



CONTINGENCY PEST MANAGEMENT GUIDE

SIXTH EDITION

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Armed Forces Pest Management Board
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{8.5" x 11" Format}

- NOTICE -

This Technical Information Memorandum (TIM) is intended for field use during exercises and contingency operations by deployed U.S. forces. Most of the pesticides mentioned in this TIM should only be applied by preventive medicine or pest control personnel who have been formally trained and certified in accordance with the Department of Defense (DoD) Plan for the Certification of Pesticide Applicators. Other personnel should not procure or use pesticides unless specifically authorized by Service regulations.

- DISCLAIMER -

This TIM does not serve as the official authority for procuring or using pesticide equipment listed herein. Use of trade names is solely for the purpose of providing specified information and does not imply endorsement of the products named or criticism of similar ones not mentioned. Mention of trade names does not constitute a guarantee or a warranty of the product by the Armed Forces Pest Management Board (AFPMB), the military departments, or the DoD.

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I. INTRODUCTION

A. Purpose and Content

The purpose of the Contingency Pest Management Pocket Guide is to provide basic information on using pesticides to control insects that transmit disease and other pests during field situations worldwide. Use pesticides only as part of an integrated pest management (IPM) program. IPM is an approach that combines a variety of techniques--including physical, mechanical, educational, biological and chemical--to prevent economic damage from pests or medical injury from disease vectors. Since pesticides are usually a *last resort*, the IPM approach reduces our dependency on pesticides and reduces the health and environmental risks associated with pesticide treatments. This Guide is not intended to be a substitute for the instructions found on all pesticide labels. Remember, in the U.S. and its territories, **the pesticide label is the law.**

B. Recording, Reporting, and Archiving Pesticide Use During Contingency Operations

Paragraph B.3.h., DoD Instruction 4150.7, *DoD Pest Management Program*, April 22, 1996 requires that pesticide use during military operations be recorded and archived. Pesticide applicators must record applications of all pesticides, except skin and clothing repellents, performed during military operations, using DD Form 1532-1, *Pest Management Maintenance Record*, or a computer generated equivalent. If this is not possible, the same information will be recorded in the unit logbook, staff journal or in a similar expedient manner. Required information includes: 1) Date applied; 2) Area/Site/Building and country where the pesticide was used; 3) Target pest; 4) Pesticide name and EPA Registration Number (EPA Reg. No.); 5) Percent final concentration used; 6) Method of application; 7) Amount used; and 8) Who (name and rank) applied the pesticide.

Reporting pesticide use and archiving pesticide use records shall be accomplished in accordance with Military Service procedures.

Army Component Procedures:

- a. Reference: Memorandum, DASA(IL&E), subject: Recording and Archiving Pesticide Use During Military Operations, Apr 30, 1998.
- b. Each month, pesticide use records, generated by preventive medicine personnel and contract pest control personnel, will be consolidated by the unit commander, or LOGCAP manager and forwarded directly to the US Army Center for Health Promotion and Preventive Medicine (USACHPPM), ATTN: MCHB-TS-OEN, Aberdeen Proving Ground, MD 21010-5403, for archiving.
- c. MACOMs are free to determine whether or not local reporting and archival is necessary.
- d. Unit level field sanitation teams are not required to comply with this reporting requirement as long as they restrict pesticide use to those pesticides approved in AR 40-5 and FORSCOM Regulation 700-2.

Navy Component Procedures:

- a. Reference: Memorandum, DASN(I&E), subject: Recording and Archiving Pesticide Use During Military Operations, March 22, 1999.
- b. Active and Reserve Component Medical Department Personnel, contractors, who apply pesticides during military operations ashore and afloat will record pesticide use. Each month, pesticide use records, generated by Medical Department personnel and contractors will be consolidated by the Commander, Commanding Officer, Officer in Charge, or Master of Military Sealift Command ships and forwarded directly to the Navy Environmental Health Center (NEHC), ATTN: Preventive Medicine, 2510 Walmer Avenue, Norfolk, VA 23513-2617, for archiving.
- c. Major claimants are free to determine whether or not local reporting and archiving is necessary.

Air Force Procedures:

- a. Reference: Memorandum, SAF/MIQ, subject: Recording and Archiving Pesticide Use During Military Operations, Nov 4, 1997.
- b. Pesticide applicators shall record pesticide use. During the first week of January,

April, July, and October of each year, a copy of these records will be sent to the supporting MAJCOM Pest Management Professional (PMP). After a review (not to exceed one month), the MAJCOM PMP will route a copy of these records to HQ AFCESA/CESM, 139 Barnes Dr., Suite 1, Tyndall AFB 32403-5319 for permanent archiving.

C. Applying and Purchasing Pesticides in Foreign Countries

Different rules concerning the application of pesticides may apply in areas outside the jurisdiction of the Environmental Protection Agency (EPA). As prescribed in DoD Directive 6050.16, *DoD Policy for Establishing and Implementing Environmental Standards at Overseas Installations*, 20 Sep 91, DoD should follow the Final Governing Standards (FGSs) for installations in each host country. These standards, which include pesticide applications, were developed by comparing an overseas environmental baseline (based on U.S. laws and regulations) with the host nation's standards. For countries without FGSs, or for operations outside a military installation, you should adhere to EPA requirements. For NATO operations, STANAG 2048, *Chemical Methods of Insect and Rodent Control*, provides a list of pesticides approved for use by member nations.

EPA-registered pesticides will normally be used even during military deployment operations. However, during emergency conditions, non EPA-registered pesticides may be procured locally, but only after approval as outlined in Appendix G, *Approval for Local Purchase of Pesticides During Deployment Operations*.

D. Controlling Pests Not Listed on the Label

Whenever you are outside the U.S., you may encounter disease vectors not listed on your pesticide labels. Examples are: kissing bugs that transmit Chagas disease in Central and South America; tsetse flies that transmit sleeping sickness in Africa; and phlebotomine sand flies that transmit leishmaniasis and sand fly fever in many parts of the world. Take the following steps to identify the pesticides to control these vectors:

- Determine from an entomologist or from reference material how and where the insect lives during various stages of its life cycle.
- Determine the life stage(s) most susceptible to control.
- Identify a pesticide labeled for controlling a familiar pest at the same site or location as the insect you want to control.

NOTE: You may apply a pesticide to control pests not listed on the label, if the label allows the pesticide to be used at the same site to control another pest. For example, during the day, kissing bugs hide in cracks and crevices indoors and within woodpiles outdoors. From experience, you know that cockroaches also inhabit cracks and crevices within dwellings, and spiders take refuge at the same outdoor sites as kissing bugs. Therefore, you can use the labeled treatment methods to apply a pesticide labeled for these familiar pests to control kissing bugs found at the same sites.

When you can't find exactly the same site on a label and have no further guidance, think it through and choose the pesticide labeled for use at the most comparable site against the most similar pest. You may occasionally make a mistake and perhaps experience a control failure or other problems with the pesticide you chose, but you should still be confident that you chose the best available pesticide and that the benefits of controlling the pests outweighed the risks involved.

E. Importance of Sanitation

Poor sanitation and improper waste disposal under wartime conditions greatly increase the threat from disease pests such as filth flies and rodents. Even in mobile field situations, these *camp followers* have historically amplified sanitation problems, often causing epidemics of diarrheal diseases. This threat is even greater in urban areas converted to temporary or semi-permanent military use because personnel will not move every day to a different, cleaner area. In this situation, cockroaches may join other pests associated with poor sanitation in compounding the problem, especially in and around structures used for food storage, preparation and consumption, and buildings used for troop housing. All these pests must be controlled, but only in conjunction with efforts to correct the sanitation problems that provide them food, breeding areas, and harborage.

The unit commander is responsible for field sanitation. However, it is your responsibility as a preventive medicine or pest control technician to inform your commander on how to make improvements. Successful pest control requires that you establish and maintain good sanitation practices. You can't control pests with pesticides alone.

F. Safety Requirements

A dangerous temptation in field training or combat situations is to relax safety requirements. Some people think, “the rules don’t apply here”. Yielding to that temptation can cost you your health and the health of those around you. REGARDLESS OF THE SITUATION OR THE LOCATION, ALL SAFETY REQUIREMENTS ON THE PESTICIDE LABEL MUST BE MET. It does not take much planning to ensure that where there are pesticides, application equipment, and applicator personnel, the proper protective equipment is also on hand. There is no excuse for forgetting to bring protective equipment or for failing to use it. Most pesticide poisoning incidents occur when experienced people who think that safety requirements apply only to people with less experience or to situations where there is “more time” fail to use personal protective equipment. The label precautions are there for a reason - TO PROTECT YOUR HEALTH. You should always use all required protective equipment. Supervisors should *never* let subordinates apply pesticides without it. WEAR SAFETY EQUIPMENT ALL and EVERY TIME.

G. Environmental Concerns

1. Negative Environmental Impacts

Concern for the environment should be a primary consideration during contingency and military operations. The impact of proper and improper pesticide application on the environment may play an important role in current and future host-nation relationships.

When applying pesticides, consider the following:

- Off target impact from drift, runoff, groundwater contamination and/or spills.
- Development of pesticide resistance in target organisms.
- Disposal of pesticide application waste.

2. Minimizing Negative Impacts

To minimize the negative impact of pesticides on the environment:

- Ensure that the pesticide application is required.
- Adhere to the climatic restrictions on the pesticide label.
- Select the pesticide that is most specific for the pest to be controlled.
- Treat the smallest area needed to control the pest.
- Use only the amount of pesticide recommended on the label.
- Contain spills, keep them from entering storm drains, wells, water systems, streams and rivers, and clean them up.

3. Pesticide Resistance

To minimize the potential for pests developing resistance to pesticides:

- Exhaust non-chemical controls (including sanitation, pest avoidance, use of physical barriers, and pest source reduction) prior to applying pesticides.
- Avoid continuous use of a single pesticide class.
- Consider what local agricultural pesticides are in use.
- If the situation allows, use pesticides that have a short residual life.
- Use compatible pesticide mixtures.
- When possible, use biopesticides (e.g., mosquito control using *Bacillus thuringiensis* var. *israelensis*)

4. Reporting Pesticide Use

Record pesticide use during contingency operations on DD Form 1532-1, *Pest Management Maintenance Record*, or a computer-generated equivalent. See paragraph I.B above for details. Personal-use pesticide applications (including repellents) are exempt from reporting requirements.

5. Disposing of Pesticide Application Related Wastes

The proper disposal of pesticides and related waste products is a very important aspect of minimizing the detrimental effects of pesticides on the environment. During military exercises and contingency operations (e.g., disaster relief) in the U.S. or its territories, you must follow EPA guidance, or **stricter** state and local requirements for disposing of pesticides, rinse water, and pesticide containers.

For operations and exercises outside the EPA's jurisdiction, you must dispose of pesticides, rinse water, and pesticide containers in accordance with the Final Governing Standards (FGSS) or host-tenant agreements for the host

country. If FGSs or other agreements do not exist, you must adhere to the EPA requirements or your own service's regulations, **whichever are the most stringent**.

When supporting military contingencies (such as combat operations in a hostile territory or allied country), you should still adhere to the principles of safe disposal for pesticides, rinse water, and pesticide containers. Even during hostilities, it is important to rinse spray equipment after use to keep it operational and to reduce the potential hazard of pesticide exposure between uses. Unused pesticides left in a sprayer (even for a day or two) can clog nozzles and deteriorate parts of the equipment so that the sprayer will not operate properly the next time you need it. To minimize the disposal problem, mix only the amount of pesticides that you know you are going to use. It is usually much easier and safer to mix an additional batch than it is to dispose of a full-strength spray left over because you mixed too much. If possible, take enough clean water to rinse the sprayer at the application site. The equipment rinse water can then be applied at the treatment site, or used as a diluent for the next application.

6. Empty Pesticide Containers

When disposing of empty pesticide containers, minimize health and environmental hazards by adhering to the following:

- Rinse empty pesticide containers and add the rinse water to the sprayer as a diluent.
- Punch holes in the sides and bottoms of metal or plastic containers and bury them if time permits, preferably in a landfill or other designated area to prevent their reuse.
- Empty bags should be buried or burned.

To prevent troops in the field and local residents from using empty pesticide containers as cooking pots or water containers, **NEVER LEAVE OR BURY USABLE EMPTY PESTICIDE CONTAINERS, OF ANY SIZE, IN REUSABLE CONDITION**. Most pesticide labels include instructions and precautions for disposing of the container.

H. Controlling Biting Pests that are Not Disease Vectors

Pre-deployment planning includes determining the disease vectors you will likely have to control in the area of operations. Be aware that biting pests that are not disease vectors can also pose a significant health threat. Ants, biting midges, black flies and nuisance mosquitoes are among the pests that have caused many casualties during military exercises in the U.S. and abroad, and during actual contingency operations. These casualties were victims of secondary infections resulting from arthropod bites, or suffered severe allergic reactions to such bites. The greatest threats are in tropical and subtropical areas, where the warmth and moisture promote rapid growth of fungal and bacterial infections, especially in field situations where there is little opportunity to keep clean and dry. Healing of minor wounds is very slow in the tropics and is usually retarded further because scratching the itch continually reopens the bite site. Infectious organisms are often introduced by scratching. So even in areas relatively free of vector-borne diseases, plan on controlling biting pests that indirectly produce casualties from secondary infections or allergic reactions.

I. Controlling Schistosomiasis

Schistosomiasis is a threat in many tropical and subtropical regions where sanitation is poor. In some areas nearly all the human population is infected. Standing or moving water contaminated with the feces or urine of infected individuals contains eggs of the microscopic worm that causes schistosomiasis. Newly hatched forms enter the intermediate host--aquatic snails. Free-swimming infectious forms eventually emerge from the snails and penetrate the skin of humans bathing, swimming, or wading in infested waters. In areas where schistosomiasis is endemic, assume that all standing or moving water is infested, until proven otherwise.

Both the tropical weight and temperate weight Battle Dress Uniforms provide substantial, but not complete, protection from penetration by infectious forms (assuming trousers are intact and tucked into the boots, and exposed skin does not contact water). Repellents do not prevent worms from penetrating the skin, and there is no vaccine or preventive medication.

The best method of prevention is to avoid contact with water that may be infested. When this is impossible, the most practical method of breaking the chain of infection is to eliminate the intermediate host snails (mollusks) by treating water with niclosamide as found in Bayluscide® 70% wettable powder. Bayluscide® is currently EPA-registered for use as a molluscicide for control of fresh-water snails. In endemic areas, local/regional health officials, representatives of international health organizations, or nearby medical entomology points of contact (see Appendix D) may provide information on emergency local sources.

J. Use of Herbicides Outside the United States

1. Wartime Use

Executive Order 11850, *Renunciation of Certain Uses in War of Chemical Herbicides and Riot Control Agents*, 8 April 1975, outlines the U.S. policy on wartime use of herbicides. The United States has renounced first-use of herbicides in war except under regulations applicable to their domestic use on bases or for control of vegetation around the immediate perimeters of bases. Only the President of the United States may authorize other wartime uses. Under no circumstances will large area aerial application of herbicides be conducted in the combat theater without approval of the President.

The local commander's decision to request the use of herbicides during wartime must be carefully considered and should be based on the following requirements:

- Application of herbicides is the safest or most effective way to solve the problem.
- Temporary facilities will not relocate before herbicides will serve their intended purpose.
- Loss of vegetation will not reduce security of present or future operations (e.g., compromise the location of otherwise undetectable positions).
- The desired effect can be achieved with one of the designated contingency herbicides listed below.
 - * Glyphosate (a foliar-absorbed weed killer) should be used whenever possible.
 - * Bromacil (a root-absorbed weed killer) should be used only when long-term control is clearly needed.

2. Peacetime Use

Outside the United States and its territories, use of herbicides by the U.S. military is greatly restricted even during peacetime operations (including exercises). The peacetime use of herbicides within and around U.S. installations is under the authority of the commander of the applicable unified or specified command. For combat contingencies short of declared war, follow the peacetime herbicide use restrictions.

a. On-Installation Applications

Herbicides may be used OCONUS within U.S. bases, posts, or installations for control of vegetation. [NOTE: Bases and posts are included in the term *installations*. The U.S. controlled portions of foreign installations are considered U.S. installations.] During OCONUS exercises, you may apply herbicides within existing U.S. installations to the extent that application is already authorized in the installation's current pest management plan. Coordination with and permission of the installation commander or designated representative are required prior to using herbicides.

b. Off-Installation Applications

Off-base uses of herbicides (including applications to the area immediately outside perimeters of U.S. installations) during peacetime/exercises must be in accordance with the Final Governing Standards (mentioned above in section C) or with host-tenant agreements for the host country. Off-base permanent facilities on loan to U.S. forces during exercises, and temporary areas in the field (e.g., a temporary aircraft landing strips or field support areas set up in tents) are not considered U.S. installations, so peacetime use of herbicides in these areas must be in accordance with off-base OCONUS herbicide requirements listed above.

3. Informing the Chain of Command

Field commanders who desire to use herbicides may not be aware of all the restrictions. Before responding to an herbicide mission, ensure that the chain of command is informed about the requirements and levels of authority for various herbicide uses as given in this section. The sources of this guidance are: Executive Order 11850, *Renunciation of Certain Uses in War of Chemical Herbicides and Riot Control Agents*, dated 8 April 1975; and Annex F to the current Joint Strategic Capabilities Plan, which provides implementing guidance from the Joint Chiefs of Staff to the Service components. Each Service may have supplementing regulations addressing the subject.

4. Segregate Herbicides from Pesticides

Avoid using the same equipment for dispersing both herbicides and insecticides. If you have a frequently recurring need for applying herbicides, it is better to designate specific sprayers for this purpose, and not use them for anything else. Extremely small amounts of the contingency herbicides have a noticeable effect on some plants. It would be counterproductive to apply an insecticide for tick control around a defensive perimeter, only to discover a few days later that herbicide residues in the sprayer defoliated or discolored the vegetation that camouflaged the fighting positions. The corrosive nature of herbicides further underscore the great importance of cleaning your spray equipment thoroughly after each herbicide mission. Be particularly careful when disposing of rinse water to prevent unwanted effects as described above.

K. Supporting Military Operations In Urban Areas

The purpose of this section is not to give detailed guidance, but rather to give a general idea of what pest control requirements to expect. The worldwide growth of cities, driven by population increases, has changed the terrain on which battles are likely to be fought. Because of the military advantages of controlling cities, our forces train extensively for urban combat and expect to fight in that environment. Consequently, you must be prepared to support them. Disruption of civilian health and sanitary services will sharply increase the risk of disease among civilian and military personnel.

Urban Control Challenges

Most urban pest control efforts will be directed against often explosive populations of typical urban pests (e.g., flies, cockroaches, rodents) associated with potentially epidemic diarrheal and other diseases, not vectors such as mosquitoes or ticks. The rapid spread of diseases is facilitated by crowding of civilian populations, the establishment of refugee camps, and the greatly reduced sectors and frontages of deployed combat forces. Good sanitation and field hygiene in our deployed forces are critical to successful control efforts and should be continually stressed through the chain of command (see para I.E., above, "Importance of Sanitation").

To prevent epidemics, even a single case of plague (flea-borne, from rodent reservoirs) or epidemic typhus (louse-borne) in the civilian or military population requires the immediate and highest priority effort to control the responsible vectors/reservoirs.

Another great concern is the convergence of refugees, deployed personnel, and enemy prisoner of war (EPW) camps. The size, location, and inherent problems of maintaining adequate camp hygiene standards, coupled with the historically low state of health of EPWs and refugees, significantly contribute to spreading diseases among U.S. military forces. In these situations, vector surveillance and control efforts must be closely coordinated with the responsible civil affairs units and with the medical chain of command responsible for epidemiological surveillance and treatment of non-U.S. personnel.

II. CONTINGENCY PESTICIDES

The following pesticides are suitable for contingency use by one or more of the Military Services. Refer to AF Joint Manual 24-204/TM 38-250/NAVSUP 505/MCO P4030.19G/DLAI 4145.3, *Preparing Hazardous Materials for Military Air Shipments*, 1 March 1997, for additional guidance on air transportation of pesticides. The International Air Transportation Association's "Shippers Declaration for Dangerous Goods" form must be used for air transport of pesticides, that are regulated. Service Focal Points jointly establish procedures and prepare any documentation necessary to implement the manual. In accordance with para 1.2.2. of that Joint manual, users should contact their Service Focal Points for all clarification and waivers. Service Focal Points are:

Air Force. HQ AFMC/LGTP, 5215 Thurlow St., Wright-Patterson AFB, OH 45433-5540 Phone (513) 257-4503
DSN: 787-4503.

Army. U.S. Army Safety Center/CSSC-PP, Fort Rucker, AL 36362-5356 Phone (205) 255-3553 DSN: 588-3553.

Navy. Commander, Naval Supply Systems Command, Code 4122D, 1931 Jefferson Davis Highway, Arlington, VA 22241-5360 Phone (703) 607-1088 DSN: 327-1088. Navy Activities get waivers from Navy Ships Parts Control Center, Code 0541, P.O. Box 2020, Mechanicsburg, PA 17055-0788, Phone (717) 790-2784, DSN: 430-2784.

Marine Corps. Commander of Marine Corps (LPP-2), Headquarters, U.S. Marine Corps, 2 Navy Annex, Washington, DC 20389-1775, Phone (703) 696-1061, DSN: 226-1061.

Defense Logistics Agency/MMLSD, 8725 John J. Kingman Road, Suite 253, Ft Belvoir, VA 22060-6219. Phone (703) 767-3673, DSN: 427-3673.

A. Shipping Papers, Marking and Label Requirements

Shipping papers are required for all hazardous materials in transit. These papers should be within reach of transport drivers/operators at all times. Information contained on the shipping papers includes: proper shipping name, hazard class, UN identification number, reportable quantity (RQ) if applicable, and package quantities or weight.

Marking regulations require information on the specific hazardous material to be visible or "marked" on the outside of the package. Information required to be marked on the packages includes: proper shipping name, UN identification number, and consignor's or consignee's name.

Department of Transportation (DOT) Labels must be attached to the outside of packages near the proper shipping name, providing information on the specific hazard class of the material (i.e., FLAMMABLE LIQUID) if applicable.

B. Shipping Information

The shipping information listed below is believed to be current, accurate and reliable, but may be incomplete due to revisions and/or not applicable to all conditions or situations that may exist or occur. Users must verify the suitability of this shipping information prior to use.

1. HERBICIDES				
The following herbicides must be applied by a DoD Certified pesticide applicator, or under the direct supervision of a DoD Certified pesticide applicator.				
HERBICIDE NOMENCLATURE	U/I	AAC *	Price **	NSN
Herbicide, Bromacil, 40.8%, Water Soluble, Bromax –4L, 5-gal Drum, <i>Proper Shipping Name</i> – FLAMMABLE LIQUIDS, N.O.S., (contains diethylamine and ethylaminoethanol), <i>Hazard Class</i> – 3, UN/ID Number - NA1993, PG III, <i>DOT Label</i> – FLAMMABLE LIQUID	DR	D	681.13	6840-00-181-7106
Herbicide, Isopropyl salt of glyphosate, 41% water soluble liquid, Roundup Pro, (2) 2.5-gal cont., <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number – N/A, PG - N/A , <i>DOT Label</i> – N/A	BX	D	254.69	6840-01-108-9578
Herbicide, Isopropylamine salt of glyphosate, 0.96%, water soluble liquid, Roundup Dry Pak, 25 packs per box, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	BX	D	76.95	6840-01-399-0673

2. REPELLENTS				
The following repellent must be applied by trained personnel, or a DoD Certified pesticide applicator.				
REPELLENT NOMENCLATURE	U/I	AAC	Price	NSN
Insect Repellent, Clothing Application, 40% permethrin, liquid, (12) 151-ml bottle per box, for 2 gal sprayer, <i>Proper Shipping Name</i> – FLAMMABLE LIQUIDS, N.O.S. (contains insecticide – permethrin and petroleum naphtha), <i>Hazard Class</i> – 3, UN/ID Number - UN1993, PG – III, <i>DOT Label</i> – Limited Quantity, FLAMMABLE LIQUID	BX	D	159.30	6840-01-334-2666
The following repellents may be applied by ALL DoD personnel following label and MSDS familiarization.				
Insect Repellent, Clothing Application, Aerosol, Permethrin Arthropod Repellent, (12) 6-oz cans, <i>Proper Shipping Name</i> – AEROSOLS, NON-FLAMMABLE, N.O.S. (contains insecticide – permethrin, each not exceeding 1L capacity), <i>Hazard Class</i> 2.2, UN/ID Number – UN1950, PG – III, <i>D.O.T Label</i> –NONFLAMMABLE GAS	BX	D	38.41	6840-01-278-1336
Insect Repellent, Personal Application, 3M, (12) 2-oz tubes, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG – N/A, <i>DOT Label</i> - N/A	BX	D	34.32	6840-01-284-3982
Insect Repellent, Clothing Application, Permethrin, IDA Kit, 12 kits per box, <i>Proper Shipping Name</i> – FLAMMABLE LIQUID, N.O.S. (contains insecticide – permethrin and petroleum naphtha), <i>Hazard Class</i> - 3, UN/ID Number – UN1993, PG - III, <i>DOT Label</i> - Limited Quantity, FLAMMABLE LIQUID	BX	D	42.77	6840-01-345-0237

3. INSECTICIDES				
INSECTICIDE NOMENCLATURE	U/I	AAC	Price	NSN
The following insecticides must be applied by a DoD certified pesticide applicator, or under the direct supervision of a DoD Certified pesticide applicator.				
Insecticide, Carbaryl, 5% Dust, Sevin, (12) 4-lb bags, <i>Proper Shipping Name</i> – CARBAMATE PESTICIDES, SOLID, TOXIC, N.O.S. (contains insecticide – carbaryl), <i>Hazard Class</i> -6.1, UN/ID Number – UN2757, PG III, <i>DOT Label</i> –KEEP AWAY FROM FOOD	BX	D	153.68	6840-01-033-4481
Insecticide, Cyfluthrin, Tempo 2EC, (12) 240-ml bottles per box, <i>Proper Shipping Name</i> – PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S. (contains insecticide – cyfluthrin and xylene and cyclohexanone), <i>Hazard Class</i> - 6.1, UN/ID Number - UN2903, PG - III, <i>DOT Label</i> – KEEP AWAY FROM FOOD, FLAMMABLE LIQUID	BX	D	489.03	6840-01-313-7359
Insecticide, Cyfluthrin, Tempo 20WP, (288) 9.5g packs, <i>Proper Shipping Name</i> – N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> -N/A	BX	D	380.00	6840-01-383-6251
Insecticide, Cypermethrin, Demon WP, 1-lb jar, <i>Proper Shipping Name</i> – N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> -N/A	LB	J	57.76	6840-01-390-4822
Insecticide, Deltamethrin, Delta Dust, 1-lb container, <i>Proper Shipping Name</i> – N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> -N/A	LB	D	11.45	6840-01-431-3345
Insecticide, Dichlorvos (DDVP), 20%, Plastic Strip, box of 48, <i>Proper Shipping Name</i> - N/A (NOT DOT regulated), <i>Hazard Class</i> - N/A, UN/ID Number – N/A, PG - N/A, <i>DOT Label</i> -N/A	BX	D	181.01	6840-00-142-9438
Insecticide, Dursban, 42% chlorpyrifos, emulsifiable conc., 1-gal can, <i>Proper Shipping Name</i> – ORGANOPHOSPHORUS PESTICIDES, LIQUID, TOXIC, FLAMABLE, N.O.S. (contains insecticide – chlorpyrifos, and aromatic naphtha), <i>Hazard Class</i> – 6.1, UN/ID NUMBER – UN3017, PG – III, <i>DOT Label</i> – RQ >1000 lbs (CHLORPYRIFOS), KEEP AWAY FROM FOODS, FLAMMABLE LIQUID	GL	D	114.87	6840-01-122-2651
Insecticide, Dursban, 42% chlorpyrifos, emulsifiable concentrate, Dursban 4E, 5- gal can, <i>Proper Shipping Name</i> – ORGANOPHOSPHORUS PESTICIDES, LIQUID, TOXIC, FLAMABLE, N.O.S. (contains insecticide – chlorpyrifos and aromatic naphtha), <i>Hazard Class</i> – 6.1, UN/ID Number - UN3017, PG - III, <i>DOT Label</i> – RQ>1000 lbs (CHLORPYRIFOS), KEEP AWAY FROM FOODS, FLAMMABLE LIQUID	CN	D	482.02	6840-00-402-5411
Insecticide, Dursban, 20% chlorpyrifos, emulsifiable concentrate, Dursban Pro, 1 pt container, <i>Proper Shipping Name</i> - OTHER REGULATED SUBSTANCE, LIQUID, N.O.S. (contains insecticide – chlorpyrifos), <i>Hazard Class</i> – 9, UN/ID Number – NA3082, PG - III, <i>DOT Label</i> – CLASS 9, RQ	PT	H	9.70	6840-01-412-4361
Insecticide, Methoprene, Altosid XR Briquettes, 220 briquettes/Box, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number – N/A, PG - N/A, <i>DOT Label</i> - N/A	BX	D	705.80	6840-01-424-2495

INSECTICIDE NOMENCLATURE	U/I	AAC	Price	NSN
Insecticide, Methoprene, Altosid SR 20 Liquid Larvicide, 5-gal can, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	CN	J	4905.24	6840-01-424-2493
Insecticide, Temephos, Abate 4E, 5-gal can, <i>Proper Shipping Name</i> - N/A (NOT DOT regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	GL	J	812.55	6840-01-424-3132
ULV Pesticides				
Insecticide, Naled, 87.4%, Dibrom, Liquid, 30-gal drum, <i>Proper Shipping Name</i> - CORROSIVE LIQUID, POISONOUS, N.O.S. (contains insecticide - naled), <i>Hazard Class</i> - 8, UN/ID Number - UN2922, PG - III, <i>DOT Label</i> - CORROSIVE, POISON	DR	J	3276.93	6840-01-270-9765 NOTE: FOR USE IN U.S.A.F. AERIAL SPRAY SYSTEMS ONLY
Insecticide Pyrethrins, 3% pyrethrins with synergists, liquid, ULV Fog Concentrate, 1-gal can, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	GL	D	75.35	6840-01-104-0780
Insecticide, Resmethrin, Scourge, 5-gal can, <i>Proper Shipping Name</i> - N/A (NOT DOT regulated), <i>Hazard Class</i> - N/A, UN/ID # N/A, PG - N/A, <i>DOT Label</i> - N/A	CN	D	397.51	6840-01-359-8533
Mineral Oil (for cleaning ULV machines after using ULV pyrethroid insecticides listed above), 1 pint can	PT	L	-	6505-00-664-0441
Mineral Oil (for cleaning ULV machines after using ULV pyrethroid insecticides listed above), 5 gallon can	CN	L	-	6505-00-240-6328
The following insecticides must be applied by trained personnel, or a DoD certified pesticide applicator.				
Insecticide, Bacillus thuringiensis, 10%, Bactimos Briquets, 100 briquettes per box, <i>Proper Shipping Name</i> - N/A (Not DOT regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	BX	D	71.85	6840-01-377-7049
Insecticide, Lambda-cyhalothrin, Demand Pestab, 40 tablets/bottle, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	CO	D	71.57	6840-01-431-3357
Insecticide, Fly Bait, 1% methomyl (Apache/Golden Malrin) 5 lb can, <i>Proper Shipping Name</i> - N/A (NOT DOT-regulated), <i>Hazard Class</i> - N/A, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	CN	D	18.17	6840-01-183-7244
The following insecticides may be applied by All DoD personnel following label and MSDS familiarization.				
Insecticide, d-Phenothrin, 2% Aerosol, 12 Oz can, <i>Proper Shipping Name</i> - AEROSOLS, NONFLAMMABLE, N.O.S., (containing substances in Division 6.1), PG III, <i>Hazard Class</i> - 2.2, UN/ID Number - UN1950, PG -III, <i>DOT Label</i> - NONFLAMMABLE GAS	CN	D	6.40	6840-01-412-4634
Insecticide, Pyrethrins, allethrin, d-phenothrin, or resmethrin, aerosol, (12) 12-oz cans (PT 515 Wasp Freeze & Hornet Killer/Wasp Stopper II Plus/Wasp and Hornet Killer II), <i>Proper Shipping Name</i> - CONSUMER COMMODITY, <i>Hazard Class</i> - ORM-D, UN/ID Number - N/A, PG - N/A, <i>DOT Label</i> - N/A	BX	D	57.95	6840-00-459-2443

4. RODENTICIDES				
The following rodenticides must be applied by trained personnel, or a DoD certified pesticide applicator.				
RODENTICIDE NOMENCLATURE	U/I	AAC	Price	NSN
Rodenticidal Bait, Anticoagulant, 0.005% diphacinone, 40 blocks/box, <i>Proper Shipping Name – N/A (NOT DOT-regulated), Hazard Class - N/A, UN/ID Number – N/A, PG – N/A, DOT Label - N/A</i>	BX	D	47.96	6840-00-089-4664
Rodenticidal Bait, Anticoagulant, 0.005% Bromadiolone (Maki) pellets, 11-lb can, <i>Proper Shipping Name – N/A (NOT DOT-regulated), Hazard Class - N/A, UN/ID Number – N/A, PG – N/A, DOT Label - N/A</i>	CN	D	28.89	6840-01-151-4884
Rodenticidal Bait, Anticoagulant, Brodifacoum (0.005%) Talon G, pellets, 11-lb can, <i>Proper Shipping Name – N/A (NOT DOT-regulated), Hazard Class - N/A, UN/ID Number – N/A, PG - N/A, DOT Label - N/A</i>	CN	D	39.24	6840-01-426-4808
Rodenticidal Bait, Anticoagulant, concentrate 0.05-0.055% diphacinone or 0.33% pindone or 0.05-0.055% 2-solvalery-1, 3-indandione, 50 pouches/box, <i>Proper Shipping Name - N/A (NOT DOT-regulated), Hazard Class - N/A, UN/ID Number – N/A, PG - N/A, DOT Label - N/A</i>	BX	D	253.37	6840-00-753-4972

***ACQUISITION ADVICE CODES (AAC)**

Code D. DoD INTEGRATED MATERIAL MANAGER (IMM) STOCKED, AND ISSUED. Issue, transfer, or shipment is not subject to specialized controls other than those imposed by the Integrated Material Manager/Military Service supply policy.

1. The item is centrally managed, stocked, and issued.
2. Requisitions will be submitted in accordance with Military Service requisitioning procedures.

Code H. CENTRAL CONTRACT - NOT STOCKED ITEM. Direct delivery under central contract # (non-stocked items) issue, transfer, or shipment is not subject to specialized controls other than those imposed by IMM/Service/Agency supply policy.

1. The item is centrally managed and procured.
2. Normal issue is by direct shipment from the vendor to the user at the order of the ICP or IMM. However, orders for quantities less than the vendor's minimum order quantity may be issued from stock by ICP or IMM supply distribution facilities.
3. Requisitions and fund citations will be submitted in accordance with IMM/Service/Agency requisitioning procedures.
4. Generally, delivery will be made within applicable Service/Agency guidelines addressing customer required delivery time frame.

Code J. NOT STOCKED, CONTROLLED PROCURED. Identifies IMM/Military Service centrally managed but not stocked items. Long lead times must be anticipated, since procurement will be initiated only after receipt of a requisition. Requisitions will be submitted in accordance with IMM/Military Service requisitioning procedures.

Code L. Local Purchase. IMM/Military Service managed items authorized for local purchase, as a normal means of support, by the Military Service, or base, post, camp, or station level. Items not stocked in wholesale distribution system of IMM/Military Service ICP. The local purchase forms authorized by the individual IMM/Military Service must be used.

**** Price.** Prices listed in Paragraph II.B., above, are current as of October 1, 1999, and are subject to change. Prices are provided as a reference benchmark.

C. Emergency Procurement of Pesticides and Pest Management Equipment

1. Deploying and/or deployed forces often need pesticides and pest management equipment on short notice. The Defense Logistics Agency has established Emergency Supply Operations Centers (ESOCs) to help meet these needs.

2. For emergency procurement of pesticides, including repellents and pest management equipment, pesticide application equipment, and respirators: Contact the Defense Supply Center Richmond (DSCR) Emergency Supply Operations Center (ESOC) at DSN 695-4865 [Commercial (804) 279-4865]. This ESOC is staffed 24 hours, 7 days a week.

3. For technical logistical inquiries, contact the DSCR Chemist at DSN 695-3995 or commercial (804) 279-3995 during normal duty hours [0730-1600 hrs eastern time zone] or via pager number 1-888-824-4030, which is available 24 hours, 7 days a week.

4. For personal protection equipment (bednets, headnets, etc.), contact the Defense Supply Center Philadelphia ESOC Customer Assistance Branch at DSN 444-3041/3042/3043 or Commercial (215) 737-3041/3042/3043. The Philadelphia ESOC is staffed 0630-1700 hours Monday through Friday, EST.

5. Most of the pesticides listed in paragraph II.B., above, and addressed in this AFPMB TIM should only be applied by preventive medicine personnel or pest control personnel who have been formally trained and certified in accordance with DoD 4150.7-P, *The DoD Plan for the Certification of Pesticide Applicators*, September 30, 1996. All other personnel should not procure or use pesticides unless specifically authorized by Service instructions, regulations, or directives.

6. If additional information is needed to clarify specific issues, contact the AFPMB Contingency Liaison Officer by writing to Armed Forces Pest Management Board, ATTN: Contingency Liaison Officer, 6900 Georgia Ave., NW, Washington, DC 20307-5001, or calling DSN 295-7476 or commercial (301) 295-7476.

III. PESTICIDE RECOMMENDATIONS

Pesticide recommendations in this section are for use as a quick reference only, to help you identify your options from the list of contingency pesticides in Section II. Read the actual labels of the pesticides you are considering before making a final decision on which one to use. A specific pesticide may be provided to the military by more than one manufacturer, so label information may vary somewhat among products with the same NSN.

Pesticides are listed in alphabetical order within each section, NOT in order of preference. Most of the individual pesticides have several uses and are therefore listed under several pest groups. Note: Information on a pesticide in a given section applies only to its uses against the pest(s) in that section.

- The pesticides are diluted with water, unless otherwise stated.
- Pest groups on the following pages are listed in the order of the Table of Contents, page 4.
- Mineral oil is an acceptable line cleaning agent/diluent for use with the following pyrethroid ULV products listed in this guide: 3% Pyrethrins, NSN 6840-01-104-0780; Resmethrin, NSN 6840-01-359-8533. The following mineral oil products are available through the federal supply system:
 - 1 pint can: NSN 6505-00-664-0441
 - 5 gallon can: NSN 6505-00-240-6328

A. BITING FLIES

Biting Fly Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	For outdoor use only. Use for outside surfaces of buildings and perimeter treatments as a residual spray. Apply to outside surfaces including porches, window frames and eaves where pests congregate or have been seen. Do not apply directly to water or to flowering plants.

Biting Fly Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 ml to 16 ml/1000 sq ft (see label for water qty) (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g pack	1 or 2 packets/gal (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	Apply indoors as a residual spray to walls, ceilings, window screens and other fly resting areas. Apply outside as a residual spray to surfaces of buildings, porches, screens, window frames, eaves, patios, and refuse dumps. Do not apply water-based sprays in conduits, or electrical equipment because of the possible shock hazard. Do not use as a space spray.
Dichlorvos (DDVP) 20% Strip 6840-00-142-9438	BX box of 48	N/A (20%)	For indoor use only. Suspend one strip per 1,000 cubic feet (10ft x 10ft x 10ft) of building space. Do not use in food preparation or serving areas. Do not use in patient areas of medical treatment facilities.
d-Phenothrin 2% Aerosol 6840-01-412-4634	CN 12 oz can	Pre-formulated Aerosol (2%)	Use as a space spray for aircraft disinsection, and in buildings, vans, ships, and in tentage. Spray 10 seconds per 1,000 cubic feet (10ft x 10ft x 10ft). Not to be used on aircraft with passengers and crew aboard.
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per Container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Apply directly to walls, ceilings, window screens and other resting areas. May be used on exterior siding, foundations, porches, window frames, eaves, and other similar sites. Also may be applied to lawn areas around residential buildings and similar areas where pests are active. Labeled for use on aircraft. Do not store dilution in application equipment overnight.
Pyrethrins 3%, ULV Fog Concentrate 6840-01-104-0780	1-gal can	As directed on label	Dilute concentrate with petroleum distillate at the rate of one part concentrate to two parts oil and mix well. Use at a time when the air is cool (75°F or less) and the wind velocity is approximately 5 mph. At dosage rate of fifteen ounces per minute upwind of the area to be controlled. If application equipment is truck mounted, keep speed approximately 5 mph.
Naled (Dibrom Concentrate) 87.4% 6840-01-270-9765	30 gal drum	Apply undiluted	Aircraft application: Apply at the rate of 0.5 to 2 oz undiluted of diluted material per acre for smaller insects such as gnats and midges. Apply at the rate of 1 to 4 oz of undiluted material per acre for larger flies such as house flies. Use in residential areas, and municipalities, tidal marshes, swamps, woodlands, livestock and dairy cattle pastures, and feed lots.
Repellent, Clothing Application, 75% DEET 6840-00-753-4963	BT 2 oz bottle	Apply Undiluted (75%)	FOR USE ONLY FOR PRETREATMENT OF REPELLENT PARKA.
Repellent, Clothing Aerosol, 0.5% Permethrin 6840-01-278-1336	BX (12) 6 oz cans	Apply as formulated	Apply to clothing. DO NOT APPLY WHILE THE CLOTHING IS BEING WORN. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Insect Repellent, Clothing Application, IDA Kit 40% Permethrin 6840-01-345-0237	BX (12) kits	Apply in accordance with label instructions	Apply to clothing in the bags supplied with the kit. One kit, which contains two bags, will treat one BDU. Use one bag to treat the BDU shirt and one bag to treat the BDU trousers. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Clothing 40% Permethrin 6840-01-334-2666	BX (12) 151 ml bottles	1 btl to 2 gal water	For use in 2-gal. sprayer for treatment of BDUs, bed nets and tents by trained personnel ONLY. Do not allow skin contact until treated surfaces dry. DO NOT use on hats, headgear, socks, or underwear.

Biting Fly Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Repellent, Personal 33% DEET Lotion (3M/EPA) 6840-01-284-3982	BX (12) 2 oz tubes	Apply as formulated	Apply thin layer to exposed skin. Avoid contact with eyes and lips.
Repellent, Personal 33% DEET Stick 6840-00-142-8965	BX (12) 1 oz sticks	Apply as formulated	Primary use in aviator survival kits. Formulation is better suited to flight conditions in high performance aircraft. DEET lotion works best for all other needs.
Resmethrin + piperonyl butoxide (Scourge) 4.14% + 12.42% 6840-01-359-8533	CN 5 gal	variable (diluted or undiluted)	For outdoor use only in portable backpack, ground or aerial ULV equipment. Label includes extensive directions for application, equipment calibration, and droplet size determination. May apply using ULV portable backpack equipment, mix with refined soybean oil, light mineral oil of 54 second viscosity or other suitable solvent or diluent.

* NOTE: Pesticides labeled for use against adult mosquitoes may be used to control other biting flies, as long as:

- The target biting flies are at the same site as adult mosquitoes.
- The pesticide is applied according to directions for use against adult mosquitoes.
- The pesticide label does not prohibit use against the target pest.
- All other applicable label directions and precautions are followed.

B. COCKROACHES

Cockroach Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	Apply indoors as spot treatment (including crack/ crevice) in food storage, preparation and serving areas, in medical treatment facilities, and in billets. Apply outdoors as a residual spray to outside surfaces of buildings and other areas such as refuse dumps, where cockroaches congregate or have been seen.
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 ml to 16 ml/1000 sq ft (see label for water qty) (0.05% - 0.1%)	For use as a general surface, spot or crack and crevice application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g packs	1 or 2 packets/gal (0.05% - 0.1%)	For use as a general surface, spot or crack and crevice application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	Indoor and outdoor use. Apply as a coarse, low pressure spray to areas where cockroaches hide, such as cracks and crevices.
Deltamethrin (DELTADUST) 0.05% 6840-01-431-3345	LB 1 lb jar	Apply as formulated	Apply indoors with a hand or power duster, paint brush or by other suitable means to non-food areas as a spot or crack and crevice treatment. Apply outdoors in sanitary sewers, building foundations/crawl spaces where pests are active.
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Apply as a coarse low pressure treatment to areas where the pests hide such as baseboards, corners, storage areas, closets, behind and under refrigerators, sinks, furnaces, and stoves, cracks and crevices and other similar areas. Also this pesticide may be applied to lawn areas around residential buildings, refuse dumps, and similar areas where pests are active. Labeled for use on aircraft. Do not store dilution in application equipment overnight.

Cockroach Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Pyrethrins 3%, ULV Fog Concentrate 6840-01-104-0780	1-gal can	As directed on label	As a space spray, use undiluted. Close room or warehouse and shut off all ventilation systems. Dispense this product as a fine mist in the air above fruit trays and shelves. Use a dosage not exceeding ½ gallon per 50,000 cubic feet of room space. Leave room closed for one hour. Do not remain in treated areas and ventilate before re-entry. As a contact spray, apply into all cracks and crevices in woodwork, walls, floors, underneath sinks, behind pipes and in all places where insects shelter. Contact as many insects as possible. Do not allow spray to contact stored food. Use at a dosage rate of approximately one half fluid ounce per 1,000 cubic feet of room space. Leave room closed for one hour. Do not remain in treated areas and ventilate before re-entry.

C. FILTH FLIES

Filth Fly Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	For outdoor use only. Use for outside surfaces of buildings and perimeter treatments as a residual spray where pests congregate or have been seen. Do not apply directly to water or to flowering plants.
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 ml to 16 ml/1000 sq ft (see label for water qty) (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use as space sprays.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g packs	1 or 2 packets/gal (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings/structures and transportation. Make applications to surfaces and areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	Apply indoors as a residual spray to walls, ceilings, window screens and other fly resting areas. Apply outside as a residual spray to surfaces of buildings, porches, screens, window frames, eaves, patios, and refuse dumps. Do not apply water-based sprays in conduits, or electrical equipment because of the possible shock hazard. Do not use as a space spray.
Dichlorvos (DDVP) 20% Strip 6840-00-142-9438	BX box of 48	N/A (20%)	For indoor use only. Suspend one strip per 1,000 cubic feet (10ft x 10ft x 10ft) of building space. Do not use in food preparation or serving areas. Do not use in patient areas of medical treatment facilities. For outdoor use only in garbage cans. Attach one strip inside each can. Keep lid on can.
d-Phenothrin 2% Aerosol 6840-01-412-4634	CN 12 oz can	Pre-formulated Aerosol (2%)	Use as a space spray for aircraft disinsection, and in buildings, vans, ships, and in tentage. Spray 10 seconds per 1,000 cubic feet (10ft x 10ft x 10ft). Not to be used on aircraft with passengers and crew aboard.
Pyrethrins 3%, ULV Fog Concentrate 6840-01-104-0780	1-gal can	As directed on label	Dilute concentrate with petroleum distillate at the rate of one part concentrate to two parts oil and mix well. Use at a time when the air is cool (75°F or less) and the wind velocity is approximately 5 mph. At dosage rate of fifteen ounces per minute upwind of the area to be controlled. If application equipment is truck mounted, keep speed approximately 5 mph.
Fly Bait (Apache, Golden Malrin) 1 % Methomyl 6840-01-183-7244	CN 5 lb can	Premixed Bait (1.0%)	For outdoor use only. Bait should be scattered over specified fly feeding areas (or military equivalent sites) daily or as needed. Scatter bait (do not put in piles) at the rate of approximately 0.5 lb per 1,000 sq ft of fly feeding area. Distribute bait from container or other device. Avoid contact with skin, eyes and clothing.

Filth Fly Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Apply directly to walls, ceilings, window screens and other resting areas. May be used on exterior siding, foundations, porches window frames, eaves, and other similar sites. Also may be applied to lawn areas around residential buildings and similar areas where pests are active. Labeled for use on aircraft. Do not store dilution in application equipment overnight.

D. FLEAS

Flea Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Carbaryl (Sevin 5) 5% Dust 6840-01-033-4481	BX (12) 4 lb bags	Apply as formulated (5.0%)	For outdoor use only to control plague vectors. Apply 2 oz per animal burrow, or 0.25 lb to each 4 to 6 bait stations per acre, or 20 lbs per acre as an area dusting by power or hand applicator.
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% - 0.5%)	Apply outdoors as a residual spray to outside surfaces of buildings and other areas, such as refuse dumps, where fleas congregate or have been seen.
Insecticide, Cyfluthrin (Tempo 20WP) 20% WP 6840-01-383-6251	BX (288) 9.5 gm packets (24 pkts in 12 cartons)	1 packet per gallon yields 0.05%	For indoor use, apply 1 packet per 1000 sq ft with hand pressurized sprayer to floors, carpets, furniture and other locations where fleas are found. Apply as 0.05% low pressure pinstream for crack & crevice applications. May reapply at 10-day intervals if necessary. For outdoor use, apply at least 1 packet per 1350 sq ft of soil, turf or other locations where fleas are found.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	For outdoor use only. Apply as a residual spray to surfaces of buildings, porches, screens, window frames, eaves, patios, and refuse dumps. Do not apply water-based sprays in conduits or electrical equipment because of the possible shock hazard. Do not use as a space spray.
Deltamethrin (DELTADUST) 0.05% 6840-01-431-3345	LB 1 lb jar	Apply as formulated	Apply indoors with a hand or power duster, paint brush or by other suitable means to non-food areas as a spot or crack and crevice treatment. Apply outdoors around building foundations and in crawl spaces where pests are active. Treat for a minimum of 5 days for light rodent populations, 10 days when populations are dense.
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	2 tablets/gal (0.03%)	Apply outdoors with hand or power sprayers as a residual spray to outside surfaces of buildings. May be applied to lawns around residential buildings and refuse dumps where pests are active. Don't store dilution in application equipment overnight.

E. BODY LICE

Body Lice Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Repellent, Clothing Aerosol, 0.5% Permethrin 6840-01-278-1336	BX (12) 6 oz cans	Apply as formulated	Apply to clothing. DO NOT APPLY WHILE THE CLOTHING IS BEING WORN. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Insect Repellent, Clothing Application, IDA Kit 40% Permethrin 6840-01-345-0237	BX (12) kits	Apply in accordance with label instructions	Apply to clothing in the bags supplied with the kit. One kit, which contains two bags, will treat one BDU. Use one bag to treat the BDU shirt and one bag to treat the BDU trousers. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.

Body Lice Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Repellent, Clothing 40% Permethrin 6840-01-334-2666	BX (12) 151 ml bottles	1 btl to 2 gal water	For use in 2-gal. sprayer for treatment of BDUs, bed nets and tents by trained personnel ONLY. Do not allow skin contact until treated surfaces dry. DO NOT use on hats, headgear, socks, or underwear.
NOTE: Head lice and crab lice are controlled using prescription products that can be obtained from medical treatment facilities or activities. Mass delousing capability for control of body lice is no longer conducted in the DoD. Laundering of infested clothing and/or use of FDA approved drugs and topically applied pediculicides are the approved measures for body louse control.			

F. MITES (CHIGGERS)

Mites (Chiggers) Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN 4E) 44.8% EC 6840-00-402-5411	5 gal can	1/2 pint per acre	Apply outdoors to roadsides, footpaths, trails, and other non-cropland areas. Treat low underbrush, grassy areas, weeds, and ground surfaces or debris. Vacate treated areas until spray has dried.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	Apply outdoors as a residual spray to lawns, porches and in similar areas where chiggers are found. May not be applied in California to control chiggers.
Repellent, Clothing Aerosol, 0.5% Permethrin 6840-01-278-1336	BX (12) 6 oz cans	Apply as formulated	Apply to clothing. DO NOT APPLY WHILE THE CLOTHING IS BEING WORN. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or undergarments.
Insect Repellent, Clothing Application, IDA Kit 40% Permethrin 6840-01-345-0237	BX (12) kits	Apply in accordance with label instructions	Apply to clothing in the bags supplied with the kit. One kit contains two bags and will treat one BDU. Use one bag to treat the BDU shirt and the other for the trousers. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Clothing 40% Permethrin 6840-01-334-2666	BX (12) 151 ml bottles	1 btl to 2 gal water	For use in 2-gal. sprayer for treatment of BDUs, bed nets and tents by trained personnel ONLY. Do not allow skin contact until treated surfaces dry. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Personal 33% DEET Lotion (3M/EPA) 6840-01-284-3982	BX (12) 2 oz tubes	Apply as formulated	Apply thin layer to exposed skin. Avoid contact with eyes and lips.
Repellent, Personal 33% DEET Stick 6840-00-142-8965	BX (12) 1 oz sticks	Apply as formulated	Primary use in aviator survival kits. Formulation is better suited to flight conditions in high performance aircraft. DEET lotion works best for all other needs.

G. MOSQUITOES (ADULTS)

Mosq (Adults) Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN 4E) 44.8 % EC 6840-01-122-2651	GL 1 gal can	0.8-1 6 oz/acre	For outdoor use only. Dilute with water or oil for use in equipment such as hand and power ground sprayers, mist applicators, and aerial spray equipment. Use 0.8 oz concentrate per acre in light to medium vegetative cover. Toxic to fish, birds, and other wildlife. Keep out of lakes, streams, ponds, tidal marshes, and estuaries.
Chlorpyrifos (DURSBAN 4E) 44.8 % EC 6840-00-402-5411	GL 5 gal can	0.8-1 6 oz/acre	For outdoor use only. Dilute with water or oil for use in equipment such as hand and power ground sprayers, mist applicators, and aerial spray equipment. Use 0.8 oz concentrate per acre in light to medium vegetative cover. Toxic to fish, birds, and other wildlife. Keep out of lakes, streams, ponds, tidal marshes, and estuaries.
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	For outdoor use only. Use for outside surfaces of buildings and perimeter treatments as a residual spray. Apply to outside surfaces where pests congregate or have been seen. Do not apply directly to water or to flowering plants.

Mosq (Adults) Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 - 16 ml/ 1000 sq.ft. (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings. Make applications to surfaces where pests are seen. Labeled for use on aircraft. Don't use for space spray applications.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g packs	1 or 2 packets/gal (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	Apply outdoors only as a residual spray to surfaces of buildings, porches, screens, window frames, eaves, patios, and refuse dumps. Do not apply water-based sprays in conduits, or electrical equipment because of the possible shock hazard. Do not use as a space spray. May not be used to control mosquitoes in California.
Dichlorvos (DDVP) 20% Strip 6840-00-142-9438	BX box of 48	N/A (20%)	For indoor use only. Suspend one strip per 1,000 cubic feet (10ft x 10ft x 10ft) of building space. Do not use in food preparation or serving areas. Do not use in patient areas of medical treatment facilities. For outdoor use only in garbage cans. Attach one strip inside each can. Keep lid on can. (Outdoor use is not authorized on labels of some suppliers of this NSN item.)
d-Phenothrin 2% Aerosol 6840-01-412-4634	CN 12 oz cans	Pre-formulated Aerosol (2%)	Use as a space spray for aircraft disinsection, and in buildings, vans, ships, and in tentage. Spray 10 seconds per 1,000 cubic ft (10' x 10' x 10'). Not to be used on aircraft with passengers and crew aboard.
Pyrethrins 3%, ULV Fog Concentrate 6840-01-104-0780	GL 1-gal can	As directed on label	Dilute concentrate with petroleum distillate at the rate of one part concentrate to two parts oil and mix well. Use at a time when the air is cool (75°F or less) and the wind velocity is approximately 5 mph. Apply a dosage rate of fifteen ounces per minute upwind of the area to be controlled. If application equipment is truck mounted, keep speed approximately 5 mph.
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Apply directly to walls, ceilings, window screens and other resting areas. May be used on exterior siding, foundations, porches window frames, eaves, and other similar sites. Also may be applied to lawn areas around residential buildings and similar areas where pests are active. Labeled for use on aircraft. Do not store dilution in application equipment overnight.
Naled (Dibrom Concentrate) 87.4% 6840-01-270-9765	30 gal drum	Apply undiluted	Ultra Low Volume Aircraft Application: Apply ½ to 1 fluid oz undiluted product per acre. Use the 1 oz. rate where heavy vegetation exists. Aircraft should be equipped with a non-corrosive spray system.
Repellent, Clothing Application, 75% DEET 6840-00-753-4963	BT 2 oz bottle	Apply Undiluted (75%)	FOR USE ONLY FOR PRETREATMENT OF REPELLENT PARKA.
Repellent, Clothing Aerosol, 0.5% Permethrin 6840-01-278-1336	BX (12) 6 oz cans	Apply as formulated	Apply to clothing. DO NOT APPLY WHILE THE CLOTHING IS BEING WORN. Allow two hours for drying or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Insect Repellent, Clothing Application, IDA Kit 40% Permethrin 6840-01-345-0237	BX (12) kits	Apply in accordance with label instructions	Apply to clothing in the bags supplied with the kit. One kit, which contains two bags, will treat one BDU. Use one bag to treat the BDU shirt and one bag to treat the BDU trousers. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Clothing 40% Permethrin 6840-01-334-2666	BX (12) 151 ml bottles	1 btl to 2 gal water	For use in 2-gal. sprayer for treatment of BDUs, bed nets and tents by trained personnel ONLY. Do not allow skin contact until treated surfaces dry. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Personal 33% DEET Lotion (3M/EPA) 6840-01-284-3982	BX (12) 2 oz tubes	Apply as formulated	Apply thin layer to exposed skin. Avoid contact with eyes and lips.

Mosq (Adults) Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Repellent, Personal 33% DEET Stick 6840-00-142-8965	BX (12) 1 oz sticks	Apply as formulated	Primary use in aviator survival kits. Formulation is better suited to flight conditions in high performance aircraft. DEET lotion works best for all other needs.
Resmethrin+piper-onyl butoxide (Scourge) 4.14% + 12.42% 6840-01-359-8533	CN 5 gal	variable (diluted or undiluted)	For outdoor use only in portable backpack, ground or aerial ULV equipment. Label includes extensive directions for application, equipment calibration, and droplet size determination. May apply using ULV portable backpack equipment, mix with refined soybean oil, light mineral oil of 54 second viscosity or other suitable solvent or diluent.
NOTE: Pesticides labeled for use against adult mosquitoes may be used to control other biting flies, as long as: <ul style="list-style-type: none"> • The target biting flies are at the same site as would be adult mosquitoes. • The pesticide is applied according to directions for use against adult mosquitoes. • The pesticide label does not prohibit use against the target pest. • All other applicable label directions and precautions are followed. 			

H. MOSQUITOES (LARVAE)

Mosq (Larvae) Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
<i>Bacillus thuringiensis israelensis</i> (Bactimos Briquets) 10% 6840-01-377-7049	BX Box/100 briquets	Apply per label directions (10%)	Use one briquet for up to 100 sq. ft. of surface area regardless of depth. In water with a high organic content, such as sewage disposal systems or waste lagoons, the application rate may have to be increased as much as four times the normal dosage based on evaluation by the user. Pre-flood treatment: Apply one briquet to each 100 sq. ft. of dry bed surface that is a known or suspected breeding site when flooded. Outdoor Use: Briquets can be broken into portions for use in many outdoor applications, such as old automobile tires, rain barrels, ponds, abandoned pools, ditches, tree holes, roof gutters, flower pots or any other location where water collects and remains for periods of time. Use 1/4 briquet for 1 to 5 sq. ft. Use 1/2 briquet for 5 to 25 sq. ft. Use 1 briquet for 25 to 100 sq. ft.
Chlorpyrifos (DURSBAN 4E) 44.8 % EC 6840-01-122-2651	GL 1 gal can	0.4-1.6 oz/acre (Variable Conc.)	For outdoor use only. Dilute with water or oil for use in equipment such as hand and power ground sprayers. Use to control mosquito larvae in standing water, temporary rain pools, intermittently flooded areas, stagnant water and similar non-crop areas that serve as breeding sites. Use 0.4 to 0.8 oz concentrate per acre in light to medium vegetative cover. Use 0.8 to 1.6 oz concentrate for medium to heavy vegetative cover. Toxic to fish, birds, and other wildlife. Use 0.8 to 1.6 oz per acre concentrate for medium to heavy vegetative cover. Toxic to fish, birds, and other wildlife. Do not apply where fish, crustaceans and other aquatic life are important resources. Do not apply to water used for irrigational, recreational, or domestic purposes. Keep out of lakes, streams, ponds, tidal marshes, and estuaries.
Chlorpyrifos (DURSBAN 4E) 44.8 % EC 6840-00-402-5411	GL 5 gal can	0.4-1.6 oz/acre (Variable Conc.)	For outdoor use only. Dilute with water or oil for use in equipment such as hand and power ground sprayers. Use 0.4 to 0.8 oz concentrate per acre in light to medium vegetative cover. Use 0.8 to 1.6 oz per acre concentrate for medium to heavy vegetative cover. Toxic to fish, birds, and other wildlife. Do not apply where fish, crustaceans and other aquatic life are important resources. Do not apply to water used for irrigational, recreational, or domestic purposes. Keep out of lakes, streams, ponds, tidal marshes, and estuaries.

Mosq (Larvae) Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Methoprene (Altosid Liquid Larvicide, A.L.L.) 20% 6840-01-424-2493	CN 5 gal can	Apply 3/4 to 1 fl.oz/acre	A.L.L. must be applied to 2nd, 3rd, or early 4th larval instars of mosquitoes to prevent adult emergence. May be applied to pastures, rice fields, and intermittently flooded areas. Typical sites include freshwater swamps and marshes, woodland ponds and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural or manmade depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level. In dense vegetation, apply A.L.L. sand mixture using standard dispersal equipment.
Methoprene (Altosid XR Extended Residual Briquets) 1.8% 6840-01-424-2495	BX Box of 220 briquets	Apply per label directions 1.8%	Apply at or before the mosquito season. One application should last the entire mosquito season (or 150 days). For <i>Aedes</i> and <i>Psorophora</i> , use 1 briquet/200 sq. ft. for shallow depressions. For <i>Culex</i> , <i>Culiseta</i> and <i>Anopheles</i> , place 1 briquet/100 sq. ft. For <i>Coquillettidia</i> and <i>Mansonia</i> in cattail marshes and water hyacinth beds, place 1 briquet/100 sq. ft. Briquets control mosquitoes in small bodies of water that are not fish habitats (e.g., storm drains, catch basins, roadside ditches, cesspools, septic tanks, waste treatment settlement ponds, pastures, rice fields, freshwater marshes, salt/tidal marshes, woodland pools, flood plains, and dredge spoil sites).

I. STORED PRODUCTS PESTS

Stored Product Pests Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	In temporary/permanent subsistence storage areas and within food handling areas, use as a spot treatment applied as a coarse, low pressure spray to localized areas (including crack/crevice treatments.)
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 ml-16 ml/ 1000 sq ft (0.05% - 0.1%)	For indoor use as a general surface, spot and crack and crevice application in buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g packs	1 or 2 packets/gal (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Deltamethrin (DELTADUST) 0.05% 6840-01-431-3345	LB 1 lb jar	Apply as formulated	Apply indoors with a hand or power duster, paint brush or by other suitable means to non-food areas as a spot or crack and crevice treatment.
Dichlorvos (DDVP) 20% Strip 6840-00-142-9438	BX box of 48	N/A (20%)	Use in temporary or permanent non-perishable subsistence storage areas to control flying stages. Suspend one strip per 1,000 cubic feet of space (10 ft x 10 ft x 10 ft).
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Also may be applied to lawn areas around residential buildings and similar areas where pests are active. Do not store dilution in application equipment overnight.
Pyrethrins 3%, ULV Fog Concentrate 6840-01-104-0780	1-gal can	As directed on label	As a space spray, use undiluted. Close room or warehouse and shut off all ventilation systems. Dispense this product as a fine mist in the air above fruit trays and shelves. Do not apply directly to food or fruit. Use a dosage not exceeding 1/2 gallon per 50,000 cubic feet of room space. Leave room closed for one hour. Do not remain in treated areas and ventilate before re-entry.

J. TICKS

Ticks Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN 4E) 44.8 % EC 6840-01-122-2651	GL 1 gal can	0.8 oz/acre 0.75 fl oz per 1000 sq. ft.	For outdoor use only. Dilute with water and apply at 8 oz concentrate/acre as a spray on roadsides, footpaths and trails, bivouac sites and other infested non-crop areas, using hydraulic sprayer, mist applicator, backpack sprayer, or other suitable hand or power spray equipment. Treat low underbrush, grassy areas, weeds, and ground surfaces and debris. Vacate treated areas until spray has dried. For brown dog tick indoors: thoroughly apply the spray as a spot treatment to infested areas, such as pet beds and resting quarters, nearby cracks and crevices, along baseboards, windows and door frames, and localized areas of floor and floor coverings where pests may be present. Do not treat pets with this product.
Chlorpyrifos (DURSBAN 4E) 44.8% EC 6840-00-402-5411	GL 5 gal can	0.8 oz/acre .75 fl oz per 1000 sq. ft.	For outdoor use only. Dilute with water and apply at 8 oz concentrate/acre as a spray on roadsides, footpaths and trails, bivouac sites and other infested non-crop areas, using hydraulic sprayer, mist applicator, backpack sprayer, or other suitable hand or power spray equipment. Treat low underbrush, grassy areas, weeds, and ground surfaces and debris. Vacate treated areas until spray has dried. For brown dog tick indoors: thoroughly apply the spray as a spot treatment to infested areas, such as pet beds and resting quarters, nearby cracks and crevices, along baseboards, windows and door frames, and localized areas of floor and floor coverings where pests may be present. Do not treat pets with this product.
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	Indoors, apply as a spot treatment to localized areas of floors along baseboards. Includes crack and crevice treatment. Outdoors, use for outside surfaces of buildings and for perimeter treatments where ticks congregate. May be used as a low volume directed spray, a high volume broadcast spray, or as a general surface spray.
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 ml-16 ml/ 1000 sq ft (0.05% - 0.1%)	For outdoor use only, as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g packs	1 or 2 packets/gal (0.05% - 0.1%)	For outdoor use only, as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	1 packet/gal 0.1%	Apply indoors as a coarse, low-pressure spray where pests are found. Apply outdoors as a residual spray to lawns, porches and similar areas. May not be applied in California to control ticks.
Deltamethrin (DELTADUST) 0.05% 6840-01-431-3345	LB 1 lb jar	Apply as formulated	Apply indoors with a hand or power duster, paint brush or by other suitable means to non-food areas as a spot or crack and crevice treatment. Apply in and around rodent burrows around homes and other buildings with a shaker can. Thoroughly apply dust to adequately cover mound around the perimeter (18" from the outer edge). Be sure to treat abandoned rodent burrows that are suspected to contain ticks. Treat for a minimum of 5 days for light rodent populations, 10 days when populations are dense.
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Also may be applied to lawn areas around residential buildings and similar areas where pests are active. Do not store dilution in application equipment overnight.

Ticks Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Repellent, Personal 33% DEET Lotion (3M/EPA) 6840-01-284-3982	BX (12) 2 oz tubes	Apply as formulated	Apply thin layer to exposed skin. Avoid contact with eyes and lips. DO NOT use on undergarments.
Repellent, Clothing Aerosol, 0.5% Permethrin 6840-01-278-1336	BX (12) 6 oz can	Apply as formulated	Apply to clothing. DO NOT APPLY WHILE THE CLOTHING IS BEING WORN. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Insect Repellent, Clothing Application, IDA Kit 40% Permethrin 6840-01-345-0237	BX (12) kits	Apply in accordance with label instructions	Apply to clothing in the bags supplied with the kit. One kit, which contains two bags, will treat one BDU. Use one bag to treat the BDU shirt and one bag to treat the BDU trousers. Allow two hours for drying, or four hours under humid conditions. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Clothing 40% Permethrin 6840-01-334-2666	BX (12) 151 ml bottles	1 btl to 2 gal water	For use in 2-gal. sprayer for treatment of BDUs, bed nets and tents by trained personnel ONLY. Do not allow skin contact until treated surfaces dry. DO NOT use on hats, headgear, socks, or underwear.
Repellent, Personal 33% DEET Stick 6840-00-142-8965	BX (12) 1 oz sticks	Apply as formulated	Primary use in aviator survival kits. Formulation is better suited to flight conditions in high performance aircraft. DEET lotion works best for all other needs.
Repellent, Clothing Application, 75% DEET 6840-00-753-4963	BT 2 oz bottle	Apply Undiluted (75%)	FOR USE ONLY FOR PRETREATMENT OF REPELLENT PARKA.

K. VENOMOUS ARTHROPODS

Venomous Arthropods Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Chlorpyrifos (DURSBAN PRO) 22.5% EC 6840-01-412-4361	PT, 1 pt container	1 1/3 to 2 2/3 fl oz/gal (0.25% to 0.5%)	Use indoors/outdoors for ants, spiders and scorpions. Apply indoors as a spot treatment in localized areas, including crack/crevice treatments. Apply outdoors on building surfaces and perimeter treatments as a residual spray where pests congregate or have been seen. Do not apply to flowering plants.
Cyfluthrin (Tempo 2EC) 24.3% 6840-01-313-7359	BX (12) 240ml bottles	8 ml to 16 ml/1000 sq ft (see label for water qty) (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for space spray applications.
Cyfluthrin (Tempo 20WP) 20.0% 6840-01-383-6251	BX (288) 9.5 g packs	1 or 2 packets/gal (0.05% - 0.1%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Labeled for use on aircraft. Do not use for a space spray applications.
Cypermethrin (Demon WP) 35.6% 6840-01-390-4822	LB 1 lb jar	2 packet/gal 2%	Outdoor use only. Apply as a residual spray to lawns, porches and in similar areas where pests are found. May not be applied in California to control ants (including carpenter and fire) or scorpions.
Deltamethrin (DELTADUST) 0.05% 6840-01-431-3345	LB 1 lb jar	Apply as formulated	Apply indoors with a hand or power duster, paint brush or by other suitable means to non-food areas as a spot or crack and crevice treatment. Apply along and behind baseboards, to window and door frames, corners, pipes, storage locations, attics, crawl spaces and other areas where these pests may enter or crawl. Apply outdoors thoroughly and uniformly to the foundation and crawl spaces where pests are active and may find entrance.

Venomous Arthropods Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Lambda-cyhalothrin (DEMAND PESTAB) 10.0% 6840-01-431-3357	CO 40 tablets per container	1 to 4 tablets/gal (0.015% - 0.06%)	For use as a general surface, spot application in and around buildings and structures and on various modes of transportation. Make applications to surfaces and other areas where pests have been seen. Also may be applied to lawn areas around residential buildings and similar areas where pests are active. Do not store dilution in application equipment overnight.
Pyrethrins, allethrin, d-phenothrin, or resmethrin, aerosol, (12) 12-oz cans (PT 515 Wasp Freeze & Hornet Killer or Wasp Stopper II Plus or Wasp and Hornet Killer II), 6840-00-459-2443	BX 12-12oz cans	Apply as formulated	<p>Apply with wind at your back.</p> <p>Wasps and hornets: hold container in upright position to spray. Stand 6-12 feet from nest and not directly underneath. Align actuator opening at nest and spray until nest is thoroughly wet. Hit wasps and hornets on nest when possible. Best time to spray is in early morning or evening, since wasps and hornets congregate on or in nest at night. Do not apply to pets or contaminate food, foodstuffs, dishes or utensils. Avoid spraying plant foliage as injury may occur. For outside use only. Not a space spray. To prevent dying insects from falling on skin and clothing, do not stand directly under nest being sprayed.</p> <p>Yellowjackets and bees: locate underground nest. Align actuator opening away from mark on valve. Depress actuator and spray with a sweeping motion any insects around nest opening. Afterwards move forward to nest opening and spray liquid from 6 to 8 seconds directly into nest hole. This will suffocate bees in nests. Other bees trying to return to nest will be repelled and will fly away harmlessly.</p> <p>Spiders, including black widow and brown recluse: spray directly on spiders and web. This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.</p>

L. COMMENSAL RODENTS

Commensal Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Rodenticide, Anticoag., Univ. Conc., Diphacinone (0.05-0.055%) or Pindone (0.3-0.33%) or 2-sovalery-1,3 indandione (0.5-0.55%) 6840-00-753-4972	LB 1 lb can	Mix according to label	Both liquid and dry concentrates are available. Use according to label directions. Suggested bait materials are cornmeal or rolled oats. In dry areas, the liquid bait may be most effective due to scarcity of water. Maintain an uninterrupted supply of fresh bait until all signs of feeding have stopped.
Rodenticidal Bait, Anticoag., Diphacinone 0.005% 6840-00-089-4664	BX 40 , 8 oz blocks	Use as Formulated (0.005%)	For use in CONEX containers, vans, and other military equipment and containers. Use 1 bait block per 5 linear feet of container length. Maintain an uninterrupted supply of fresh bait until all signs of feeding have stopped.
Rodenticidal Bait, Anticoag., Quick Kill Bromadiolone, (Maki pellets) 0.005% 6840-01-151-4884	CN 11 lb can	Use as Formulated (0.005%)	For control of domestic rodents in and around the periphery of dwellings, industrial, commercial, and public buildings. Do not use in sewers. Some labels permit use in and around transport vehicles (ships, trains, and aircraft) and related port or terminal buildings. For rats, use 5-16 oz bait per bait station (usually at 15-30 ft intervals). For mice only, use 0.25-2.0 oz per station, at 8 to 12 ft intervals. Maintain an uninterrupted supply of fresh bait until all signs of feeding have stopped.

Commensal Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Rodenticidal Bait, Anticoag., Quick Kill Brodifacoum, (Talon-G) pellets 0.005% 6840-01-426-4808	CN 11 lb can	Use as Formulated (0.005%)	For control of domestic rodents in and around the periphery of dwellings and public buildings. Do not use in sewers. For rats, use 5-16 oz bait per bait station (usually at 15-30 ft intervals). For mice only, use 0.25-2.0 oz per station, at 8 to 12 ft intervals. Maintain an uninterrupted supply of fresh bait until all signs of feeding have stopped.

M. VEGETATION CONTROL

Vegetation Control Pesticide	Unit of Issue	Dilution & % Finished Concentrate	Label Information
Bromacil (Bromax-4L) 40.8%, water soluble 6840-00-181-7106	BX (2) 2.5-gal container	Variable (diluted or undiluted)	For general weed control, use in a suitable sprayer and dilute in sufficient water (about 100 gal) to give good coverage. Annual weeds and grasses, use 2 ½ to 5 quarts per acre. Perennial weeds and grasses, use 1 ½ to 2 ½ gallons per acre. For hard to kill weeds and grasses, use 3 to 5 gal per acre. Use a coarse spray to reduce drift. Apply in spring or or as a basal (spot) treatment. DO NOT apply where marketable timber or other desirable trees or shrubs are immediately adjacent to the treated area. For basal treatment, apply undiluted according to basal diameter of the target brush or tree. NOTE: This product is combustible. While applying the undiluted material, do not smoke; keep away from heat or open flame.
Glyphosate, (Roundup PRO) 93.96, water soluble 6840-01-399-0673	BX 25 packets	1 packet/gal	Provides control of annual/perennial weeds, woody brush and trees. Has no soil residual activity. Use in and around airports, ditch banks, fence rows, industrial sites, warehouses, and other public areas. Apply to actively growing weeds. Apply using hand-held compressed air sprayers, back pack, or high volume sprayers. Avoid drift to desirable plants and crops. Does not provide residual weed control. For extended weed control, reapply when weeds reemerge.

IV. PESTICIDE DISPERSAL EQUIPMENT

NSN	Pesticide Dispersal Equipment: REMARKS
3740-01-423-0737	CONTAINER, BAIT, RODENT (BOX OF 6). Solid rodent bait dispensers.
3740-01-467-6951	CONTAINER, BAIT, RODENT, Plastic, Tamper Proof, spring loaded, self closing, extends to allow rodents access to the bait (The Keep-Rat Bait station)
Sprayers and Dusters, Manually Carried	
3740-00-132-5935	DUSTER, INSECTICIDE, MANUALLY OPERATED. Rotary fan duster, 5-10 lb hopper capacity, 8 lbs empty. Primarily used to treat rodent burrows for ectoparasite control.
3740-00-132-5936	DUSTER, MANUALLY OPERATED, TUBULAR PUMP. For placing dusts in inaccessible places harboring vectors/pests. Approx. 3" diam, 10" long, 2 lbs empty.
3740-01-441-5250	DUSTER, INSECTICIDE, KIT (Centro Bulb). Consists of one 14 oz. bulb duster, a straight metal nozzle, a 2 in. curved tip nozzle and a 12 in. extension with coupling.
3740-00-191-3677	SPRAYER, INSECTICIDE, MANUALLY CARRIED, PRESSURE TYPE. (B&G or equivalent). One-gallon sprayer with pressure gauge, hose, gun valve and wand, 4 separate nozzles and a carrying strap. NOTE: Older models without a pressure gauge may be retrofitted with—gauge, pressure, pesticide sprayer, NSN 3740-01-332-8746 and filter--filter, gauge, pesticide sprayer, NSN 4330-01-332-1639. Order replacement parts (0-rings, etc.) directly from the manufacturer. No stock numbers are assigned to these replacement parts.
3740-00-641-4719	SPRAYER, INSECTICIDE, MANUALLY CARRIED, PRESSURE TYPE. Two-gallon, equipped with pressure gauge, hose, gun valve and wand, 4 separate nozzles and carrying strap. NOTE: Older models without a pressure gauge may be retrofitted with--gauge, pressure, pesticide sprayer, NSN 3740-01-332-8746 and filter, gauge, pesticide sprayer, NSN 4330-01-332-1639. Order replacement/repair parts (0-rings, etc.) directly from the manufacturer.

NSN	Pesticide Dispersal Equipment: REMARKS
3740-01-456-2625	FOGGER, hand held, gasoline engine driven, ULV, London Fog Eliminator, PN# 8100, 25" long X 20.5" high X 10.5" wide, 24 lbs. empty
3740-01-456-2622	FOGGER, hand held, gasoline engine driven, ULV, London Aire Colt, PN# 8675, 14" long X 11" high X 12" wide, 19 lbs. empty
3740-01-456-2623	FOGGER, hand held, gasoline engine driven, ULV, Clarke P-1, PN# L7800-001, 17 lbs. empty
3740-01-206-9636	FAN, ULV, BATTERY-OPERATED, ULVA Fan, Dram Model MK2. Flow rate - 60 ml/min at 3 PSIG, 0.5-liter plastic pesticide reservoir, 3.25 lbs. without battery. For ULV application to localized areas. Includes carrying case, 3 polyethylene pesticide containers, 4 interchangeable nozzles (different flow rates), battery, and battery charger.
BACKPACK SPRAYERS	
3740-01-157-4000	SPRAYER DUSTER, PESTICIDE, BACKPACK, Solo Model 423, gasoline engine driven, 5 HP, 1.6 quart fuel tank, includes dusting attachment and set of dosage pieces, three gallon pesticide tank. Discharges mist 33 ft horizontally, and 25 ft vertically. 27" high X 18" wide X 12" deep, 25 lbs. empty.
3740-01-463-0147	SPRAYER AND DUSTER, BACKPACK, , STIHL Model SR400, gasoline engine driven, includes, granular spreader, ULV nozzle, and field parts kit. Tank size - 3.5 gal., 24.6" high X 18.9" wide X 11" deep, 24 lbs empty
FOG GENERATORS, INSECTICIDE (ULV), SKID-MOUNTED (For mounting on ground vehicles)	
3740-00-375-9154	FOG GENERATOR, Skid-mounted, gasoline engine driven, Grizzly PDS. 53" long X 31: wide X 37" high, 18 HP engine, 5 gal pesticide tank. 456 lbs. empty
3740-01-141-2557	FOG GENERATOR, pesticide, skid-mounted, Curtis-Dyna model 2740 series II, gasoline engine driven, 48" long X 41" wide X 35" high. Weight 495 lb.
3740-01-206-9635	FOG GENERATOR, INSECTICIDE (ULV), BATTERY OPERATED. (For mounting on ground vehicles). BEECOMIST model Pro-Mist 15MP. Can be powered with vehicle battery or separate battery (12V). Weight 95 lb. Lightweight, medium duty model.
3740-01-445-8380	AEROSOL GENERATOR ULTRA LOW VOLUME ELECTRIC (AGULVE). Consists of a Beecomist Prom Mist 15 MP Fog Generator with an aluminum frame in a rigid shipping container. Can be powered with vehicle battery or separate battery (12V). Weight 95 lb. Lightweight, medium duty model.
SPRAYER, HYDRAULIC, or ELECTRIC, MIST or SOLID STREAM	
3740-01-454-1981	PESTICIDE SPRAYER, ELECTRIC, LIQUID (SPEL), AG 25 Sprayer, battery/electric, solid stream sprayer, 25 gal plastic tank, 15 ft hose, L 29.5" X W 20" X Ht16", 25.6 lbs. empty
AIRCRAFT SPRAYER	
3740-01-206-9614	SPRAYER, PESTICIDE AERIAL UNIT (model PAU-9). Single-boom electric-powered (from 28VDC power source in helicopter), 10 nozzle ULV sprayer with 60 gallon tank capacity, 125 lbs. empty. For internal mounting in UH1/3 and UH60 helicopters. Not readily available via requisition.
3740-01-262-8707	SPRAYER, PESTICIDE DISPERSAL UNIT (PDU), Multicapability, Part No 96800, helicopter slung, low volume liquid spray system, ULV Spray System and Solid (Granular) Dispersal System, 150 gal liquid, 20 cu. ft. capacity, self-powered w/gasoline engine, 340 lbs empty.

V. SURVEILLANCE AND TRAPPING EQUIPMENT

NSN	Surveillance & Trapping Equipment: REMARKS
3740-01-423-2471	ANIMAL RESTRAINING POLE
3740-01-454-2256	ASPIRATOR, ORAL, ENTOMOLOGY SPECIMEN Collection with HEPA Filter: 10" polycarbonate clear straight tube, in-line HEPA filter (Model 612), and 24" flexible hose with mouthpiece
3740-01-210-2368	ASPIRATOR INSECT BATTERY OPERATED, 1.5 V (2 D cell batteries required)
3740-01-456-2530	BLOCK, INSECT PINNING, 1"W x 3"L, cut to three levels, facilitates placing labels and specimens at correct heights on insect pins
6640-00-408-9820	BOX INSECT WOOD SCHMITT DESIGN 13"LG X 9"W X 2.5"H W/HINGED LID
6545-00-912-9870	CASE MEDICAL INSTRUMENT AND SUPPLY SET POLYAMIDE NYLON NONRIGID
3740-01-454-2345	BREEDER, MOSQUITO, 8.75" H X 7.875" Diameter, consists of 2 clear quart size containers w/plastic lid between sections.
6640-00-149-1196	DIPPER, ENTOMOLOGICAL, PLASTIC, WHITE, 1/2 QT.
6230-00-264-8261	FLASHLIGHT, RIGHT ANGLE.
3740-00-252-3383	FLY SWATTER (package of 12).
6520-00-542-7000	FORCEPS, DRESSING, NO 17 6.25" long
6640-00-426-0250	FORCEPS, PINNING, entomological specimen curved blunt points
6515-01-098-3624	FORCEPS, UTILITY, BONACCOLTO 4" lg straight small
3740-01-420-9038	GLUE, BULK, Case of 4 each 1 gal cans. For making rodent glue boards.
6530-01-451-5144	LIGHT, ULV, HAND-HELD, w/replacement bulb (NSN 6210-01-449-3170), battery operated (4 AA cells), plastic lamp w/wrist strap, 2" x 4" x 8", 1.5 lbs.
6650-00-431-4375	MAGNIFIER, FOLDING, 14X.
3740-00-252-3384	MOUSE TRAP, SPRING (one dozen).
6640-00-435-6100	NET, INSECT.

NSN	Surveillance & Trapping Equipment: REMARKS
6650-00-436-5288	PIN INSECT TRANSFIXION NO. 3
3740-01-454-2344	POINT PUNCH, Entomological specimen, 6" long, metal w/spring expanded handle
3740-00-260-1398	RAT TRAP, SPRING (one dozen).
3740-00-472-2743	TRAP, CAGE, ANIMAL, COLLAPSIBLE, SELF-CLOSING, 12" X 6" X 6".
3740-01-431-1186	TRAP, FOLDING, LARGE SHERMAN, 3" x 3.5" x 9," (30 traps)
3740-01-240-6170	TRAP, GLUE, RODENT (box of 24) Glueboard traps for trapping domestic rats/mice.
3740-01-106-0091	TRAP, MOSQUITO, LIGHT, BATTERY-POWERED. (a.k.a. Solid State Army Miniature (SSAM) trap). Includes trap, collecting net, kill jar, some electrical hardware replacement parts, and holder for four D-cell batteries. Requires 2 BATTERY, GEL CEL (6140-00-432-0490), and 1 CHARGER, BATTERY (6130-00-629-7396), to enable recharging of 1 battery while using the other. May operate on 4 alkaline D-cell batteries (6135-00-835-7210) per 3-day usage.
3740-01-454-2348	TRAY, MOSQUITO SORTER, white polyethylene tray, 10" W x 13.5" L x 1.25" D
3740-01-454-2354	VIALS, COLLECTION, ENTOMOLOGY SPECIMEN, 6 dram w/polysal cap, 23 mm diam x 85 mm high

VI. SAFETY EQUIPMENT FOR PESTICIDE APPLICATORS

NSN	Safety Equipment for Pesticide Applicators: REMARKS
4240-00-759-3290	AURAL PROTECTOR, SOUND (protection against sustained noise levels above 85 db)
8430-00-241-2780	BOOTS, hip, black rubber (size 10)
8430-00-241-2781	BOOTS, hip, black rubber (size 11)
8430-00-241-2782	BOOTS, hip, black rubber (size 12)
8430-00-262-8256	BOOTS, hip, black rubber (size 9)
8430-00-262-8257	BOOTS, knee, rubber, 15 in. high (size 10)
8430-00-262-8258	BOOTS, knee, rubber, 15 in. high (size 11)
8430-00-262-8259	BOOTS, knee, rubber, 15 in. high (size 12)
8405-00-131-6507	COVERALLS, long sleeve, olive drab (SM)
8405-00-131-6508	COVERALLS, long sleeve, olive drab (MED)
8405-00-131-6509	COVERALLS, long sleeve, olive drab (LG)
8405-00-131-6510	COVERALLS, long sleeve, olive drab (XLG)
8415-01-012-9294	GLOVES, chemical and oil protective (Nitrile gloves for protection against pesticides). (size 9)
8415-01-013-7382	GLOVES, chemical and oil protective (Nitrile gloves for protection against pesticides). (size 10)
4240-00-190-6432	GOGGLES, industrial, non-vented. (For protection of eyes from pesticide splashes, mists, and sprays).
4240-01-301-0754	RESPIRATOR, half-face, 3M 7000 series (SM)
4240-01-246-5401	RESPIRATOR, half-face, 3M 7000 series (SM/MED)
4240-01-246-5404	RESPIRATOR, half-face, 3M 7000 series (MED/LG)
4240-01-314-2780	RESPIRATOR, full-face, 3M 7800 series (SM)
4240-01-342-5239	RESPIRATOR, full-face, 3M 7800 series (SM/MED)
4240-01-301-3200	RESPIRATOR, full-face, 3M 7800 series (MED/LG)
4240-01-246-5407	CARTRIDGE, organic vapor, pesticides, 3M P/N 7251
4240-01-235-0823	CARTRIDGE RETAINER, 3M P/N 7287
4240-01-246-5414	PREFILTER, Pesticides, 3M P/N 7257
4240-01-246-5411	CARTRIDGE, HEPA filter, 3M P/N 7255
4240-01-231-7718	RETAINER, HEPA Cartridge, 3M P/N 7288

Safety Equipment Usage Requirements

All pest control personnel must follow their Military Service's instructions and regulations. These include proper fit testing, wear, and storage requirements. Training is provided by safety, occupational health, military public health, or other qualified medical authority.

You are responsible for periodic inspection, cleaning, and proper storage of your assigned respirator.

- When storing a respirator:
 - * Protect it from dust, sunlight, heat, extreme cold, excessive moisture, and damaging chemicals.
 - * Ensure the face-piece and exhalation valve is not damaged or subject to cramming or crushing.
 - * Do not store it in a toolbox or locker unless they are in a container or in a carton.
- Inspect and conduct fit testing (including a positive/negative pressure test):
 - * Before each use.
 - * After each use.
 - * Once a month if not used more frequently.

It is imperative for you to **immediately notify your supervisor if you detect a leak in your respirator**. Half-face respirators are suitable for most application techniques. Full-face respirators may be required to perform some pesticide applications.

Further, pesticide applicators must be placed on a medial surveillance program to test for pesticide absorption and other related pest control medical concerns. It is your responsibility to make these scheduled appointments prior to deployment.

VII. PERSONAL PROTECTIVE EQUIPMENT AGAINST DISEASE VECTORS

NSN	Personal Protective Equipment Against Vectors: REMARKS
7210-00-266-9736	INSECT BAR, FIELD TYPE (Insect netting), 200" x 68", netting only (does NOT include optional poles, or rods w/clamps, listed below; poles or rods are required for use with cot)
7210-00-267-5641	POLES, FOLDING COT, INSECT NET PROTECTOR, wooden, for suspending insect bar netting (above) over folding cots
7210-00-359-4850	ROD, INSECT NET PROTECTOR. Two T-shaped metal rods, used to suspend the Insect Bar, Field Type. Rods may be pushed into the ground or used on cots if Insect Bar, Clamp (listed below) is also used.
7210-00-300-6950	CLAMP, INSECT NET PROTECTOR ROD. Used to Attach Insect Bar, Rods, above, to military cots. Required to clamp Rods to cot and erect the Insect Net Protector.
7210-01-364-2197	INSECT NET PROTECTOR, FIELD. Complete kit including: 7210-00-266-9736, Insect Net Protector; 7210-00-359-4850, Rod, Insect Net Protector; 7210-00-300-6950, Clamp, Insect Net Protector Rod.
7210-00-266-9740	INSECT NET PROTECTOR, 27" x 77.5", Used to protect personnel from insects while sleeping, for use with military cots.
7210-01-364-2198	INSECT NET PROTECTOR. Complete kit including: 7210-00-266-9740 Insect Net Protector: 7210-00-2667-5641, Pole, Folding Cot Insect Net Protector (wooden).
8415-00-935-3130	INSECT BAR, HEAD NET Used to protect head and neck from mosquitoes.
8415-00-935-2914	INSECT NET, HAT. Nylon Netting, AG323, Elastic Headwear Attachment.
8415-01-192-2357	INSECT NET, MITTENS. Head and hand covering; nylon; black; packaged in heat-sealed, waterproof bag.
8415-01-035-0846	(SM) PARKA, FABRIC MESH, INSECT REPELLENT (DEET JACKET)
8415-01-035-0847	(MED) PARKA, FABRIC MESH, INSECT REPELLENT (DEET JACKET)
8415-01-035-0848	(LG) PARKA, FABRIC MESH, INSECT REPELLENT (DEET JACKET)

VIII. AIR-TRANSPORTABLE OVER PACK CONTAINERS

- A. Some pesticides come in containers that do not meet air transport requirements. Further, containers that have been opened, do not qualify for air shipment;
- B. Pesticides stored in reusable over-pack containers (cylindrical metal drums with re-sealable metal tops) may be transported by air.
 1. One-gallon rectangular cans (nominally 10 in. x 6 in. x 4 in. may be over-packed in the following container:
DRUM, SHIPPING AND STORAGE, (12.9 in. ht. X 10.5 in. diameter) NSN 8110-00-254-5722, U/I – EA, Unit Price – about \$25.
 2. A standard five-gallon drum (nominally 13.8 in. ht. x 10.9 in. diameter) may be over-packed in the following container:
DRUM, SHIPPING AND STORAGE (19.9 in. ht. x 15.4 in. diameter) NSN 8110-00-254-5716, U/I – EA, Unit Price – about \$30.
- C. Transportation regulations also require that the pesticide container inside the over-pack drum be cushioned with vermiculite or other absorbent material on the sides, top and bottom. Refer to Para A.20.1, AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030-19G/DLAI 4145.3, Attachment 20. Personnel requiring assistance with cushioning material should contact the Air Force Packaging Technology and Engineering Facility, 5215 Thurlow Street, Wright Patterson AFB, OH, 45433-5440, (937) 257-4234/4519 or DSN 787-4234/4519. A suitable cushioning material is:
Cushioning Material, Industrial; Untreated (VERMICULITE, ASTM C 516, Type I, grade 3), BAG, 4 CUBIC FT, NSN 8135-01-324-2664; specify Part No A-A-52450 and Cage 58536. Cushioning material is 4.5 to 7 lbs. per cubic ft, density, suitable for packing hazardous chemicals or liquids. One bag of this material is adequate for over-packing three standard 5-gallon drums, each in the larger over-pack container, above. Approximately 7 one-gallon cans may be over-packed, each in the smaller container, with the material in one bag.

APPENDIX A: Dilution Formulas

DILUTION FORMULAS, WEIGHT-VOLUME BASIS FOR DILUTING SOLID CONCENTRATES TO MAKE SUSPENSIONS OR SOLUTIONS

Formula 1.	$W = \frac{8.34 \times G \times D}{C}$	Where: 8.34 = Constant (Weight on one gallon of water) W = Weight (lbs) of concentrate
Formula 2.	$G = \frac{W \times C}{8.34 \times D}$	G = Gallons desired C = % of active ingredient in concentrate (expressed as a whole number for example 80% is expressed as 80)
Formula 3.	$D = \frac{W \times C}{8.34 \times G}$	D = % of active ingredient in finished spray (expressed as a whole number for example 2% is expressed as 2)

Example:

How many pounds of 80% carbaryl wettable powder will be used to obtain 100 gallons of a 2% spray?

Using Formula 1. $W = \frac{8.34 \times G \times D}{C} = \frac{8.34 \times 100 \times 2}{80} = 20.85$ lbs of wettable powder

WEIGHT-WEIGHT OR VOLUME-VOLUME FOR DILUTING DUST IN DUST OR LIQUID IN LIQUID

Formula 4.	$VC = \frac{VT \times D}{C}$	Where: VC = Weight or volume of concentrate VT = Total weight or volume of the finished spray
Formula 5.	$VT = \frac{VC \times C}{D}$	C = % of active ingredient in concentrate (expressed as a whole number for example 80% is expressed as 80)
Formula 6.	$D = \frac{VC \times C}{VT}$	D = % of active ingredient in finished spray (expressed as a whole number for example 2% is expressed as 2)

Example:

How much 95% concentrate will you use to obtain 200 gallons of 1% malathion solution to be diluted with fuel oil?

Using Formula 4. $VC = \frac{VT \times D}{C} = \frac{200 \times 1}{95} = 2.1$ gallons = 2 gallons + 13 ounces

"SAD COW" FORMULA FOR DILUTING LIQUID CONCENTRATES PREPARED FOR POUNDS OF INSECTICIDE PER GALLON

"SAD COW" Formula $Q = \frac{S \times A \times D}{C \times W}$

Where:

Q = Quantity of concentrate required in gallons

S = Strength of percentage of active ingredient in finished spray

A = Amount of spray to be prepared in gallons

D = Density: weight of one gallon of diluent (usually water, 8.34 lb/gal)

C - Concentrate: percentage of active ingredient (constant), expressed as a whole number: 2% - "2"

W - Weight of actual insecticide (lb) in each gallon of concentrate

Example: How much liquid concentrate is required if 10 gallons of a 2 % emulsion are desired and the concentrate contains 8 lbs/gal active ingredient?

$Q = \frac{S \times A \times D}{C \times W} = \frac{2 \times 10 \times 8.34}{100 \times 8} = 166.8/800 = 0.21$ gallons (26.88 ounces)

Most insecticides are now sold with the label indicating pounds of insecticide per gallon and percentage of toxic materials. In such a case, the weight to weight formula is modified so that the factor C is considered technical grade insecticide (100% active ingredient), and a factor W (pounds of insecticide per gallon) is added.

APPENDIX B: Calculating Application Rates

LINEAR APPLICATION

For speed in mph given the flow rate (gallons per hour) and gallons required per linear mile.

$$\text{Speed} = \frac{\text{Flow rate}}{\text{Gallons per mile}}$$

AREA APPLICATION

For gallons required given gallons per acre, square feet in the area to be treated, and 43,560 feet per acre.

$$\text{Gallons} = \frac{\text{sq. ft} \times \text{gals. per acre}}{43,560}$$

For speed in feet per minute given 43,560 feet per acre, flow rate per minute (gals), swath width (ft), and gallons per acre required.

$$\text{Speed} = \frac{\text{sq. ft} \times \text{gals. per minute}}{\text{swath width} \times \text{gals. per acre}}$$

For gallons per acre given 43,560 feet per acre, flow rate per minute (gals), swath width (ft), and gallons per acre required.

$$\text{Gals/acre} = \frac{43,560 \times \text{gals. per min}}{\text{swath width} \times \text{speed}}$$

APPLYING A CERTAIN PERCENT OF PESTICIDE

(All percentages are expressed as whole numbers: 5% = "5")

1. Solutions or Emulsions.

$$\text{Gal of conc. to add} = \frac{\text{Gal of spray desired} \times \% \text{ desired} \times \text{Wt of diluent}}{\text{lbs. of technical grade per gallon} \times 100}$$

2. Suspensions.

$$\text{Pounds of WP to add} = \frac{\text{Gal of spray desired} \times \% \text{ desired} \times \text{Wt of diluent}}{\text{lbs. of technical grade per pound} \times 100}$$

3. Dusts or Dry Baits

$$\text{Pounds of conc. to add} = \frac{\text{Lbs of material desired} \times \% \text{ desired}}{\% \text{ of concentrate}}$$

APPLYING POUNDS OF ACTIVE INGREDIENT PER ACRE

1. Solutions or Emulsions.

$$\text{Gal of conc to add} = \frac{\text{Recommended appl rate (wt in lbs)} \times \text{number of acres to treat}}{\text{lbs. of technical grade per gallon}}$$

$$\text{Amt of dilute spray needed} = \frac{\text{Machine output (gal/min)} \times 500 \times \text{no. acres to treat}}{\text{swath width} \times \text{MPH}}$$

2. Wettable Powders, Dusts, Granules, or Baits.

$$\text{Amt of conc to add} = \frac{\text{Recommended appl rate (wt in lbs)} \times 500 \times \text{no. acres to treat}}{\text{lbs. of technical grade per lbs of conc}}$$

$$\text{Amt of dilute spray needed} = \frac{\text{Machine output (lbs of gal/min)} \times 500 \times \text{no. acres to treat}}{\text{swath width} \times \text{MPH}}$$

3. If the amount of dilute pesticide needed exceeds the capacity of the tank you are using, the amount of concentrate to be added per tankful can be calculated by:

$$\text{Amt of conc to add per tankful} = \frac{\text{Amt of conc to add} \times \text{tank capacity}}{\text{Amt of dilute pesticide needed}}$$

NOTE: The application rate and the amount of technical grade material per gallon must be in the same weight terms. That is, if the application rate is given in ounces, you must convert it to pounds before using formulas 1 or 2. If the application rate is given in ounces, read the pesticide label carefully to make sure the ounces refer to weight (16 oz/lb) and not liquid volume (128 oz/gal).

APPENDIX C: Conversion Factors, U.S. and Metric

LENGTH

1 mile = 1,760 yards = 5,280 feet	1.6 kilometers = 1,609 meters
1 mile (nautical) = 6,080.2 feet	1.8 kilometers = 1,853 meters
0.621 miles = 1,093.6 yards	1 kilometer = 1,000 meters
1 yard = 3 feet = 36 inches	91.4 centimeters = 0.91 meters
1.094 yards = 3.28 feet = 39.37 inches	1 meter = 100 centimeters
1 foot = 12 inches	0.3048 meter = 30.48 centimeters
1 inch	2.54 centimeters
0.394 inch	1 centimeter
0.0394 inch	1 millimeter = 1,000 microns
0.000039 inch	0.001 millimeter = 1 micron

TEMPERATURE SCALE

<u>C</u>	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>	<u>55</u>	<u>60</u>	<u>80</u>	<u>100</u>
F	32	41	50	59	68	77	86	96	104	113	122	131	140	176	212

C = degrees Centigrade = $5/9 \times (\text{degrees Fahrenheit} - 32)$
 F = degrees Fahrenheit = $32 + (9/5 \times \text{degrees Centigrade})$

AREA

1 Square mile = 640 acres	259 hectares
0.39 square mile = 247 acres = 100 hectares	1 square kilometer
2.47 acres = 1 hectare	10,000 square meters
1 acre = 4,840 sq. yards = 43,560 sq. ft.	4,047 sq. meters = 0.405 hectare
1.2 sq. yards = 10.76 sq. ft. = 1,550 sq. in.	1 square meter
1 square yard = 9 square feet	0.84 square meter
1 square foot = 144 square inches	0.093 sq. meter = 930 sq. centimeters
1 square inch = 0.007 square foot	6.45 square centimeters

VOLUME

1 cubic foot = 1728 cu in	0.037 cubic yards = 28.32 liters
1 cubic inch	0.000579 cubic foot = 16.39 cubic centimeters = 16390 cubic millimeters
1.307 cubic yards	35.29 cubic feet = 1 cubic meter = 1,000 liters
1 cord of wood	128 cubic feet

LIQUID CAPACITY

1 U.S. gallon = 231 cubic inches = 4 quarts	3.79 liters
0.26 U.S. gallon = 1.06 quart	1 liter = 1,000 milliliters
1 U.S. quart = 32 U.S. fluid ounces = 2 pints	0.9453 liter
1 pint = 16 fluid ounces = 2 cups	473.2 milliliters

LIQUID CAPACITY

1 tablespoon = 3 teaspoons = 0.5 U.S. fluid oz.	14.8 milliliters
1 cup = 16 tablespoons = 8 fluid ounces	236.6 milliliters
1 fluid ounce = 2 tablespoons	29.57 milliliters

WEIGHT

0.035 ounce	1 gram = 1,000 milligrams
1 ounce = 1/16 pound = 0.0625 lb	28.35 grams
1 grain = 1/7,000 pound	64.79 milligrams
1 pound = 16 ounces	453.6 grams
2.2 pounds = 35.37 ounces	1 kilogram = 1,000 grams
2,204 pounds	1 metric ton = 1,000 kilograms
1 U.S. ton (short) = 2,000 pounds	907 kilograms
1 U.S. ton (long) = 2,240 pounds	1,016 kilograms

APPENDIX D: Medical Entomology Points of Contact Overseas

COUNTRY	UNIT/ADDRESS	PHONE #	SERVICE
EGYPT (Cairo)	Commanding Officer NAMRU-3 PSC 452, Box 5000 FPO New York 09835-0007	011-202-283-6765/2096	USN
GERMANY (Landstuhl)	Commander Center for Health Promotion and Preventive Medicine (CHPPM-EUR) CMR 402 APO AE 09180	011-49-6371-86-8540/8544 06371-86-8540/8544 DSN 486-8544	USA
GERMANY (Heidelberg)	Commander 30 th Medical Brigade ATTN: AETV-MB-PM Unit 29218 APO AE 09102	011-49-6221-30-2526 06221-30-2526 DSN 371-2526	USA
GERMANY (Ramstein)	HQ USAFE/DEMO APO New York 09012-5001	011-49-6371-47-6482 DSN 480-6482	USAF
HAWAII (Honolulu)	Tripler Army Medical Center Preventive Medicine Activity Honolulu, HI 96859-5000	(808)433-6693/6731 DSN 433-6694/6731	USA
HAWAII (Pearl Harbor)	Officer-in-Charge NEPMU-6 Box 112 Pearl Harbor, HI 96860	(808) 471-9505 DSN 430-0111 Ext. 471-9505	USN
INDONESIA (Jakarta)	Commanding Officer NAMRU-2 APO 96520	011-62-21-421-4450	USN
ITALY (Sigonella)	Officer-in-Charge NEPMU-7 PSC 824, Box 2760 FPO AE 09623	011-39-95-56-4101 DSN 624-4101	USN
JAPAN (Okinawa)	DET 3 HSC/OEA Unit 5213 APO AP 96368-5213	011-81-611-734-2639 DSN (315) 634-2639	USAF
JAPAN (Camp Zama)	Commander USACHPPM-PAC APO AP 96343-5006	011-81-3117-63-8446 DSN (315) 263-8446	USA
JAPAN (Okinawa)	3 rd Medical Battalion/3d FSSG PSC 482 – Box 187 FPO AP 96362-0187	011-81-611-723-7809 DSN 634-7812	USN

COUNTRY	UNIT/ADDRESS	PHONE #	SERVICE
KENYA (Nairobi)	Commander USAMRU-K Box 401 APO AE 09831-4109	011-254-2-630600	USA
KOREA (Seoul)	Commander 5 th MED DET PM (ENTO) Unit 15247 APO AP 96205-0020	011-822-7915-4927 DSN 725-4927	USA
PERU (Lima)	Officer-in-Charge NAMRID Lima, Peru APO AA 43031-0008	011-51-14-52-96-62	USN
THAILAND (Bangkok)	Commander U.S. Army Medical Component AFRIMS APO AP 96546	011-66-2-644-5777	USA

Commercial telephone numbers provided assume calls originate from CONUS. If this is not the case, replace the "011" with the appropriate prefix for an international call from your location.

APPENDIX E: DoD Repellent System

The best strategy for defense against disease-bearing arthropods includes the application of extended-duration DEET lotion to exposed skin, coupled with the application of permethrin to the field uniform. Studies have shown these newly developed repellents provide military personnel with unprecedented levels of protection. *When used with a properly worn uniform, this system will provide nearly complete protection from arthropod-borne diseases.*

Three formulations of permethrin are available in the stock system. Permethrin Aerosol, NSN 6840-01-278-1336, is effective for only about 6 weeks or 6 washings. However, the remaining two products and the newly available factory treated permethrin BDUs provide protection for the life of the uniform. The two other individual level permethrin products available are: Insect Repellent, Application, permethrin, IDA Kit, NSN 6840-01-345-0237 which uses a re-sealable baggie system to treat the BDU components; and the Insect Repellent, Clothing Application, 40% permethrin, 2 gallon sprayer method, NSN 6840-01-334-2666, intended for use by trained personnel to treat about 8 uniform sets per bottle. *All these permethrin products are applied to the uniform according to label directions, NOT directly to the skin.*

Many units prefer to use the aerosol method as it appears to be the easiest to use. However, it is the most expensive method for impregnating uniforms with permethrin. Because it only lasts about 6 weeks or 6 washings, it must be reapplied several times in a given season even in temperate climates. This drives up the per uniform cost of application significantly as compared to the other methods (IDA, 2-gallon sprayer, factory treated BDUs) all of which result in protection for the life of the uniform.

An extended formulation lotion of diethyl-m-toluamide (DEET) (NSN 6840-01-284-3982) has been developed to replace the 2 oz. bottles of 75% DEET in alcohol. The 75% DEET is still available but is ONLY intended for treatment of Repellent Parkas and headnets. The new formulation contains 33% active ingredient, provides 8-12 hours of protection, is less irritating to the skin, has less odor, and is generally more acceptable than the older product. Combined use of extended duration DEET on exposed skin and permethrin on uniform items has been demonstrated in laboratory and field studies to provide nearly complete protection against a variety of blood-sucking arthropods. In addition, permethrin may be applied to bed nets, tentage and other field items as appropriate.

Additional information on repellents and their application as well as a listing of the NSNs for factory treated permethrin BDUs is available in the AFPMB TIM 36, "Personal Protection Techniques against Insects and other Arthropods of Military Significance".

APPENDIX F: USAF Aerial Spray Contingency Capability

Large area aerial spray (LAAS) capability has a long history of successfully supporting military missions that date back to World War II. Current Air Force C-130 based assets provide unequalled capability to control 90-99% of disease vectors while covering 2 square miles per minute. Reference (a) lists 83 diseases of military importance with 2/3 of them (53) being vectored or carried by insects and other arthropods. High risk to vector-borne diseases, especially malaria and dengue fever, makes them potential war stoppers in large areas of the world (references b & c). Medical planners estimating worst case scenarios for military operations in semi-tropical and tropical regions should plan for the deployment of Air Force LAAS to provide maximum support for prevention of vector-borne disease in accordance with reference (d) and Operational Requirements.

Numerous situations can develop in an operational contingency which would make LAAS the method of choice for vector control operations:

- Environmental conditions (i.e. flooding or limited road access) could make ground control methods unfeasible or too slow to effect disease control over a wide area.

- Disease epidemics or potential outbreaks require swift control of vectors to break the disease cycle and stop the epidemic.
- Post-conflict ground vector control operations may remain too hazardous in many areas until mines and booby traps can be cleared.
- Natural disasters such as hurricanes and earthquakes, create humanitarian relief situations where LAAS could prevent the spread of vector-borne disease or stop an ongoing epidemic.

Concept of Operation

- Two early morning or late afternoon sorties each day using two aircraft at 100-300 feet AGL can effectively control 90-99% of disease vectors and pest insects.
- Normal swath widths of 1,000 - 3,000 feet over secure areas can treat 2 square miles per minute.
- Over non-secure areas, stand-off swath widths of up to 2.5 miles result in coverage of 20 square miles per minute by controlled drift.
- Four Modular Aerial Spray Systems (MASS) are available.
- Four C-130 aircraft are outfitted to accept the MASS.

Potential areas for use of C-130 aerial spray are:

- Troop and equipment staging areas for return to CONUS, including a buffer area to reduce disease vector re-infestations.
- In-theater troop concentration sites with potential vector-borne disease problems within the combat zone and communication zone of the theater. Refugee/EPW holding areas.
- Airfields.

Requests for LAAS should include:

- Location of spray area with map coordinates, or boundaries marked on a map, or GPS UTM coordinates.
- Spray timing requested (date and time).
- Acreage to be sprayed including a buffer zone.
- Point of contact, with phone number if possible.
- Target disease vectors or pests to be controlled.
- Hazards (Low-level flight or enemy)

Statements of Need for this support flow through the Major Component Command Surgeon's office to the Office of the Surgeon for the CINC. Direct liaison with aerial spray personnel may be authorized at the discretion of the respective surgeons.

Information must be provided to all unit commanders and ground forces regarding the purpose and timing of the spray missions.

CONUS POC's are:

- Air Force Reserve 910th Tactical Air Squadron, Aerial Spray Branch - at DSN 346-1412/1965/1111, Commercial (330) 609-1412/1965/1111
- Armed Forces Pest Management Board, Contingency Liaison Officer, DSN 295-7476, Commercial (301) 295-7476, Fax 7473.

References:

- Handbook of Diseases of Military Importance, Defense Intelligence Agency, Pub. DST-1 81 0H-001-8.
- World Malaria Situation, World Health Organization, Weekly Epidem. Record, 22 Jun 90.
- Halstead, S.B., Global Epidemiology of Dengue Hemorrhagic Fever, S.E. Asian J. Trop. Med. Pub. Health, Dec 1990.
- DoD Instruction 4150.7, "DoD Pest Management Program," April 22, 1996
- AFI 32-1074 "Aerial Application of Pesticides", May 1, 1998.
- AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19G/DLAI 4145.3, "Preparing Hazardous Materials for Military Air Shipment," 1 March 1997.

APPENDIX G: Approval For Local Purchase of Pesticides During Military Deployment Operations

Except where an emergency exists as determined by the Task Force Commander, only pesticides listed on the DoD Contingency Pesticide List shall be used during contingency operations. During emergency conditions, non EPA-registered pesticides may be procured locally, but only after approval as outlined below.

To locally purchase a pesticide that is NOT on the DoD Contingency Pesticide List:

- 1. If the pesticide is EPA-registered** - Approval by a Professional Pest Management Personnel (PPMP) and approval by the Task Force Surgeon is required.
- 2. If the pesticide is not EPA-registered:**

A. If the active ingredient and formulation ARE on the DoD Contingency Pesticide List:

Approval in writing from a PPMP and Task Force Surgeon is required. Following approval, the PPMP shall provide English language translations of labels and appropriate product information to users and supporting medical treatment personnel.

B. If the active ingredient and formulation is NOT listed on the DoD Contingency Pesticide List:

(1) The PPMP and Task Force Surgeon shall request approval from the Armed Forces Pest Management Board prior to procurement.

(2) If approved, the PPMP shall provide English language translations of labels and appropriate product information to users and supporting medical treatment personnel.

NOTE: Definition PPMP, DODI 4150.7 - Professional Pest Management Person - DoD military officers commissioned in the Medical Service or Biomedical Sciences Corps or DoD civilian personnel with college degrees in biological or agricultural sciences who are in a current assignment that includes pest management responsibilities exercised regularly. DoD civilian employees shall also meet Office of Personnel Management (OPM) qualification standards. Based on assignment, some professional pest management personnel are pest management consultants.

APPENDIX H: Country Specific Pest Management Information

The Defense Pest Management Information Analysis Center (DPMIAC) publishes Disease Vector Ecology Profiles (DVEPs) which are concise summaries of vector-borne diseases that occur in specific countries or regions that emphasize essential epidemiology, vector bionomics, behavior, and pesticide resistance. DPMIAC has DVEPs for about 67 countries. Single country DVEPs will be replaced by regional DVEPs. The first regional DVEPs include: The Middle East; North Africa; Central Europe.

DVEPs are reviews of relevant entomological and arthropod-borne disease information for, among others, medical planners and military entomologists. Compiled from unclassified scientific literature, they are intended to provide a historical profile of arthropod-borne disease epidemiology in the recent past for selected geographical areas, and should be supplemented with recent information on foreign public health status and medical developments. Component medical department activities may have updated regional information for their areas of responsibility.

Current disease risk assessments, additional information on parasitic and communicable diseases, and other medical intelligence can be obtained from the Armed Forces Medical Intelligence Center (AFMIC), Fort Detrick, Frederick, MD 21701(301-619-7511, or DSN 343-7511). AFMIC produces the Medical, Environmental, Disease, Intelligence, and Countermeasures (MEDIC), which includes basic information contained in DISRAPs, VECTRAPS, and DVEPS, in a CD-ROM format. MEDIC is updated annually.

Additional information can be obtained from the Navy Preventive Medicine Information System (NAPMIS) which maintains up-to-date Disease Risk Assessment Profiles (DISRAPs) and Disease Vector Risk Assessment Profiles (VECTRAPS) on most countries of the world. DISRAPs and VECTRAPS can be obtained by contacting the Navy Environmental Health Center (NEHC) (804-444-7575 extension 456, DSN 864-5500 extension 456).

DVEPs are designed to complement documents obtained from AFMIC and NEHC. In addition to DVEPs, DPMIAC can provide bibliographic literature searches of its extensive, worldwide databases on pest management, medical entomology, and pesticide toxicology. DPMIAC also conducts supplementary on-line computer searches of other biomedical databases for the most recently published information. Request services in writing to DPMIAC, Armed Forces Pest Management Board, 6900 Georgia Ave., NW, Washington, D.C. 20307-5001, by phone (24 hours/day) (301-295-7479, DSN 295-7479) or fax (7483).

Information may be obtained through the internet by accessing the AFPMB home page:
<http://www.afpmb.org>