

REDUCING PESTICIDE EXPOSURE

Care must always be taken to prevent accidental exposure to pesticides even though all registered products are considered safe to use if handled properly.

Properly labeled residual insecticide shall be applied, according to all label directions for each infested site. Pay special attention to cracks and crevices. When planning and conducting any treatment, consider the opposite side of any involved wall, floor or ceiling. On-board ship CB D-Force® HPX ®Residual Insecticide (NSN: 6840-01-561-9745), PT 565 (NSN: 6840-00-823-7849) and Gentrol (NSN: 6840-01-318-7416) can be used. **Insecticides with repellent properties should not be used in conjunction with baits as they can cause populations to spread to other areas. Document applied pesticide on DD Form 1532-1 and e-mail to proper channels.**

If the ship is treated with pesticides by a DoD certified pesticide applicator, it is required that you:

- Vacate immediate area during treatment.
- Follow all pesticide label instructions for use and re-entry time.
- Arrange to be out for 4 to 8 hours after the application (24 hours if you have respiratory ailments, allergies or are sensitive to chemicals).
- Air out the site, if feasible, when you return.
- Avoid washing decks and treated surfaces.

SELF-CARE AND TREATMENT

- Cockroaches habits and body structure enable them to potentially come in contact with and transmit pathogens such as bacteria, fungi, and molds.
- Cockroaches are also known to cause asthma from an allergy to said pests.
- Seek medical attention if exhibiting signs and symptoms of dysentery or diarrhea.

ADDITIONAL INFORMATION

Navy and Marine Corps Public Health Center

620 John Paul Jones Circle, Suite 1100
Portsmouth, VA 23708
(757) 953-0700/DSN 377-0700
www.med.navy.mil/sites/nmcphc/Pages/Home.aspx

Navy Environmental Preventive Medicine Unit 2

1285 West D Street, Norfolk, VA 23511
(757) 953-6600/DSN 377-6600
<https://www.med.navy.mil/sites/nepmu2/NEPMU2-Redesign-2018/SitePages/pest.aspx>

Navy Environmental Preventive Medicine Unit 5

3235 Albacore Alley, San Diego, CA 92136
(619) 556-7070/DSN 526-7070
<https://www.med.navy.mil/sites/nepmu5/Pages/EntoDiv.aspx>

Navy Environmental Preventive Medicine Unit 6

385 South Avenue, Building 618, JBPHH, HI 96860
(808) 471-0237/DSN 471-0237
<https://www.med.navy.mil/sites/nmcphc/nepmu-6/Pages/operational-support.aspx#entomology>

Navy Environmental Preventive Medicine Unit 7

PSC 819 Box 67, FPO AE 09645-0025
011-34-956-82-2230/DSN (314) 727-2230
www.med.navy.mil/sites/nmcphc/nepmu-7/Pages/Administration.aspx

Navy Entomology Center of Excellence

Bldg. 953, NAS Jacksonville, 32212
(904) 542-2424/ DSN 942-2424
www.med.navy.mil/sites/nmcphc/nece/administration/Pages/default.aspx#contactus

Armed Forces Pest Management Board

www.acq.osd.mil/eie/afpmb/

Centers for Disease Control and Prevention

<https://www.cdc.gov/ncetd/publications/books/housing/cha04.htm>

Note: If assistance is needed for the control of any pests, contact your nearest Navy Environmental and Preventive Medicine Unit or the Navy Entomology Center of Excellence.



SHIPBOARD GUIDE TO COCKROACH CONTROL



Fig.1. German Cockroach

Navy Environmental and Preventive Medicine Unit TWO

1285 West D Street
Norfolk, VA 23511
Comm: (757) 953-6600
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PURPOSE

Information on the control of cockroaches on ships using integrated pest management. Cockroach infestations happen often in the U.S. and occur on U.S. Navy ships. When controlling cockroaches it is important to know that surveillance and quick action is essential. The following topics are included in this pamphlet:

- 1) Identification of cockroaches;
- 2) Cockroach behavior;
- 3) Surveillance and signs of infestation;
- 4) Management of cockroaches aboard ships and pesticide safety and applicable regulations;
- 5) Reducing pesticide exposure;
- 6) Self care and treatment; and
- 7) Whom to contact for further information.

IDENTIFICATION

The cockroach most commonly found on ships is the German cockroach. They are small, light brownish or dark brown, flattened insects. (Fig.2)

- Cockroaches are typically oval shaped with two antennae and six legs.
- Adult cockroaches are typically one and half inch to two inches long and have identifiable lieutenant bars on the middle segment.
- Females produce a visible egg capsule called an ootheca located at the tip of the abdomen.
- Young cockroaches are called nymphs and look very similar to the adults but are smaller and may not have the lieutenant bars.



Fig.2. Top left to right: Adult male, Adult female, Nymph. Bottom left to right: Ootheca, and nymphs.

COCKROACH BEHAVIOR

Cockroaches infest warm areas where food, water, and hiding places are available.

- Cockroaches are social insects that usually live in groups.
- They prefer dark secluded areas during the day and can be found behind furniture/appliances.
- Most infestations start in galleys where food and water is accessible.
- They are capable of flattening themselves in order to fit into crevices between floorboards and walls.
- Cockroaches are most active at night, during which time they forage for food and mate.

SURVEILLANCE

- Visual inspection for cockroach harborages is the most effective means of surveillance. In conjunction with the use of sticky traps in secluded areas.
- Cockroaches seek harborage in warm, wet, and dark spaces. (Fig.3) and (Fig.4)
- In heavy infestations they may be seen in lighted conditions. Normally cockroaches forage in darkness.
- The presence of immature and adult cockroaches in the same harborages often indicates a well-established infestation.
- When an infestation is found it is also important to check adjacent rooms, racks, lockers, drawers for cockroaches.



Fig.3. Cardboard box under galley beverage line soiled in water.

MANAGEMENT OF COCKROACHES

Cockroaches can be difficult to control. The factors that majorly impact the controlling methods are sanitation and the severity of the infestation. The best practice is to use the least toxic management, but depending on the infestation, a pesticide application might be warranted.

Non-chemical control/inspection includes:

- Do not bring them aboard the ship. Inspect everything that comes aboard the ship thoroughly, especially the FFVs.
- Keep food away from them. Do not let crumbs sit on surfaces. Do not create a bigger mess than needed. Clean up often. Keep all trash cans closed with lids when not in active use.
- Limit water sources. They need water to live. Do not provide standing water, fix any dripping faucets, prevent condensation from equipment.
- Make it hard for them to hide. Move equipment around if possible. Seal up cracks and crevices.
- Clean all surfaces with soap and water daily or as needed due to the level of soil.

Chemical Control:

- Pesticide applications must be conducted by a **DoD certified pesticide applicator** (IDC/PMT/Entomologist).
- Be prepared for more than one treatment.
- Re-inspection after treatment is **absolutely essential** and should take place 48h post treatment and every 48h thereafter until absence of cockroaches is confirmed. Re-inspection should be conducted every 30 days.



Fig.4. Cardboard box found in dry storage that is soiled in spilled cooking oil.