

Pesticide Protocol

Nov 2010

Overview:

Governing Statutes: The Environmental Protection Agency (EPA) regulates the use, storage and disposal of pesticides under the authority of three federal statutes: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), and the Resource Conservation and Recovery Act (RCRA)

(<http://www.epa.gov/opp00001/regulating/laws.htm>).

*Ohio rules for pesticides mirror federal pesticide regulations, predominantly FIFRA and RCRA. Governing agencies for Ohio include: Ohio EPA, Division of Hazardous Waste Management, Ohio Department of Agriculture (ODA), Division of Plant Industry Pesticide and Fertilizer Regulation Section, US EPA Region 5

Definition: Per the EPA, pesticides are defined as any substance or mixture of substances either intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, and any nitrogen stabilizer other than any article that:

- Is a new animal drug under FFDCA; or
- Is an animal drug that has been determined by regulation of the secretary of Health and Human Services not to be a new animal drug; or
- Is an animal feed under FFDCA that bears or contains any substances described in the first two examples.

Applicability: The Ohio State University Wooster Campus and Outerlying Agricultural Research Stations

Responsibilities of Departments:

Department Associate Chair/Representative:

1. Implement the protocol
2. Establish procedures within the department for products when delivered by store room (e.g. where they are to be delivered, or stored until received by PI)
3. Take action when illegal activities occur
4. Ensure spills of reportable quantities (defined table 1) are reported to EHS

Department Supervisors/Representative:

1. Ensure employees (staff, students, etc.) read and follow protocol
2. Ensure no illegal activities occur
3. Ensure spills of reportable quantities (defined table 1) are reported to EHS

Department Staff, Students, Visiting Scholars, etc.:

1. Read the protocol
2. Follow the protocol
3. Report illegal activities to your supervisor
4. Report spills of reportable quantities (defined table 1) to EHS

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Outlying Research Stations Assistant to the Director and Managers:

1. Determine what is appropriate according to your needs for your area
2. Ensure staff, students, visiting scholars follow applicable rules
3. Report illegal activities to appropriate agencies for your area and EHS
4. Report spills of reportable quantities (defined table 1) to appropriate agencies for your area and EHS

This regulation affects every group that works in and around the field of pesticides; particularly, the following groups:

- Applicators/workers
- Dealers
- Manufacturers
- Distributors
- Transporters
- Facilities using pesticides in their operations, including farms; nurseries; operations that produce plants for wood fiber or timber products; cotton manufacturers; facilities involved with mosquito abatement; upkeep of parks, public lawns, and facilities that deal with the mechanical treatment of cleaning, adjusting, handling or repairing parts that contain pesticide residues.

Components of Protocol:

1. Receiving of Pesticides
2. Storage of Pesticides
3. Disposal of Pesticides

1. Receiving Pesticides.

Pesticides are received, on the Wooster Campus, by either the farm shop (A) or the storeroom (B) and direct mail for Outlying ARS's (C).

A. Farm Shop

- Received by Farm Manager who notifies the department and forwards MSDS, then places the pesticides into the appropriate bay of the Pesticide Storage Building (PSB)
- Department responsible to:
 - 1) File **MSDS** in book located at the PSB
 - 2) **Update** on line chemical **inventory**

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B. Storeroom

- Received at the storeroom; shipment is delivered to the department or department is notified to pick up product, whichever is most practical
- Department responsible to:
 - 1) **mark** container with the **date received** and the name of the **person responsible**
 - 2) **place** product and **MSDS** in bay at the PSB
 - 3) **update** on line chemical **inventory**

C. Outlying ARS

- Manger responsible to:
 - 1) **mark** container with **date received** and the name of **person responsible**
 - 2) **place** product in storage area and file **MSDS**
 - 3) **update** on line chemical **inventory**

2. Storing pesticides {IAW FIFRA, Ohio Administrative Codes, and the Ohio State University}.

General Guidelines:

- Dedicated shelving shall be clean, prior to reusing for other products, to reduce cross-contamination
- Store pesticides in original containers
- Ensure original labels are intact and readable – if not replace with exact information on a new label
- Store separate from food, feed, seed, and fertilizer
- Do not store liquid above granule, or dry
- Store herbicides separately; may use secondary containment to separate
- Use secondary containment for ALL liquids and granulars when possible
- Store personal protective equipment separately
- Order only amount of pesticides needed
- Inspect your area regularly for leaks, spills, etc.
- Report any thefts immediately
- Don't sell or give products to people you don't know (it's illegal for a non-dealer to sell Restricted Use Products)

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- Keep products for disposal locked
- Secure tanks and mini-bulks

Specialty Guidelines:

Liquid bulk {bulk > 55 US gallons per liquid or 100 pounds dry weight <http://codes.ohio.gov/oac/901%3A5-11-01>}

- Non-mobile liquid bulk pesticide storage container installations shall be constructed such that a secondary means of containment is provided
- Secondary containment shall be constructed of sufficient thickness, density and composition so as to contain any spillage or discharge material
- Secondary containment for outside storage shall be maintained to contain a minimum of one hundred ten per cent of the capacity of the largest single container.
- Secondary containment for storage under roof shall be maintained to contain the full capacity of the largest single container
- Secondary containment areas shall not contain a drain unless it is plugged to prevent the release of any spillage from the containment area
- Upon delivery of the bulk pesticide, the registered product label shall be prominently displayed on the bulk pesticide storage container
- Bulk pesticide storage containers shall be locked or ready access to bulk storage containers by unauthorized personnel shall be prevented when the facility is unattended
- In the event of a spill or release of a pesticide in an amount equal to or exceeding the reportable quantity, as that term is defined by 40 C.F.R. 302.4, the Ohio environmental protection agency shall be contacted in accordance with section [3750.06](#) of the Revised Code and the rules adopted there under.
- Upon delivery of the bulk pesticide, the registered product label shall be displayed on the bulk pesticide storage container.

Transportation of bulk pesticide containers (when applicable)

- Bulk pesticide containers shall meet all applicable standards as specified by the label instructions and Ohio and United States departments of transportation requirements.
- Bulk pesticide containers shall be thoroughly secured so as to prevent spillage of pesticide and damage to containers during transportation.
- Bulk pesticide containers shall bear the registered product label for the material contained therein.
- In the event of a spill or release of a pesticide in an amount equal to or exceeding the reportable quantity, as that term is defined by 40 C.F.R. 302.4, the Ohio environmental

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protection agency shall be contacted in accordance with section [3750.06](#) of the Revised Code and the rules adopted there under.

Handling and loading of bulk pesticides

- Bulk pesticides shall be handled, mixed and loaded in a manner that will assure the protection of crops, livestock, the general public and the environment. Physical and chemical properties shall be considered in the handling and loading of bulk pesticides.
- Loading and mixing of bulk pesticides conducted at permanent distribution sites shall be on impervious surfaces with provisions sufficient to allow containment and recovery of any spillage.
- Prior to refilling, bulk pesticide containers must be thoroughly cleaned except when a sealed or dedicated recyclable bulk container is refilled with the same labeled pesticide and bears the same label as the pesticide immediately preceding it.
- All rinsates and minor spillages which have not resulted from a container failure and which accumulate in the secondary containment shall be disposed as provided by the pesticide's label, or in the absence of specific label instructions, shall be disposed in accordance with chapter 3734 of the Revised Code and the rules adopted there under.

C. Options for disposal of containers, waste pesticides and clothing.

1. Empty pesticide containers and containers which have held pesticide-treated seed
 - Shall be disposed in a manner consistent with the pesticide label; or
 - In the absence of specific label instructions, shall be triple-rinsed and disposed in accordance with chapter 3734. of the Revised Code and the rules adopted there under; and
 - Shall not be sold or re-used for any purpose, except as provided by paragraph (B)(3) of this rule, (<http://codes.ohio.gov/oac/901:5-11-11>) unless the containers have been properly cleaned and reconditioned in a manner approved by the director for their intended use or purpose. Re-use of such containers for the storage of human or animal food or water, or for the storage of cooking utensils, dishes or clothing is strictly prohibited.
 - Unused pesticides and unwanted pesticide-treated seeds shall be disposed in a manner consistent with their labeling or, in the absence of specific label instructions, shall be disposed in accordance with chapter 3734 of the Revised Code and the rules adopted there under. See Wooster Campus Policy below.
2. Bring waste to the monthly chemical hazardous waste collections – complete Hazardous Waste Inventory Form (<http://www.oardc.ohio-state.edu/ehs/images/ChemicalHazardousWasteInventoryForm.pdf>)

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3. **Wooster Campus Only:** Designate pesticide to be disposed by placing a completed yellow hazardous waste sticker on the container and placing the pesticide to be disposed of on the front of the shelf within your bay area
 1. Ensure that the yellow sticker is visible
 2. Waste will be picked up semi-annually from your bay
 3. Please call EHS to follow up on any issues with disposal

4. ALL CLOTHING (disposable, gloves, booties, etc.) will be placed in barrels; marked for disposal, and disposed of as hazardous waste. (See sign in PSB outer room).

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DATE: Nov 2010

Pesticide Safety Committee

Dave Drake, ESC Chair, Facility Services _____ original signed _____

Gerald Reid, Manager Farm Operation's _____ original signed _____

Roger Hamilton, Grounds Maintenance _____ original signed _____

Mark Schleppi, ATI Farm Manager _____ original signed _____

Bryant Chambers, RA, Entomology _____ original signed _____

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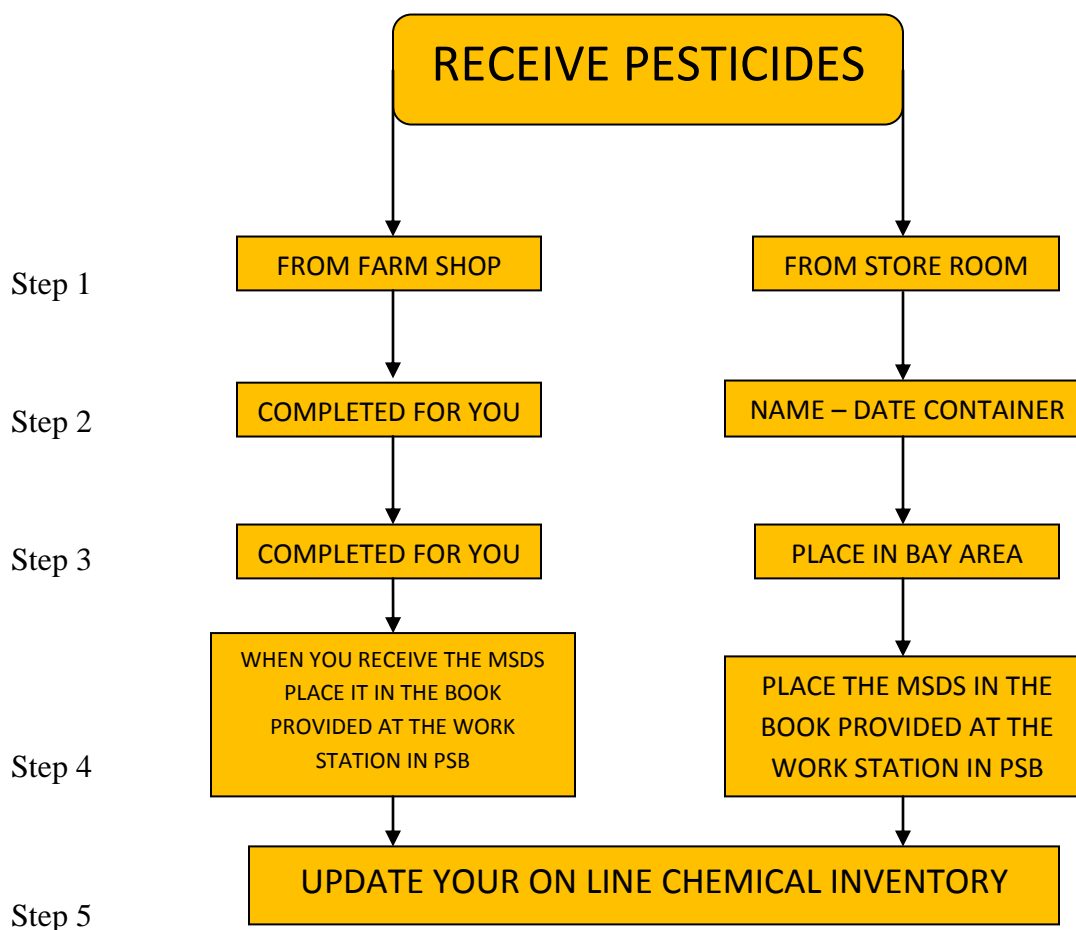
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Flowchart for receiving pesticides on OSU Wooster Campus:

Steps:

1. Receive shipment of pesticides from either the storeroom or farm shop.
2. **Annotate name and date received on each container with a permanent marker**
3. Take to the Pesticide Storage Building (PSB) to store in your bay.
4. Place the MSDS in the MSDS book provided for you at the work station in the PSB.
5. Update your on line chemical inventory.



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***RQ = Reportable quantity (pounds) or the amount of an "Emergency Release" — a spill or dump of a listed Extremely Hazardous Substance at or above the reportable quantity in pounds.**

****TPQ = Threshold planning quantity (pounds) i.e. 10/10,000. The lower quantity applies only if the solid exists in powdered form and has a particle size of less than 100 microns; or is handled in solution or in molten form; or meets the criteria from the National Fire Protection Association (NFPA) rating of 2, 3 or 4 for reactivity. If the solid does not meet any of these criteria, it is subject to the upper threshold planning quantities.**

Remember these two important terms in connection with this law: "Threshold Planning Quantity (TPQ)" and "Reportable Quantity (RQ)." TPQs provide authorities with storage information; RQs provide spill information. These quantities are listed in pounds.

Table 1
Common pesticides on the SARA Title III List of Extremely Hazardous Substances.

Common name	Brand name	Pesticide type	Reportable quantity*	Threshold Planning Quantity**
Aldicarb	TEMIK	Insecticide, Nematicide	1 pound	100/10,000 pounds
Aluminum phosphide	PHOSTOXIN	Fumigant	100 pounds	500 pounds
Azinphos-methyl	GUTHION	Insecticide	1 pound	10/10,000 pounds
Bromadiolone	MAKI	Fungicide	1 pound	100/10,000 pounds
Carbofuran	FURADAN	Insecticide, Nematicide	10 pounds	10/10,000 pounds
Chlorophacinone	ROZOL	Fungicide	1 pound	100/10,000 pounds
Chloroxuron	TENORAN	Herbicide	1 pound	500/10,000 pounds
Coumaphos	CORAL	Insecticide	10 pounds	100/10,000 pounds
Dichlorvos	DDVP, VAPONA	Insecticide	10 pounds	1,000 pounds
Dicrotophos	BIDRIN	Insecticide, Acaricide	1 pound	100 pounds
Dimethoate	CYGON	Insecticide, Acaricide	10 pounds	500/10,000 pounds
Dinitroresol	DNOC	Herbicide, Insecticide, F	10 pounds	10/10,000 pounds

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Diphacinone	KILL KO	Fungicide	1 pound	10/10,000 pounds
Disulfoton	DI-SYSTON	Insecticide, Acaricide	1 pound	500 pounds
Endosulfan	THIODAN	Insecticide, Acaricide	1 pound	10/10,000 pounds
Ethion	ETHION	Insecticide, Acaricide	10 pounds	1,000 pounds
Fenamiphos	NEMACUR	Nematicide	1 pound	10/10,000 pounds
Fonofos	DYFONATE	Insecticide	1 pound	500 pounds
Formetanate hydrochloride	CARZOL	Insecticide, Acaricide	1 pound	500/10,000 pounds
Lindane	LINDANE	Insecticide	1 pound	1,000/10,000 pounds
Methamidophos	MONOTOR	Insecticide, Acaricide	1 pound	100/10,000 pounds
Methidathion	SUPRACIDE	Insecticide, Acaricide	1 pound	500/10,000 pounds
Methiocarb	MESUROL	Molluscicide, Insecticide, Acaricide	10 pounds	500/10,000 pounds
Methomyl	LANATE, NUDRIN	Insecticide, Acaricide	100 pounds	500/10,000 pounds
Methyl bromide	BROM-O-GAS	Fumigant	1,000 pounds	1,000 pounds
Methyl parathion	METHYL PARATHION	Insecticide	100 pounds	100/10,000 pounds
Mevinphos	PHOSDRIN	Insecticide, Acaricide	10 pounds	500 pounds
Oxamyl	VYDATE	Insecticide, Nematicide	1 pound	100/10,000 pounds
Paraquat	GRAMOXONE	Herbicide	1 pound	10/10,00 pounds
Parathion	PARATHION	Insecticide	1 pound	100 pounds
Pentachlorophenol	PENTA	Wood preservative	10 pounds	10,000 pounds
Phorate	THIMET, AASTAR	Insecticide	10 pounds	10 pounds
Phosfolan	CYOLANE	Insecticide	1 pound	100/10,000
Phosmet	IMADAN, PROLATE	Insecticide	10 pounds	10/10,000 pounds
Promecarb	CARBAMULT	Insecticide	1 pound	500/10,000 pounds

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Sodium fluoroacetate	1080	Fungicide	10 pounds	10/10,000 pounds
Strychnine	STRYCHNINE	Fungicide	10 pounds	100/10,000 pounds
Sulfotep	DITHIO, BLADAFUM	Insecticide, Acaricide	100 pounds	500 pounds
Terbufos	COUNTER	Insecticide, Nematicide	1 pound	100 pounds
Trichlorfon	DYLOX	Insecticide	100 pounds	10,000 pounds
Warfarin	LIQUA-TOX, RODEX	Fungicide	100 pounds	500/10,000 pounds
Zinc phosphide	ZP	Fungicide	100 pounds	500 pounds

**Contact EHS for RQ spills or if you have any questions.

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References and Resources:

Federal: Code of Federal Regulations (CFR)

US Environmental Protection Agency

Federal Insecticide, Fungicide, and Rodenticide Act

Federal Food, Drug, and Cosmetic Act, 21 USC 301 to 397

7 USC 136 and regulations at 40 CFR 152 to 180

State: Ohio Administrative Code (OAC)

Hazardous Waste Pesticides' OAC 901:5 – 11 – 01 to 901:5 – 11 – 12

Listed Wastes: OAC 3745 – 51 – 30 to 3745 – 51 – 33

Pesticide Storage: OAC 901:5 – 11 – 11

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