

CHAPTER 3.H

HAZARDOUS MATERIALS

A. INTRODUCTION

Since the *Mosquito-Borne Disease Control Program* involves the potential use of a number of different commercial adulticide products, this section deals with potential impacts associated with the storage, transport, and disposal of such products.

B. COMPOSITION OF ADULTICIDES

As discussed in Chapter 2, "Pesticide Regulations and Usage," the active ingredients in the adulticides that may be used in the *Mosquito-Borne Disease Control Program* fall into two general chemical classes: synthetic pyrethroids and organophosphates.

Pyrethroids are synthetic compounds that are similar to pyrethrum, a natural insecticide found in chrysanthemum flowers. The pyrethroids that may be used in the Proposed Action are sumithrin, which is the active ingredient in Anvil; resmethrin, which is the active ingredient in Scourge; and permethrin, which is the active ingredient in Biomist, Mosquito Beater, Aqua-Reslin, and Flit. Most of these products also contain piperonyl butoxide, a chemical that increases the insecticidal properties of pyrethroids.

Organophosphates are a widely used class of pesticides, primarily used in agricultural applications. The organophosphates that may be used in the Proposed Action are malathion, which is the active ingredient in Fyfanon and Atrapa; and naled, which is the active ingredient in Trumpet, MU-17, and Dibrom. Trumpet and Dibrom also contain another organophosphate pesticide, dichlofos (also known as DDVP), as a minor ingredient.

All the commercial pesticide products used also contain inert ingredients at concentrations varying from 3 to 96 percent. The inert ingredients are usually petroleum distillates (for pyrethroids), which are organic solvents composed of hydrocarbons derived from petroleum.

C. HANDLING OF MATERIALS

All contractors involved in the *Mosquito-Borne Disease Control Program* will be responsible for proper transportation, storage, and disposal of potentially hazardous materials and for proper reporting and cleanup of any spills. The procedures to be followed are described below. City workers involved in the *Mosquito-Borne Disease Control Program*, such as police officers escorting the spraying trucks, would follow procedures recommended by the Department of Health to minimize potential exposure to adulticides and to ensure compliance with applicable U.S. Occupational Safety and Health Administration (OSHA) and NYS Public Employees Safety and Health (PESH) regulations and standards. These procedures include training of workers in the potential hazards of adulticides, use of appropriate personal protective equipment, and work practices designed to prevent exposure.

TRANSPORT

Transport of hazardous materials, including adulticides, is regulated by the U.S. Department of Transportation (DOT). The pyrethroid pesticides (i.e., those containing sumithrin, resmethrin, or permethrin as the active ingredient) are not classified as hazardous materials by DOT unless they are being transported in bulk—that is, in tanker trucks or rail cars. No bulk transport would be required for the *Mosquito-Borne Disease Control Program*. Transport of drums or other containers of these materials is not subject to DOT hazardous materials regulations.

The organophosphate pesticides naled and malathion are both subject to hazardous materials transport regulations. Naled is classified by the DOT as a Class 6.1 hazard, which is a classification for poisonous materials. Malathion is a Class 9 hazard, which is a classification used for miscellaneous materials that pose a hazard during transport, but do not meet the definitions of any specific hazard class. DOT hazardous materials regulations require that both these materials must be shipped in specified types of DOT-approved containers. In order to guide response crews in dealing with any transportation accident that could pose the risk of a spill or release, the regulations specify that trucks or other vehicles carrying hazardous materials be placarded with signs indicating the types of materials being transported. All containers must be properly marked and labeled, and all shipments must be accompanied by shipping papers and by emergency response information on the Material Safety Data Sheets (MSDSs). There are also specific training requirements for drivers and other persons involved in the transportation of hazardous materials.

STORAGE

All adulticides would be required to be stored in accordance with the manufacturers' recommendations. Materials will be kept in their closed original containers, which will be stored upright in a secure, locked, well-ventilated, dry storage area. Stored containers will be protected from ignition sources and extremes of heat or cold. Storage areas will be provided with secondary containment to catch any leaked or spilled materials. As required by City regulations, the Fire Department and the Department of Environmental Protection will be notified of all storage locations.

WASTE DISPOSAL

Wastes containing the adulticides being used in the *Mosquito-Borne Disease Control Program* are not classified as hazardous wastes under New York State or Federal regulations, and so are not subject to hazardous waste manifesting requirements, or other requirements for the transportation and disposal of hazardous wastes. Federal regulations promulgated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provide the recommended procedures for the disposal of pesticides, pesticide containers, and other pesticide-containing wastes. Excess adulticides that cannot be used or returned to the manufacturer are to be disposed of at a suitable facility, preferably by incineration that results in complete destruction of the adulticide.

Empty non-combustible pesticide containers, such as steel drums, are to be triple-rinsed to remove insecticide residues. The containers may then be recycled or reconditioned. If recycling is not possible, then rinsed containers may be punctured and disposed of in a landfill. Combustible containers may be disposed of by incineration.

POTENTIAL SPILLS OF THE PRODUCTS

Proper packaging, handling, and transporting of adulticides will minimize the possibility of spills. Since there is no bulk storage of adulticides, the maximum size of any potential spill is limited. The

maximum container size for adulticides is a 55-gallon drum. Spray trucks hold no more than one or two 15-gallon tanks. Helicopters used for spraying typically hold no more than 400 pounds of material, which is equivalent to about 50 gallons. In the event that a spill occurs, recommended spill cleanup procedures are specified on the label of each adulticide container, as well as in the emergency response information that must accompany all shipments classified as hazardous by the DOT. All spills will be immediately reported to the New York State Department of Environmental Conservation Spill Hotline, as well as to the New York City Department of Environmental Protection (NYCDEP) and the New York City Department of Health (NYCDOH).

For all spills, the release area would be isolated with barriers to control access. All potential ignition sources would be removed from the spill area. If the spill is in an enclosed space, the area would be thoroughly ventilated. Cleanup personnel would wear appropriate gloves, respiratory protection equipment, and impervious clothing.

Small spills on impervious surfaces would be cleaned up by the following procedure:

1. Absorb the spilled material with an inert absorbent material such as sawdust, granular clay, or pet litter.
2. Sweep up the absorbent and place in a chemical waste container for disposal.
3. Rinse the spill area with a small amount of soapy water. Soda lye in water will be used for spills of organophosphate pesticides.
4. Absorb the solution used to rinse the spill area using an inert absorbent and place in same disposal container.
5. Wash the area with water to remove any remaining trace residue.

For large spills on impervious surfaces, the following cleanup procedure would be followed:

1. Stop the leak if it is possible to do so without contact with the spilled material.
2. Dike ahead of the spill. Use barriers to prevent entry of the spilled material into waterways, sewers, basements, or confined areas.
3. Collect the spilled product into drums or other suitable containers using pumps, siphons, or drains.
4. Absorb the remaining residue with an inert absorbent material such as sawdust, granular clay, or pet litter.
5. Sweep up the absorbent and place in a chemical waste container for disposal.
6. Rinse the spill area with a small amount of soapy water. Soda lye in water would be used for spills of organophosphate pesticides.
7. Absorb the rinsate using an inert absorbent and place in the same disposal container.
8. Wash the area with water to remove any remaining trace residue.

For spills directly on soil, the affected area would be dug up, and the impacted soil placed in a chemical waste container for proper disposal.

D. PROBABLE IMPACTS OF THE PROPOSED ACTION

Handling of adulticides in accordance with the procedures described above will minimize the potential for any accidental release. If any spills occur, NYCDEP and NYCDOH will monitor the cleanup to confirm that proper procedures are followed to protect workers and to prevent any impacts to nearby residents. Post-cleanup sampling will be performed to ensure that affected surfaces have been properly cleaned and that any contaminated soil has been removed. Soil concentrations of adulticides resulting from normal application will be far below any applicable cleanup standards or guidelines. (See Chapter 3.A, "Framework of the Analysis," for predicted levels of adulticides in soil.)

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