



Standard DoD permethrin repellent products (aerosol spray, NSN 6840-01-278-1336 or IDA kit, NSN 6840-01-345-0237) remain authorized for individual use on non- permethrin treated uniforms.

## Permethrin Factory-Treated Army Combat Uniforms (ACU Permethrin)

FACT SHEET 18-076-0317

### Just the Facts...

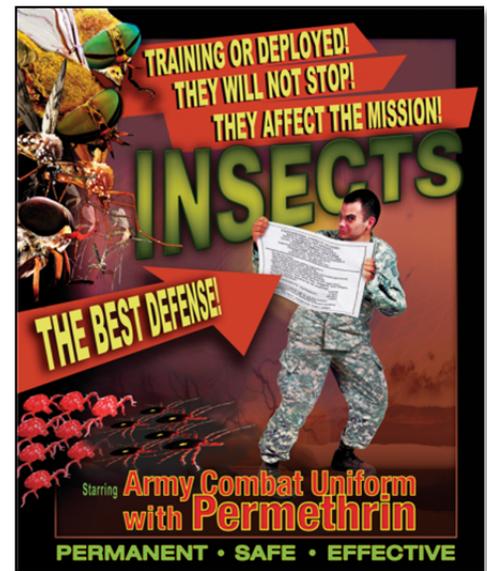
The key to preventing diseases transmitted by insects (such as malaria and West Nile virus spread by mosquitoes and Lyme disease spread by ticks) is the simultaneous use of all elements of the DoD Insect Repellent System. Wearing permethrin-treated uniforms is a key component of this system. Since FY 2013, the Army has issued new permethrin factory-treated Army Combat Uniforms (ACU Permethrin) to initial entry Soldiers, and made these uniforms available for purchase at Army Military Clothing Sales Stores. This uniform is also available to Army National Guard, Army Reserve, and the Senior/Junior Reserve Officers Training Corps. A single factory treatment with permethrin significantly increases protection against bites from mosquitoes, flies, midges, ticks, and chiggers for the lifetime of the uniform.

### Why is it so important that all Soldiers wear permethrin-treated ACUs?

The Army's policy is to provide the best protection for our Soldiers' health and well-being. With the introduction of the ACU Permethrin, the Army is providing a product that will enhance Force Health Protection and Readiness. The ACU Permethrin protects Soldiers from insect and tick-borne diseases while in garrison, training, and non-combat deployed environments worldwide. Soldiers wearing an ACU Permethrin should continue to properly protect themselves against insect bites and diseases by wearing the uniform with sleeves rolled down, closing all openings in clothing that might let in insects, tucking pants into boots and undershirt into pants, and wearing loose-fitting uniforms.

### Is the ACU Permethrin safe to wear every day as my duty uniform?

The ACU Permethrin is factory-treated with permethrin, a repellent that belongs to the synthetic pyrethroid family of insecticides. For over 20 years, permethrin uniform treatment has effectively prevented biting insects from becoming an annoyance or making Soldiers sick. The effects of permethrin on human health have been extensively studied. There are no known adverse health risks associated with wearing the ACU Permethrin. As recently as 2009, the United States Environmental Protection Agency (EPA) completed a human health risk assessment review for permethrin-treated clothing. EPA studies showed that the small amount of permethrin on treated uniforms is significantly below the level that could cause adverse health effects to personnel wearing or coming in contact with the ACU Permethrin uniform.



### Why is factory-treating ACUs with permethrin an improvement?

The ACU Permethrin eliminates the need for Soldiers to treat their own uniforms. The factory treatment uses special binders to ensure that enough permethrin is retained in the uniform's fabric to protect against mosquito, tick, fly, chigger, and midge bites for the lifetime of the uniform. Factory treatment guarantees that a safe and effective amount of permethrin is precisely applied to each ACU Permethrin. The guesswork about who is protected by a permethrin treated uniform is removed. Factory treatment eliminates the potential risk of increased exposure to Soldiers applying concentrated liquid permethrin products to their uniforms. Factory treatment also eliminates environmental concerns associated with the use and disposal of field-applied permethrin products.

**PERIMETER INSECT GUARD  
INSECT REPELLENT APPAREL**  
Refer to hangtag for more information  
Coat, Army Combat Uniform  
Contract Number: SPM1C1-13-D-F505  
Contractor Name: Pine Belt Processing  
Perimeter Insect Guard - INSECT REPELLENT APPAREL  
EPA REG. NO.: 82392-1  
EPA EST. NO.: 82392-MS-001

Labels sewn on the inside of both the ACU Permethrin coat and trousers identify which garments have been factory-treated with permethrin. These labels include EPA laundering instructions.

### How do I know if my ACUs have been factory-treated with permethrin?

The ACU Permethrin can be identified by checking the hangtags and reading the labels sewn into the coat and trousers by the factory. Both will indicate that the uniform has been factory-treated with permethrin. The ACU Permethrin and un-treated ACU are identical on the outside. The permethrin treatment is invisible, odorless, colorless, and does not change the feel of the uniform.

## Are there any special instructions for taking care of my ACU Permethrin?

Research has shown that the ACU Permethrin provides 99-100% bite protection up to 50 launderings (the expected lifetime of the uniform). Beyond this point, the uniform still provides bite protection, but not as much. The ACU Permethrin should be washed with a mild cold water detergent and dried on low heat. Do not use bleach, bleach alternatives, fabric softener, or starch. Do not dry clean or commercially hot press the uniform. Even a single dry cleaning will remove permethrin, and significantly reduce the bite protection. Dry cleaning will also fade the colors on the ACU Permethrin and weaken the fibers, causing it to wear out sooner. Do not apply additional permethrin to the ACU Permethrin; the original factory treatment effectively prevents mosquitoes from biting through the fabric for the lifetime of the uniform.

## Will the permethrin transfer to other clothes in the washing machine?

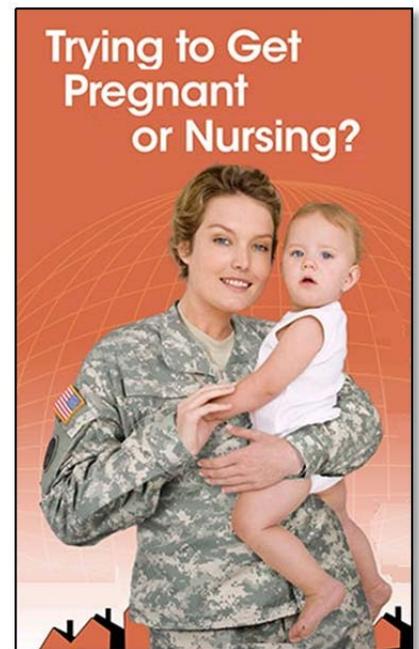
The EPA label states permethrin-treated civilian and military garments, whether individually or factory-treated, should be laundered separately from other garments. However, recent studies have shown that only very tiny amounts of permethrin residue will transfer to other garments in the wash. The factory treatment process tightly bonds permethrin to the fibers of the uniform, which helps maintain the insect-repelling properties of the ACU Permethrin. Soldiers should follow instructions on the EPA label and hangtag for care and use of the uniform.

## Should I be concerned about wearing my ACU Permethrin around my family and pets?

As the only repellent that is EPA-registered to treat clothing, permethrin has earned an excellent safety record with Soldiers since the early 1990s. One risk assessment investigated toddlers and children wearing clothing treated with permethrin at levels identical to that in the ACU Permethrin. The EPA concluded that all of the potential adverse health risks, including cancer and non-cancer risks, were below the Agency's level of concern (extremely low). Since 2003, well-known companies that market outdoor gear and clothing have offered permethrin-treated clothing for toddlers, children, and adults. The process that binds the repellent to the fabric only releases enough permethrin to repel/kill insects, but does not release enough to cause danger to pets.

## What if I am pregnant or nursing? Will wearing my ACU Permethrin harm my baby?

While there are no indications of adverse health effects to mother or child from permethrin-treated clothing, female Soldiers that are pregnant, nursing, or trying to get pregnant are authorized to wear a untreated ACU or maternity uniform. Soldiers must see their health care provider to obtain a medical profile exempting the wear of a regular factory or individually permethrin-treated uniform. The medical profile allows the Soldier to special-order a non-treated uniform through the Army Military Clothing Sales Store prior to, or after, the wear of a non-treated maternity uniform. The untreated maternity ACU remains an Organizational Clothing & Individual Equipment item that can only be obtained through the Central Issuing Facility.



## Should Soldiers with hypersensitive skin be concerned with side effects from wearing an ACU Permethrin?

The weight of evidence in the medical literature indicates that wearing an ACU Permethrin is unlikely to cause skin sensitization, skin irritation, or other skin effects in humans. Factory treatment with permethrin is superior to field treatment because the factory process strongly bonds the permethrin onto the fibers of the uniform. This bonding process is advantageous because it uses smaller quantities of permethrin to treat each uniform. It also helps prevent loss from the fibers during laundering, which results in significantly less permethrin coming into contact with a service member's skin. To prevent skin irritation, service members should wash new uniforms prior to wearing to remove any residual finishes used to preserve the uniform during shipment and storage. Should skin irritation occur after washing the uniform, consult with a health care provider to address any concerns associated with wearing the ACU Permethrin.

## Whom can I contact if I have any questions or concerns about the ACU Permethrin?

For additional information, contact the DoD Pesticide Hotline (e-mail: [usarmy.apg.medcom-phc.mbx.pesticide-hotline@mail.mil](mailto:usarmy.apg.medcom-phc.mbx.pesticide-hotline@mail.mil), phone: 410-436-3773 / DSN 584-3773), the Armed Forces Pest Management Board (<http://www.acq.osd.mil/eie/afpmb/>, phone: 301-295-7476), . Army Public Health Center, or your local preventive medicine personnel.