continuous raised berm on all sides of the floor, and berm and floor should be sealed to create a continuous impervious surface.

Spill containment materials and fire extinguisher(s) appropriate for the pesticides stored should be conveniently accessible in the pesticide storage area.

Personal safety equipment such as gloves, aprons and respirators, appropriate for the pesticides stored and handled should be available, convenient to, but not within, the pesticide storage area.

The pesticide storage area should be locked and prominently posted with pesticides storage warnings.

The local fire department should be notified annually of the types and quantities of pesticides stored in the pesticide storage area. A basic fire response plan should be prepared, submitted to the fire department, and reviewed annually. The Fire and Spill Emergency Pre-Plan, available from CropLife America, is a recognized model.

Pesticides should be segregated by function and hazard. If pesticides need to be transferred to other containers because of deterioration, the new container should be clean and must be labeled with the new contents label information, as required by Section §33-1301(1) of the ECL. However, these new containers may no longer be offered for sale.

Areas where pesticides are mixed, and equipment loaded or cleaned, should be appropriately bermed, with impermeable floors. The rinsate should be contained and reused for future mixing with the same concentrates. Indoor areas where concentrates are used should have adequate vapor venting.

Where pesticides are stored in bulk containers, storage areas should have impermeable flooring and berms. Tanks should have locked inlet and outlet controls. If possible, areas where tanks are kept should be secured by fences or indoor locked facilities. A containment system to collect precipitation surface run-on or spills is recommended with at least 25% of the stored capacity of the storage system.

A water supply for emergency wash or eyewash and for routine wash-up should be located conveniently to the pesticide storage area. A quantity of water sufficient for an initial emergency wash within or immediately adjoining the pesticide storage area is recommended.

A first aid kit appropriately equipped for initial response to pesticide poisoning should be readily available, but not within the pesticide storage area.

**Related References:**

DEC Program Policy PES-05-09, Backflow Prevention Devices, available at the following link: <http://www.dec.state.ny.us/website/dshm/pesticide/pes9809tagm.html>

**If you have any questions, please contact:**

Pesticide Compliance Section  
Bureau of Pesticides Management  
Division of Solid & Hazardous Materials  
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