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PESTICIDE SPILL PREVENTION

AND MANAGEMENT

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DISCLAIMER

TG15 discusses specific proprietary products in a few cases where examples are needed. Such information does not constitute a recommendation or an endorsement of these products by the Department of Defense (DoD). Neither should the absences of an item be interpreted as DoD disapproval.

PESTICIDE SPILL PREVENTION AND MANAGEMENT

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE

Practically all DoD facilities routinely do pest control operations. The magnitude of these operations depends largely on the size of the facility and whether the work is contracted or done in-house. Both dilute and concentrated pesticides are used. Use of these chemicals involves handling, storage, application and disposal of various pesticides.

Most bases/installations use a wide variety of pesticides ranging from those that are practically nontoxic for mammals to those that are highly toxic. Included are insecticides, herbicides, fungicides, fumigants, nematicides, rodenticides and other miscellaneous pesticides. Each of these pesticides has particular characteristics that require special attention. This document does not take into account the special characteristics of each group to any great extent. It was developed as a basic guideline for developing plans for pesticide spill prevention, control and cleanup.

The probability of a pesticide spill can be effectively reduced by an education program training personnel in:

a. Pesticide spill prevention, control and cleanup procedures.

b. Methods of handling and storing pesticides.

c. Shop safety and fire regulations.

Additional spill prevention practices should include:

a. Properly securing pesticides in vehicles and shops.

b. Inspecting storage areas for leaking or damaged containers on a monthly basis.

c. Adequate advance contingency planning for controlling and cleaning up spills.

d. Providing and properly maintaining spill kits at all pesticide storage and mixing facilities, and in pesticide vehicles.

In spite of planning and training, spills do occur. Typical spills range from a one-gallon service container falling off a vehicle, to several 55-gallon drums punctured by a forklift. The worst case of a spill would be exploding containers in a fire. The problem for all persons concerned is the management of the spill, the cleanup and the proper disposal of all the residual material. A list of materials for a spill cleanup kit is found in Appendix A.

II. LEGAL REQUIREMENTS

Most pesticide spills occur in areas such as loading docks, warehouses and mixing areas. If the spill did not result in a release to the environment (*i.e.*, no lost material such as might occur in a confined area, diked pad with no outlet, or on a sealed concrete floor of an enclosed facility) and there is no threat to air, soil, or water environments, then the spill is not reportable to external regulatory agencies. If the spill occurred under uncontrolled conditions, such as onto grounds outside the shop, and the amount spilled equaled or exceeded a so-called reportable quantity (RQ) of Part 117 of the Clean Water Act (CWA) (40 CFR 117), Part 302 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (40 CFR 302), or Part 112(r) of the Clear Air Act (CAA) (40 CFR 68) then the spill must be reported off-base because of effects on the environment. Reportable quantities for pesticides on the DoD pesticide list are found in Appendix C. The reporting procedure will be explained later.

Consequently, report all spills to your chain-of-command regardless of the amount spilled. Base/installation environmental engineers/coordinators can help in making a RQ determination, and in properly reporting hazardous substance releases to regulatory agencies. Failure to report a spill is a violation of Federal law.

Regulations promulgated under the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) require federal agencies to develop plans and procedures for containment and cleanup of accidental discharges of hazardous substances. In compliance with these regulations, pesticide facilities shall be included in base/installation hazardous substance spill contingency plans. Procedures for the handling and disposal of spill cleanup residues according to the requirements of the Resource Conservation and Recovery Act (RCRA) should also be addressed in the Contingency Plan.

III. SPILL PREVENTION

The best means by which a spill can be reduced or prevented is to take precautionary measures, such as providing adequate storage facilities for all pesticide chemicals, monthly inspection of these facilities, and ensuring that emergency equipment is on hand for spill cleanup. The following guidelines should be followed for reducing the probability and severity of a spill:

A. General Procedures

1. Train personnel in proper procedures for handling pesticides during receipt, storage, formulation, loading, application and disposal.

2. Advise and train pest control personnel in proper spill prevention, emergency response and containment procedures.

3. Identify locations and operations where spills are likely to occur.

4. Prepare pesticide spill emergency response and spill control countermeasure plans for shops and storage areas, consistent with the total hazardous materials management and spill contingency plans for the facility, *i.e.* Navy Hazardous Materials Management Guide (NESO 20.2-024A).

5. Post emergency phone numbers in conspicuous locations.

6. Prepare and maintain spill kits.

7. Inspect storage areas monthly and spill kits quarterly.

B. <u>Storage Procedures</u>

Proper storage of pesticides can be accomplished by employing the following procedures:

1. Store all pesticides with labels plainly visible. Containers should be checked at least monthly to ensure that lids are tight and containers are not damaged. They should be stored in rows off the ground on metal shelving to provide effective access.

2. Incompatible pesticides, such as herbicides and insecticides, must be stored separately, maintaining sufficiently safe segregation, in order to avoid cross-contamination or adverse reactions. For example, phenoxy and urea herbicides should be physically separated (not share the same air ventilation system) from all insecticides. Where separate air supplies are not feasible, the pesticides should be arranged so that clean air flows continuously from the insecticides past the herbicides and out of the facility. A list of pesticide incompatibilities is found in Appendix B.

3. Containers must be stored in well ventilated (six room air changes per hour), dry storage areas. Temperatures should be between 50 -100 degrees Fahrenheit (10-38 degrees Celsius), unless a label dictates otherwise. Stored pesticides should be protected from freezing temperatures and direct sunlight. See Technical Guide 17 for more specific guidance on pesticide storage requirements.

4. Emergency procedures (fire, spill. etc.) should be conspicuously posted near work areas and exits. A complete inventory of the pesticides contained in the storage area should be posted on the exterior of the building and given to the local fire department along with the name and phone number of the pest control shop supervisor and building custodian.

5. Containers found leaking or damaged should be handled as follows:

   (a) Don appropriate protective equipment and ensure that backup responders are available.

(b) Separate clean undamaged containers from those that are leaking.

(c) Isolate, for later cleanup, any containers that have been contaminated by leakers.

(d) Leaking containers should be repackaged. Overpacking may be employed only if the pesticide and its container are being prepared for disposal. Repackage when necessary by obtaining containers of the same type used originally to store or transport the pesticide chemicals. The numbers on the bottom of the containers, either Department of Transportation (DOT) or Federal Specifications (Fed. Spec.), refer to the proper container specifications to be used for repackaging. Broken bags can be placed in heavy-duty plastic bags and sealed with twist ties. Leaking drums can be temporarily sealed using epoxy glue, fiberglass patch kits, or other suitable materials on hand.

(e) All labeling must be duplicated on the repackaged pesticide containers.

(f) Transfer contents of each leaking container by pouring or siphoning the contents into the new container. When pouring, use a wide-mouth funnel. Use only a mechanical siphon. NEVER START SIPHON BY MOUTH. Use a forklift to lift large containers. Mechanical pumps also can be used for transferring liquids to new containers.

(g) Clean any spilled pesticides from the outside of contaminated containers by using decontamination and/or cleaning solutions (household detergent). Collect all rinsate in a drip pan and store in a marked drum for proper disposal. Clean the inside of the damaged container by triple rinsing. All collected spilled materials may be used in accordance with the label. All rinsate can be saved for future use as a diluent. Refer to the Naval Environmental Protection Support Service (NEPSS) Hazardous Waste Disposal Guide (NESO 20.2-011) for proper disposal guidance.

(h) All contaminated areas should be thoroughly cleaned after completing the repackaging operation (refer to Appendix B).

IV. SPILL CONTINGENCY PLANNING

Contingency plans call for pre-planning the response to and cleanup of a spill that occurs despite all precautions. Site specific pesticide spill contingency plans should be developed for all pest control shops and pesticide storage areas. This plan should be included in, or attached as an annex to, the facility's Pest Management Plan, Hazardous Waste Management Plan, Oil and Hazardous Substances Spill Contingency Plan, and Installation Spill Prevention Control and Countermeasure Plan. The plan should outline specific procedures to be followed when a pesticide spill occurs and clearly identify the roles and responsibilities of each individual involved in the overall response scheme. Such a plan will save valuable time and will effectively reduce human risk and environmental damage from an accidental spill. The plan should include the following information:

A. Notification List

Include the emergency phone numbers for:

1. Designated base/installation spill coordinator or the contact designated in the base/installation spill contingency instruction.

2. Nearby offices and buildings requiring evacuation.

3. Base/installation fire and security departments.

4. Base bioenvironmental engineer (or equivalent, depending on the service).

5. Engineering Field Division (EFD)/NEPSS hazardous waste management contact (Navy only).

6. Nearest emergency medical unit

7. Local poison control center at 800-222-1222 nationwide or the website for the American Association of Poison Control Centers at http://www.aapcc.org/dnn/Home/tabid/36/Default.aspx (AAPCC 2009).

8. Chemical Transportation Emergency Center (CHEMTREC) at 800 424-9300. CHEMTREC also has an online emergency reporting service at http://www.chemtrec.com/Chemtrec/. (CHEMTREC 2009)

9. U. S. Coast Guard Chemical Hazards Response Information System (CHRIS) at 800-424-8802 or 202 267-2675) or at website http://www.nrc.uscg.mil/nrchp.html to be notified immediately when spills occur in U.S. waters.

10. Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC 2009) at http://www.epa.gov/oem/content/epcra/serc_contacts.htm.

11. DoD Pesticide Hotline (410-436-3773) DSN 584-3773 operated by the U. S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) (AFPMB 2009).

B. Inventory of Pesticides

Include a complete list of all pesticides on hand with EPA registration numbers and manufacturer's name and address.

C. Sketch Map

Include a detailed, up-to-date sketch or map of the pesticide shop and storage areas showing exterior runoff patterns, nearby water sources (wells, lakes, streams, *etc*.), water drainage patterns and times, volume capacity of holding basins, available gate valves in storm drainage systems, storage location of specific pesticides, and location of spill kits and other emergency response equipment.

A copy of this plan should be given to the base/installation's spill coordinator and the fire department for use in responding to emergencies. Another copy of this plan should be maintained in a predetermined highly visible location within the shop or storage area. Spill kits should be included as part of a spill contingency plan. Being properly prepared for handling pesticide spill emergencies requires preparation of a pesticide spill kit and understanding the steps to be followed when a spill occurs. The kit should contain an emergency spill procedures sheet and should be labeled and designated only for use in managing pesticide spills. Recommended materials for inclusion in the pesticide spill kit are listed in Appendix A. Most items can be obtained through the federal supply system or local manufacturers and suppliers.

The size and contents of each spill kit vary with the amount and type of pesticides handled by the shop. Each pest control shop vehicle that transports pesticides should have a small spill kit and procedures for cleaning up and decontaminating spills from service containers or sprayers. The exact contents of each spill kit should be tailored to the needs of the individual shop. The spill kit should be sufficient to contain and clean-up the largest container or sprayer at the site.

V. SPILL EMERGENCY PROCEDURES

When a pesticide spill occurs, specific procedures should be followed for providing first aid, notifying proper authorities, and cleaning up and decontaminating the spill area. Personnel working with pesticides, or in areas containing pesticide chemicals, should be adequately trained for quick evacuation and proper spill prevention and emergency procedures as follows:

A. Identification

Determine the pesticide involved in the spill incident. Information such as the formulation, percent active ingredient, and manufacturer's name and address should be obtained from the Material Safety Data Sheet (MSDS).

B. Safety and First Aid

All persons working with pesticides should be well trained in basic first aid procedures. It must be emphasized that when managing any spill the most immediate concern is for the health and well being of persons in and around the immediate spill area.

First aid kits and personal protective equipment should be maintained at pest control shops and

storage areas and carried on pest control vehicles. In addition to MSDSs, the telephone numbers of the local medical unit and poison control center should be posted in conspicuous locations and always carried by pest control personnel when on the job.

C. Care of Injured

It is recognized that pesticide spill emergencies will differ, but the immediate concern should be to minimize contamination of personnel. Although the sequence may vary, the following basic procedures should be accomplished as rapidly as possible. PRIOR TO ENTERING A CONTAMINATED AREA, DON PERSONAL PROTECTIVE EQUIPMENT (PPE).

1. Quickly assess the spill to determine if personnel are involved.

2. Eliminate all sources of ignition (e.g., pilot lights, electric motors, gasoline engines) in order to prevent the threat of fire or explosion from inflammable vapors (if present).

3. If personnel are involved, the rescuer should quickly don necessary protective equipment and remove the injured to a safe location upwind from the spill. If the spill occurs in an enclosed area, doors and windows should be opened to enhance ventilation of the area.

4. Remove contaminated clothing from the victim and/or rescuer, and wash affected areas of body with soap and water. Administer first aid as required by the symptoms/signs and label, which may include flushing contaminated eyes with clean water for 15 minutes.

5. Obtain medical assistance for injured or contaminated persons. Do not leave injured or incapacitated persons alone. Always instruct someone to stay with them until proper medical assistance is provided or a physician has been informed of the incident.

D. Site Security

Secure the spill site from entry by unauthorized personnel by roping off the area and posting warning signs. The boundary should be set at a safe distance from the spill. If necessary, obtain assistance from the base/installation's police or security unit.

E. Containment and Control

Spilled pesticides must be contained at the original site of the spill. The pesticide must be prevented from entering storm drains, wells, water systems, ditches, and navigable waterways by following these procedures:

1. Don appropriate protective equipment from a spill kit or the pest control shop.

2. Prevent further leakage by repositioning the pesticide container.

3. Prevent the spill from spreading by trenching or encircling the area with a dike of sand,

absorbent material, or, as a last resort, soil or rags.

4. Cover the spill. If the spill is liquid, use an absorbent material appropriate to the type of material. If dry material, use a polyethylene or plastic tarpaulin and secure. NOTE: Use absorbent materials sparingly as they also must be disposed of as wastes.

F. Pesticide Spill Reporting

Not all pesticide spills warrant reporting to EPA or the Coast Guard. However, spills that involve pesticides equal to or exceeding the designated reportable quantity (RQ) specified in EPA's Clean Water Act list of hazardous substances, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) list of hazardous substances (see Appendix C for RQs of major pesticides), must be reported. All pesticide spills should be reported in accordance with each service's regulations (Air Force, AFMAN 32-4013; Navy, OPNAVINST 5090.1C; Army, AR 200-l; Marine Corps, MCO P5090.2A) and the base/installation's spill contingency instruction. Pesticide spills should be reported to the spill coordinator designated in the base/installation's spill contingency instruction. The coordinator in turn will report the spill to EPA or the Coast Guard, as required.

The individuals or agencies in IV.A. should be notified, as appropriate, when spills occur. These contacts also can provide information on how to cope with problems that may be encountered in handling pesticide spills. The telephone numbers of contacts should be posted as part of the Pest Control Shop or base/installation's emergency plan.

G. Cleanup

Adequate cleanup of spilled pesticides is essential in order to remove any health or environmental hazards. When cleaning up pesticide spills, it is advisable NOT TO WORK ALONE and to make sure the area is properly ventilated and that appropriate protective equipment is used by all personnel. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses. However, if the release is not an incidental release, only qualified, trained emergency personnel should undertake cleanup operations. Minimum initial training and refresher training requirements are specified in the Occupational Safety and Health Standards of 29 CFR 1910.120 or NFPA 472.

1. Dry spills (dusts, wettable powders, granular formulations) should be picked up in the following manner:

   (a) Immediately cover powders, dusts, or granular materials to prevent them from becoming airborne. This can be done by placing a polyethylene or plastic tarpaulin over the spilled material. Weight the ends of the tarp, especially the end facing into the wind. Begin cleanup operations by systematically rolling up the tarp while simultaneously sweeping up the spilled pesticide using a broom and shovel or dust pan. While sweeping, avoid brisk movements in order to keep the dry pesticide from

becoming airborne. If indoors, a cover may not be necessary. When practical, a light sprinkling of water may be used instead of a cover.

(b) Collect the pesticide and place in plastic or metal containers. Heavy-duty plastic bags should be used as a last resort as many pesticides may eat through the plastic bags. Properly secure and label the bags, identifying the pesticide and possible hazards. Set the bags aside for later disposal.

2. Liquid spills should be cleaned up by placing an appropriate absorbent material (floor-sweeping compound, sawdust, sand, etc.) over the spilled pesticide. Work the absorbent into the spill using a broom or other tool to force the absorbent into close contact with the spilled pesticide. Collect all spent absorbent material and place into a properly labeled leakproof container.

3. Depending upon the spilled substance, contaminated soil may have to be removed to depths where no detectable amounts of the substance are evident. Residues may need to be placed in properly labeled leakproof containers. For this determination, contact the base/installation environmental engineer/coordinator.

H. Decontamination

Decontamination solutions can be used for decontaminating surfaces and materials where spills of dust, granular, wettable powder, or liquid pesticides have occurred. However, the bulk of the spilled pesticide should be cleaned up or removed before applying any decontaminant. After cleaning up the bulk material, apply the appropriate decontamination solution and allow one to six hours reaction time before using an absorbent material.

Depending on the location of the spill and the pesticide spilled, chlorine bleach, caustic soda (lye, sodium hydroxide) or lime can be used to effectively decontaminate most spill areas. Many pesticides, especially the organophosphate pesticides, decompose when treated with lye or lime. Fewer pesticides are decomposed by bleach (sodium hypochlorite) (Appendix B).

Dry decontaminants should be spread thinly and evenly over the spill area. Then, using a watering can, lightly sprinkle the area with water to activate the decontaminant. Liquid decontaminants should be premixed and applied with a watering can to the spill area. Decontaminants should be applied in amounts no greater than that specified in Appendix B.

The preceding procedures must be repeated until all the spilled pesticide is removed. Clean all equipment used for spill cleanup with detergent and appropriate decontaminants. Collect all spent decontaminants and rinse water and place them in labeled leakproof containers. Clothing and gloves that cannot be decontaminated must be placed in leakproof containers for proper disposal. Additional procedures may be needed for particular surfaces:

1. Nonporous surfaces should be washed with detergent and water. The appropriate decontamination solution should be thoroughly worked into the surface using a long-

handled broom, scrub brush, or other equipment as needed. Then the decontamination solution is soaked up using absorbent material. The spent absorbent material is then placed into a labeled leakproof container for disposal.

2. Soil. If pesticide containers have leaked or if pesticides have been spilled on a soil surface, depending upon the spilled substance, contaminated soil may have to be removed to depths where no detectable amounts of the substance are evident. Residues may need to be placed in properly labeled leakproof containers.

3. Porous materials such as wood may not be adequately decontaminated. If contamination is great enough to warrant, they must be removed and replaced with new materials.

4. Tools, vehicles, equipment, and any contaminated metal or other nonporous objects can be readily decontaminated using detergent and the appropriate decontamination solution (refer to Appendix B). However, smaller quantities of the decontamination solution may be required.

The decontamination solution can be applied to contaminated equipment by soaking the equipment in a pail filled with solution or using a scrub brush. All tools and surfaces must be thoroughly rinsed with sparing amounts of clean water. All rinse water and spent decontamination solution should be collected in drip pans or other suitable containers and transferred to a properly labeled leakproof drum for disposal.

I. Disposal

All contaminated materials, including cloth, soil, wood, etc., that cannot be effectively decontaminated as described in this guide must be removed and placed in a sealed leakproof container. All containers must be properly labeled and transported in accordance with Department of Transportation (DOT) 49 CFR Part 172 regulations by EPA-permitted hazardous waste haulers for disposal in a hazardous waste disposal facility (incinerator, landfill site, etc.) under current EPA or state permit. Information about specific disposal sites, container labeling, rinsing, and disposal is contained in the NEPSS Hazardous Waste Disposal Guide (NESO 20.2-011). Additional disposal information for stock pesticide formulations can be found in the Consolidated Hazardous Items List (CHIL) (NAVSUP 1979). Coordinate with the base/installation Environmental Coordinator on disposal procedures.

VI. POST-SPILL PROCEDURES

After the spill has been decontaminated, the following actions should be taken to ensure that decontamination has been adequate:

A. Sample Collection and Analysis

Representative samples of affected environmental areas (soil, water, sediment, etc.) should be

collected and analyzed for pesticide content to ensure that decontamination was effective. Pesticide residue sampling procedures are contained in NEPSS Pesticide Residue Sampling Guide (NESO 20.2-012).

B. Investigation of Cause

An investigation into the cause of the spill and any contributing events should be undertaken in order to ascertain why the spill occurred. This information will be of benefit in making future spill prevention recommendations. In addition, the spill episode should be well documented for future reference.

C. Disposal

Contaminated materials should be properly disposed. Guidance on disposal can be obtained from those agencies listed in paragraph VII.

VII. INFORMATION AND ASSISTANCE

Comprehensive information about pesticide spill, prevention, cleanup and decontamination can be obtained from the respective Naval Facilities Engineering Command Engineering Field Division (EFD) Applied Biologist; USAF Occupational and Environmental Health Laboratory, Brooks AFB. TX; or Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD. If these sources are unable to provide the necessary information about a spill, the following additional sources are available:

A. Chemical Transportation Emergency Center (CHEMTREC)

CHEMTREC (800) 424-9300 contacts the pesticide manufacturers who provide specific information regarding the handling of pesticide spills. If needed, a spill response team can be requested to assist in spill cleanup operations.

B. EPA Pesticide Product Information System (PPIS)

Contains information concerning all pesticide products registered in the United States. It includes registrant name and address, chemical ingredients, toxicity category, product names, distributor brand names, site/pest uses, pesticide type, formulation code, and registration status. The files can be downloaded at http://www.epa.gov/opppmsd1/PPISdata/index.html.

C. Chemical Hazards Response Information System (CHRIS)

The U.S. Coast Guard CHRIS (800) 424-8802, 202 267-2675 or http://www.nrc.uscg.mil/ nrchp.html can provide guidance about methods for handling spills. Assistance can be obtained by contacting local Coast Guard stations, the Coast Guard district office or the National Spill Response Team. (CHRIS 2001)

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APPENDIX A

SPILL KIT CONTENTS

SPILL KIT CONTENTS

Proper handling of pesticide spills requires prior preparation of a spill kit containing directions for use if a spill incident should occur. The kits should be labeled and designated for use in handling pesticide spills only, and should be strategically placed where spills are most likely to occur. The label should list the contents, and the kit should be sealed to discourage pilferage.

Spill kits may be assembled by procuring items through the Federal Supply System, or from commercial sources. Additional suppliers may be obtained by contacting the EFD Applied Biologist or Command Entomologist.

The following is a list of equipment required for shop and vehicle spill kits:

Shop kit

1 55-gallon open-head drum
1 set of instructions
4 pairs of neoprene gloves
2 pairs of unvented goggles
2 respirators and pesticide cartridges
2 aprons (chemical resistant)
2 pairs of rubber boots
2 pairs of 100% cotton coveralls
1 dustpan
1 shop brush
1 square-point “D” handle shovel
1 dozen polyethylene bags w/ties (heavy ply)
1 18” pushbroom, synthetic fibers
1 gallon liquid detergent
3 gallons household bleach
80 lbs absorbent material
1 bung wrench
1 drum spigot
1 1 3/8” open-end wrench
1 drum pump (manual)
30 ft 1/2” polyethylene tubing or
1 25-ft garden hose
1 bung 2 1/2”
1 bung 3/4”
blank labels
1 first aid kit

Vehicle kit

1 instruction sheet
1 5-gallon open-head drum
2 pairs of neoprene gloves
1 pair of unvented gloves
1 respirator and cartridges
1 pair of coveralls
1 dustpan
1 shop brush
10-30 lbs absorbent material
1 pint liquid detergent
6 polyethylene bags w/ties
1 portable eyewash
blank labels
1 first aid kit
1 pair of rubber boots
1 apron

Most equipment and materials needed for spill emergency response and for maintaining spill kits can be obtained through the GSA Federal Supply System or local manufacturing companies.

APPENDIX B

PESTICIDE DECONTAMINANTS

Pesticide Incompatibilities

Algaecides	Incompatibilities
Copper Sulfate, 80.16% pentahydrate, crystal (Cuprose)	Strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors.

Fungicides	Incompatibilities
Wood Preservative, copper naphthenate mixture (COP-R-NAP)	Oxidizing agents; reducing agents.
Fungicide, Wood Preservative, copper naphthenate mixture (COP-R-NAP RTU)	Strong acids, and oxidizers.
Methylisothiocyanate (MITC-FUME)	Oxidizing materials, water above 140°F, iron, PVC, and rubber (hoses).
Methyl Azoxystrobin, 50% (Heritage)	Oxidizing agents.

Herbicides	Incompatibilities
Aminopyralid, 40.6% (Milestone VM)	None known.
Bromacil, 21.9% lithium salt of bromacil, liquid (Hyvar X-L)	Acids and amines, especially primary amines.
Bromacil, 80%, wettable powder (Hyvar X)	Amines, particularly primary amines.
Diquat, 35.3%, water soluble liquid (Reward)	Strong alkalis and anionic wetting agents (e.g., alkyl and alkylaryl sulfonates). Corrosive to aluminum. Flammable hydrogen gas may be formed on contact with aluminum.
Diuron, minimum 80% diuron, granular	Acids and alkalies.
Diuron-Bromacil mixture, 40% bromacil, 40% diuron, granular (Krovar I DF)	None reasonably foreseeable.
Fluridone (Sonar)	Not determined.
Imazapic 23.6% liquid (Plateau)	Oxidizing agents. Corrosive effect on zinc, iron and mild steel.
Isopropylamine salt of glyphosate	Strong oxidizing agents: bases and acids. Reacts with galvanized steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.
Ammonium salt of glyphosate, 73.3% and 2.9% Diquat dibromide, water soluble liquid (Quik Pro)	Reacts with galvanized steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.
Isopropylamine salt of imazapyr	Oxidizing agents, reducing agents. Corrosive effect on mild steel and brass.
Oryzalin, 40.4% (Surflan A.S.)	None known.

Herbicides	Incompatibilities
Prometon, 25% prometon, emulsifiable concentrate (Pramitol 25E)	Strong acids.
Methyl Sulfometuron, 75% (Oust XP)	None reasonably foreseeable.
Tebuthiuron (Spike 80 DF)	None known.
Tebuthiuron-Diuron, 1% Tebuthiuron, 3% Diuron (Spraykil SK-13)	Information not available.
Triclopyr, 60.45% (Garlon 4 Ultra)	Strong acids, strong bases, strong oxidizers.
2,4-Dichlorophenoxy-acetic acid (2,4-D), oil miscible/water emulsifiable liquid (low volatile ester form)	Strong oxidizing agents: bases and acids.
2,4-Dichlorophenoxy-acetic acid (2,4-D), water soluble liquid (amine salt form)	Strong oxidizing agents: bases and acids.
2,4-Dichlorophenoxy-acetic acid (2,4-D), 0.128%, 0.22% MCPP and 0.05% Dicamba water soluble liquid (Weed-B-Gon MAX)	None known.

Insecticides	Incompatibilities
Abamectin	Can be hydrolyzed by strong caustic solution.
Aluminum phosphide	Water and oxidizing agents.
Bacillus thuringiensis, 10% (Summit *B.t.i.* Briquets)	Alkaline conditions above ph 9 may denature product.
Boric Acid, aerosol (Perma-Dust)	None known.
Bifenthrin, 7.9% liquid (Talstar P Professional)	Information not available.
Carbaryl, 80%, water dispersible powder **(**Sevin 80S/AllPro Carbaryl 80S)	Strong alkalis, acids, nitrates and oxidizing agents.
Carbaryl, 43.4%, liquid (Carbaryl 4L)	Strong oxidizing agents: bases and acids.
Chlorfenapyr, 21.45% liquid (Phantom)	Strong oxidizing agents.
beta-cyfluthrin, 11.8% (Tempo SC Ultra)	Alkalis, methanol; incompatible with many disinfectants.
beta-cyfluthrin, 10% (Tempo Ultra WSP)	Bases, methanol.
Cyfluthrin, 0.1%, aerosol (PT Crack & Crevice I C Cyfluthrin)	Strong acids or strong oxidizing agents.
Lambda-Cyhalothrin, 0.05% aerosol (PT 221L Residual)	None known.
Cypermethrin, 0.10% aerosol (Air-Devil HPX)	Strong alkalines and acids.

Insecticides	Incompatibilities
Cypermethrin, 40% (Demon WP)	Oxidizing agents.
Deltamethrin	Strong oxidizing agents.
Dichlorvos, 20% (plastic strips)	Strong acids and strong bases.
D-Phenothrin, 2%, aerosol	Strong alkalis, oxidizers. Nitric acid, acetic acid, and sulfuric acid. Finely divided metals, magnesium and alloys containing more than 2% magnesium. Can react violently if in contact with alkali or alkali earth metals such as sodium, potassium, or barium. Contact with strong oxidizers may produce an explosive mixture.
D-trans Allethrin and Resmethrin, 0.125% and 0.2% , aerosol (Kill Zone House & Garden Insect Killer Formula 4)	Strong oxidizers.
Methomyl 1.1% Fly Bait (Golden Malrin/Stimukil)	Reactive metals, strong oxidizers
Hydramethylnon (Amdro Fire Ant Bait)	Not Available.
Hydramethylnon (Siege Gel Bait)	Concentrated oxidizing agents.
Hydroprene, 90.6% (Gentrol Point Source)	None known.
Fenoxycarb (Award Brand of Logic)	Materials to Avoid: None known.
Fipronil	Strong bases, strong acids, strong oxidizing agents.
Hydroprene, 9.0**%**, emulsifiable concentrate (Gentrol IGR)	Strong oxidizers.
Imidacloprid	Oxidizing agents.
Lambda-cyhalothrin	Oxidizing agents, alkalis, calcium hypochlorite.
Malathion, 57.0%, emulsifiable concentrate, class 2	Alkalies, iron and strong oxidizers.
Malathion, 96.5%, liquid, (Fyfanon ULV)	Strong alkalies, amines and strong oxidizing compounds. The product can corrode iron, steel, tin plate and copper.
Methoprene (Altosid XR Briquets)	None.
Methoprene (Altosid Pellets)	None.
Methoprene (Altosid Liquid Larvicide Conc.)	Bleach, oxidizing/alkaline materials
Naled, 87.4%, liquid (Dibrom)	Iron or alkaline media. Corrosive to iron, aluminum and magnesium.
Naled, 78%, liquid (Trumpet EC)	Iron or alkaline media. Corrosive to iron, aluminum and magnesium.
Naphthalene, ball form	Oxidizing agents, acids.

Insecticides	Incompatibilities
Nithiazine, Fly Strips (Quikstrike)	Strong Oxidizers.
P-Dichlorobenzene, crystal/flake	Strong oxidizing agents, strong reducing agents.
Permethrin-Piperonyl Butoxide (4.6+4.6%), (Kontrol 4-4)	Strong Oxidizers.
Propetamphos, 18.9**%** (Catalyst)	Strong oxidizing agents.
Propoxur (PT 250 Propoxur)	Caustics, amines, alkanolamines, aldehydes, strong oxidizing agents and chlorinated compounds.
Pyrethrins, 3% pyrethrins with synergists, liquid (ULV fog concentrate)	Strong acids, alkalies and oxidizing agents.
Phenothrin 0.120% and Allethrin 0.129%, Aerosol (Wasp-Freeze Wasp & Hornet Killer)	None known.
Pyrethrin, aerosol (PT 565 Plus XLO)	None known.
Resmethrin (Scourge)	Strong reducing agents, strong oxidizing agents.
Spinosad, 11.6% (Conserve SC)	None known.
Sumthrin-Piperonyl Butoxide, 10%-10%, (Anvil 10+10 ULV)	Strong acidic or alkaline materials.
Temephos (Abate 4E)	Strong alkalis and some oxidizing agents.
Temephos (5% Skeeter Abate)	Strong alkalis and some oxidizing agents.
Mosquito Larvicide and Pupicide (Agnique MMF)	Strong acids, bases and oxidizing agents.

Repellents	Incompatibilities
Clothing application, 40% permethrin, liquid (2-Gal sprayer)	Strong Oxidizing Agents.
Personal application, Ultrathon (3M/EPA 58007-1)	None known.
Clothing application, aerosol (Permethrin Arthropod Repellent)	None known.
Personal application, 3% benzocaine, 10% precipitated sulfur (Chigg-Away)	None.
Personal application & sunscreen, 20% DEET/SPF15 (Sunsect)	None.
Personal application & camouflage face paint (New CFP w/ DEET)	Strong acidic, alkaline, and oxidizing materials.
Clothing application, permethrin (IDA)	Strong Oxidizing agents.
Personal application, 30% DEET (Cutter Repellent Stick)	May soften or damage some synthetics such as rayon. May damage leather.

Rodenticides	**Incompatibilities**
Anticoagulant, 0.005% Diphacinone	Strongly alkaline materials.
Anticoagulant, 0.005% Bromadiolone (Maki), pellets	Alkaline materials.
Anticoagulant, 0.005% Brodifacoum (Talon-G), pellets	None known.
Anticoagulant, (Contrac Blox), 1 oz bait blocks	Strongly alkaline materials.
Anticoagulant, (Final Blox), 20 gram bait blocks	Strongly alkaline materials.
Anticoagulant, concentrate 0.106% sodium salt of diphacinone (LIQUA-TOXII**)**	Strongly alkaline materials.
10% zinc phosphide (ZP Tracking Powder)	Oxidizing agents, strongly acidic materials.

Surfactants	**Incompatibilities**
Spray Adjuvant (Cygnet Plus)	Strong acids.
Spray Adjuvant (Cide-Kick II)	Strong acids.
Spray Adjuvant (Cide-Kick)	Strong acids.

PESTICIDE DECONTAMINANTS

Depending on the particular pesticide on the DoD list, chlorine bleach, caustic soda (lye, sodium hydroxide) or lime can be used to decontaminate most spills. For other decontamination/degradation options, refer to National Agricultural Chemicals, Decontaminating Accidental Spills of Pesticides (NAC 1969). Many pesticides, especially the organophosphate pesticides, decompose when treated with lye or lime. Fewer pesticides are decomposed by bleach (sodium hypochlorite). Other pesticides cannot be effectively decontaminated and should only be treated with detergent and water to help in removal. Some examples of common pesticides that can be decontaminated are listed below:

Use Lye or Lime for:

Propoxur
Carbaryl
Temephos
Naled
Malathion
Dichlorvos

Use Chlorine Bleach for:

Bifenthrin
Methoprene

Use Chlorine Bleach and Alcohol for:

Permethrin-Piperonyl Butoxide

Use Methanol for:

Abamectin

Cover with Cold Water:

Methylisothiocyanate

Use Soapy Water for:

Permethrin
Bacillus thuringiensis
Beta-cyfluthrin
Hydramethylnon
Fenoxycarb
Imidacloprid
Sodium salt of diphacinone

Use Hard Water Detergent for:

Methyl Azoxystrobin
Diquat
Aluminum phosphide – **NOTE: See special procedures in MSDS.**
Bifenthrin
Chlorfenapyr
Cypermethrin
Lambda-cyhalothrin
Lamda-cyhalothrin

Do not use Decontamination Chemicals for other Pesticides on the DoD Lists:

For most other dry pesticides, sweep up and place in suitable containers. Flush area with water.

For most other liquid pesticides, absorb with inert absorbent materials.

A practical guide applying decontaminants is as follows:

USE

Percent Active Ingredient	Amount Decontaminant needed
1-10	Use an amount of decontaminant equal to the quantity of pesticide spilled.
11-79	Use an amount of decontaminant equal to 1.5 times the quantity of pesticide spilled.
80-100	The amount of decontaminant used should be equal to twice the quantity of pesticide spilled.

WARNING: There is a slight potential for creating toxic by-products when using these procedures. In critical situations, samples of affected components (soil, sediment, water, etc.) should be taken and sent to a laboratory for analysis in order to determine if decontamination was successful.

Lye or Lime

Pesticides amenable to treatment using lye or lime may be decontaminated when mixed with an excess quantity of either of these materials. These materials can be used in either the dry form or in solution. A 10% solution of lye or lime can be made as follows:

Mixing directions: Mix 0.75 pounds of lye or lime in 3.5 quarts of water to make 1 gallon of 10% solution.

Caution: Caustic soda (lye) can cause severe eye damage to persons not properly protected. Protect against contact by wearing unventilated goggles, long-sleeved work clothes with coveralls, neoprene gloves, and chemical-resistant apron. An approved respirator should also be worn. Do not use lye on aluminum surfaces.

Bleach Treatment. Certain pesticides can be degraded by treatment with bleach (sodium hypochlorite). Generally, one gallon of household bleach, which contains approximately 5 percent sodium hypochlorite, should be used per pound or gallon of pesticide spilled. If bleaching powder is used, first mix it with water (one gallon of water per pound of bleach) and add a small amount of liquid detergent. For safety purposes, a preliminary test must be run using small amounts of bleach and the spilled pesticide. The reaction resulting from this test must be observed to make sure that the reaction is not too vigorous. Do not store near to, or mix chlorine bleach with, amine-containing pesticides. Co-mingling of these materials can cause a violent reaction resulting in fire. Calcium hypochlorite is not recommended as a decontaminating agent because of the fire hazard.

APPENDIX C

REPORTABLE QUANTITIES

FOR MAJOR PESTICIDES

The following list is the reportable quantity (RQ) for many pesticides. Spills of pesticides that may enter waterways in quantities equal to or exceeding the RQ must be reported to the base/installation spill coordinator, the Coast Guard at (800) 424-8802**,** or to the appropriate EPA regional representative.

Spills involving mixtures of pesticides appearing on the list require reporting only when one or more of the materials in the mixture spilled equals or exceeds the RQ indicated for the specific pesticide and enters or threatens navigable water as defined in 40 CFR 117. The percentage of active ingredients in the specific pesticide product spilled and specific gravities of these materials, including carriers and/or diluents, should be used for determining RQs for each component. Refer to the complete EPA list of hazardous substances (40 CFR 116) for RQs for additional substances. Specific examples of calculations for determining reportable quantities are contained in this appendix.

The chart provided below can be used to convert percent active ingredients for emulsifiable concentrates to the approximate pounds of actual pesticide per gallon. This chart is provided for convenience and should be used only for purposes of providing initial estimates of spilled pesticide. It is not intended as a supplement to label information indicating pounds of actual pesticide per gallon.

Conversion table for active ingredients in

Emulsifiable Concentrates (EC)

Percent Active Ingredient	lbs/gal
10-12	1
15-20	1.5
25	2
40-50	4
60-65	6
70-75	8
80-100	10

List of Reportable Quantities (RQ) for Major Pesticides

Many chemicals on the DoD standard and contingency pesticide list are subject to reporting requirements under the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and under section 112(r) of the Clean Air Act (CAA). The tables in this Appendix are a reference to determine whether reporting is required under sections 302, 304, or 313 of EPCRA or the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and to determine whether they will be subject to accident prevention regulations under CAA section 112(r).

The tables below were compiled from MSDSs for the pesticides, and from the EPA List of Lists: List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. It should be used as a reference tool only. A definitive source of compliance information for EPCRA is published in the Code of Federal Regulations (CFR), 40 CFR Parts 355, 370, and 372, and Compliance information for CAA section 112(r) is published in 40 CFR Part 68.

Abbreviations used in the tables are:

TPQ -- Threshold Planning Quantity. For chemicals that are solids, there may be two TPQs given (e.g., 500/10,000). In these cases, the lower quantity applies for solids in powder form with particle size less than 100 microns, or if the substance is in solution or in molten form. Otherwise, the 10,000 pound TPQ applies.

RQ -- reportable quantity.

EHS -- Extremley Hazardous Substance.

X -- under section 313, indicates that this is a second name for a chemical with another name on the Title III list. It may also indicate that the same chemical with the same CAS number appears on another list with a different chemical name.

c -- Although not listed by name and CAS number on the Title III list, this chemical is reportable under one or more of the EPCRA section 313 chemical categories.

TQ -- Threshold Quantity

Algaecides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Copper Sulfate, 80.16% pentahydrate, crystal (Cuprose)			YES		19	

Fungicides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Wood Preservative, copper naphthenate mixture (COP-R-NAP)			YES			
Fungicide, Wood Preservative, copper naphthenate mixture (COP-R-NAP RTU)			YES			
Methylisothiocyanate (MITC-FUME)	500	500	YES		100	
Methyl Azoxystrobin, 50% (Heritage)						

Herbicides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Aminopyralid, 40.6% (Milestone VM)					5,000	
Bromacil, 21.9% lithium salt of bromacil, liquid (Hyvar X-L)		5,000	YES		5,000	
Bromacil, 80%, wettable powder (Hyvar X)			YES			
Diquat, 35.3%, water soluble liquid (Reward)					1,000	
Diuron, minimum 80% diuron, granular			YES		100	
Diuron-Bromacil mixture, 40% bromacil, 40% diuron, granular		100	YES		100	
Fluridone, 5%, pellets (Sonar SRP)						
Fluridone 41.7% liquid (Sonar A.S.)						
Imazapic 23.6% liquid (Plateau)						
Isopropylamine salt of glyphosate, 41%, water soluble liquid (Roundup Pro/Glypos Pro/Glypro Plus)						10,000
Isopropylamine salt of glyphosate**,** 53.8**%**, water soluble liquid (Rodeo/Aquamaster)						10,000

Herbicides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Isopropylamine salt of glyphosate, 2.0%, water soluble liquid (Roundup Ready-to-Use)						10,000
Ammonium salt of glyphosate, 73.3% and 2.9% Diquat dibromide, water soluble liquid (Quik Pro)					1,000	
Isopropylamine salt of imazapyr, 26.7% (Arsenal Powerline)						10,000
Isopropylamine salt of imazapyr, 28.7% (Habitat)						10,000
Oryzalin, 40.4% (Surflan A.S.)			YES			
Prometon, 25% prometon, emulsifiable concentrate (Pramitol 25E)			YES	U239	9,984	
Methyl Sulfometuron, 75% (Oust XP)						
Tebuthiuron (Spike 80 DF)			YES			
Tebuthiuron-Diuron, 1% Tebuthiuron, 3% Diuron (Spraykil SK-13)			YES			
Triclopyr, 60.45% (Garlon 4 Ultra)						
2,4-Dichlorophenoxy-acetic acid (2,4-D), oil miscible/water emusifiable liquid (low volatile ester form)			YES	U240	100	
2,4-Dichlorophenoxy-acetic acid (2,4-D), water soluble liquid (amine salt form)			YES	U240	100	
2,4-Dichlorophenoxy-acetic acid (2,4-D), 0.128%, 0.22% MCPP and 0.05% Dicamba water soluble liquid (Weed-B-Gon MAX)			YES	U240	1000	

Insecticides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Abamectin, 0.011%, (Advance 360A Dual Choice Ant Bait Stations)			YES			
Abamectin, 0.05% (Avert Dry Flowable Cockroach Bait Formula 1)			YES			
Abamectin, 0.05% (Avert Cockroach Bait Stations Formula 1)			YES			
Aluminum phosphide, 55 % tablets (Phostoxin/Fumitoxin)	500	100	YES	P006	100	
Aluminum phosphide, 55 % pellets (Phostoxin/Fumitoxin)	500	100	YES	P006	100	
Bacillus thuringiensis, 10% (Summit *B.t.i* Briquets)						
Boric Acid, aerosol (Perma-Dust PT 249)						
Bifenthrin, 7.9% liquid (Talstar P Professional)			YES			
Carbaryl, 80%, water dispersible powder **(**Sevin 80S/AllPro Carbaryl 80S)			YES	U279	100	
Carbaryl, 43.4%, liquid (Carbaryl 4L)			YES	U279	100	
Chlorfenapyr, 21.45% liquid (Phantom)						
Beta-cyfluthrin, 11.8% (Tempo SC Ultra)			YES			
Beta-cyfluthrin, 10% (Tempo Ultra WSP)			YES			
Cyfluthrin, 0.1%, aerosol (PT crack & Crevice I Cyfluthrin)			YES			
Cyhalothrin, 0.05% aerosol (PT 221L Residual)			YES			
Cypermethrin, 0.10% aerosol (Air-Devil HPX)						
Cypermethrin, 40% (Demon WP)						
Deltamethrin, 0.05% (Delta Dust)						
Deltamethrin, 0.06%, aerosol (D-Force Residual)						
Dichlorvos, 20% (plastic strips)	1,000	10	YES		10	
D-Phenothrin, 2%, aerosol			YES	U121	5,000	
D-trans Allethrin and Resmethrin, 0.125% and 0.2% , aerosol (Kill Zone House & Garden Insect Killer Formula 4)			YES			
Methomyl 1.1%. Fly Bait, (Golden Malrin/Stimukil)	500/ 10,000	100		P066	100	
Hydramethylnon (Amdro Fire Ant Bait)			YES			

Insecticides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Hydramethylnon (Siege Gel Bait)			YES			
Hydropene, 90.6% (Gentrol Point Source)						
Fenoxycarb (Award Brand of Logic)			YES			
Fipronil, cockroach (Combat Quick Kill)						
Fipronil (Maxforce FC Roach Killer Bait Gel)						
Fipronil (Maxforce FC Ant Killer Bait Gel)						
Fipronil (MaxForce FC Ant Bait)						
Fipronil (Termidor 80WG)						
Fipronil (Termidor SC)						
Hydroprene, 9.0%, emulsifiable concentrate (Gentrol IGR)						
Imidacloprid (Maxforce Granular Fly Bait)						
Imidacloprid (Maxforce Fly Spot Bait)						
Imidacloprid, 0.5% granular (Merit 0.5 g)						
Lambda-cyhalothrin, 9.7% (Demand CS)	100		YES X			
Lambda-cyhalothrin (Surrender Pesttab)						
Malathion, 57.0%, emulsifiable concentrate, class 2			YES		100	
Malathion, 96.5%, liquid, (Fyfanon ULV)			YES		100	
Methoprene (Altosid XR Briquets)						
Methoprene (Altosid Pellets)						
Methoprene (Altosid Liquid Larvicide Conc.)						
Naled, 87.4, liquid (Dibrom)			YES		10	
Naled, 78%, liquid (Trumpet EC)			YES		15	
Naphthalene, ball form			YES	U165	100	
Nithiazine, Fly Strips (Quikstrike)						
Para-Dichlorobenzene, crystal/flake			YES	U072	100	
Permethrin-Piperonyl Butoxide (4.6+4.6%) , (Kontrol 4-4)			YES			

Insecticides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Propetamphos, 18.9**%** (Catalyst)			YES			
Propoxur (PT 250 Propoxur)			YES	U411	100	
Pyrethrins, 3% pyrethrins with synergists, liquid (Prentox ULV fog concentrate)			YES		33.3	
Phenothrin 0.120% and Allethrin 0.129%, aerosol (Wasp-Freeze Wasp & Hornet Killer)						
Pyrethrin, aerosol (PT 565 Plus XLO)			YES		1	
Resmethrin (Scourge)			YES	U165	100	
Spinosad, 11.6% (Conserve SC)						
Sumithrin-Piperonyl Butoxide, 10%-10%, (Anvil 10+10 ULV)			YES			
Temephos (Abate 4E)			YES	U220	1,000	
Temephos (5% Skeeter Abate)			YES			
Mosquito Larvicide and Pupicide (Agnique MMF)						

Repellents	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Clothing application, 40% permethrin, liquid (2-Gal sprayer)			YES			
Personal application, Ultrathon (3M/EPA 58007-1)						
Clothing application, aerosol (Permethrin Arthropod Repellent)			YES			
Personal application, 3% benzocaine, 10% precipitated sulfur (Chigg-Away)						
Personal application & sunscreen, 20% DEET/SPF15 (Sunset)						
Personal application & camouflage face paint (New CFP w/ DEET)						
Clothing application, permethrin (IDA)			YES			
Personal application, 30% DEET (Cutter Repellent Stick)						

Rodenticides	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Anticoagulant, 0.005% Diphacinone	10/10,000	10				
Anticoagulant, 0.005% Bromadiolone (Maki), pellets	100/ 10,000	100				
Anticoagulant, 0.005% Brodifacoum (Talon-G), pellets						
Anticoagulant, 0.005% Bromadiolone (Contrac Blox), 1 oz bait blocks	100/ 10,000	100				
Anticoagulant, 0.005% Brodifacoum (Final Blox), 20 gram bait blocks						
Anticoagulant, concentrate 0.106% sodium salt of diphacinone (LIQUA-TOXII)	10/10,000	10				
10% zinc phosphide (ZP Tracking Powder)	500	100	YES c	U249	100	

Surfactants	SARA			CERCLA		CAA
	Section 302 TPQ (lbs)	Section 304 EHS RQ (lbs)	Section 313	RCRA Waste Number	RQ (lbs)	112(r) TQ (lbs)
Spray Adjuvant (Cygnet Plus)						
Spray Adjuvant (Cide-Kick II)						
Spray Adjuvant (Cide-Kick)						