

TICK BITE PREVENTION PLAN

Division of Environmental Assessment and Restoration

**Florida Department of Environmental
Protection**

April 2017

2600 Blair Stone Road, MS 3525
Tallahassee, Florida 32399-3000
www.dep.state.fl.us



TICK BITE PREVENTION PLAN

This document shall serve as the Tick Bite Prevention Plan for the Division of Environmental Assessment and Restoration.

This plan includes:

- Procedures for tick bite prevention
- Applications
- First Aid
- MSDS

PURPOSE

The purpose of the plan is to eliminate or minimize hazards to employees in the field from tick borne diseases

MATERIALS

1 Qt. "Martin's Permethrin 13.3%". Be sure to document purchase and opened dates on bottle.
(2) 12 Oz "Sawyer Premium Insect Repellent". Be sure to document purchase and opened dates on bottle.
2 gallon pump sprayer
Light colored canvas tarp

PROCEDURES

1 Month Prior to Sampling

Review information on ticks from Univ. of Rhode Island <http://www.tickencounter.org/>
Trim back brush and overhanging vegetation.

1 Week Prior to Sampling

Mow grass to a height less than 3 inches no earlier than one week prior to sampling.
This lowers the moisture in the vegetation. It also limits the height of vegetation that ticks may climb and "quest."

1 Day Prior to Sampling

Review Sawyer FAQs <http://www.sawyer.com/permFAQ.html>
Review University of Rhode Island video on permethrin efficacy http://www.youtube.com/watch?v=n_XvX9HyRhW
Review Sawyer repellent video <http://www.sawyer.com/video-perm.html>
Hang sampling clothes outdoors. Apply repellent to cotton socks, pants, and long sleeve shirt. Allow time to hang and dry.
Treat canvas tarp and tent surface with repellent.

Day of Sampling

Wear repellent treated clothing.

Mix 5.5 oz. of "Martin's Permethrin 13.3%" with 1 gallon of water in a pump sprayer

2 Hours Prior to Sampling

Apply $\frac{1}{4}$ gallon of permethrin mixture to 20 ft perimeter around well. Apply $\frac{1}{4}$ gallon of mixture to brush in vicinity.

(labeled rate: 1 gallon of mixture per 790 square feet of land surface)

Avoid applying if rain is expected within three hours after application

(product label states that insects are controlled up to 4 weeks, however animals passing through the area could transport new populations of ticks)

Immediately Prior to Sampling

Lay 20ft X 20 ft. tarp on ground between well and vehicle. This will create a physical barrier for any untreated ticks that may be hiding under leaf debris.

Setup Canopy Tent over work area if vegetation overhangs well. This will create a physical barrier for any ticks that may fall off of overhanging tree limbs.

Immediately after Sampling

Examine tarp and tent during retrieval. If ticks are present, spray with mixture.

4 Hours after Sampling

Triple rinse pump sprayer with dish washing soap and water. Store unused chemical in cool dark area.

5 Hours after Sampling

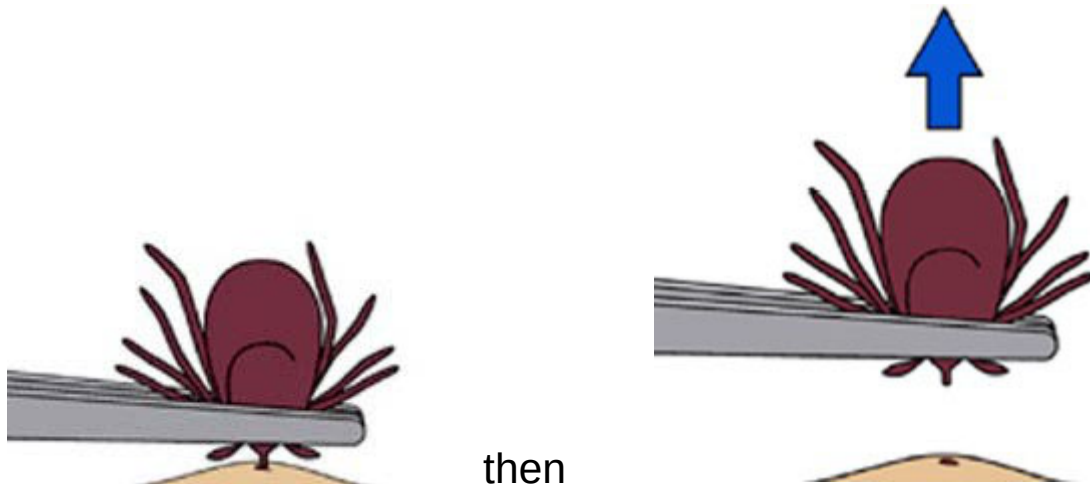
Examine body for ticks. Wash permethrin treated clothes in washing machine. Do not mix load with other clothes. Dispose of any unused chemical 1 year after purchase date to insure next year's product being used is still effective.

Tick Removal

If you find a tick attached to your skin, there's no need to panic. There are several tick removal devices on the market, including "Ticked Off" and "Tick Twister". However, a plain set of fine-tipped tweezers will remove a tick quite effectively.

How to remove a tick

1. Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.
2. Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth easily with clean tweezers, leave it alone and let the skin heal.



3. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and hot water.
4. Dispose of a live tick by submersing it in alcohol, placing it in a sealed bag/container, wrapping it tightly in tape, or flushing it down the toilet (with no plastic). Never crush a tick with your fingers.

Avoid folklore remedies such as "painting" the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin. Your goal is to remove the tick as quickly as possible.

Follow-up

If you develop a rash or fever within several weeks of removing a tick, see your doctor. Be sure to tell the doctor about your recent tick bite, when the bite occurred, and where you most likely acquired the tick. Notify your supervisor whom will notify the Division Safety Manager.

Symptoms of Tick-borne Illness

Many tick-borne diseases can have similar signs and symptoms. If you have been bitten by a tick and develop the symptoms below within a few weeks, a health care provider should evaluate the following before deciding on a course of treatment:

- Your symptoms
- The geographic region in which you were bitten
- Diagnostic tests, if indicated by the symptoms and the region where you were bitten

The most common symptoms of tick-related illnesses are:

- **Fever/chills:** With all tick-borne diseases, patients can experience fever at varying degrees and time of onset.
- **Aches and pains:** Tick-borne disease symptoms include headache, fatigue, and muscle aches. With Lyme disease you may also experience joint pain. The severity and time of onset of these symptoms can depend on the disease and the patient's personal tolerance level.

- **Rash:** Lyme disease, southern tick-associated rash illness (STARI), Rocky Mountain spotted fever (RMSF), ehrlichiosis, and tularemia can result in distinctive rashes:
 - o In Lyme disease, the rash may appear within 3-30 days, typically before the onset of fever. The Lyme disease rash is the first sign of infection and is usually a circular rash called erythema migrans or EM. This rash occurs in approximately 70-80% of infected persons and begins at the site of a tick bite. It may be warm, but is not usually painful. Some patients develop additional EM lesions in other areas of the body several days later.
 - o The rash of (STARI) is nearly identical to that of Lyme disease, with a red, expanding "bulls eye" lesion that develops around the site of a lone star tick bite. Unlike Lyme disease, STARI has not been linked to any arthritic or neurologic symptoms.
 - o The rash seen with Rocky Mountain spotted fever (RMSF) varies greatly from person to person in appearance, location, and time of onset. About 10% of people with RMSF never develop a rash. Most often, the rash begins 2-5 days after the onset of fever as small, flat, pink, non-itchy spots (macules) on the wrists, forearms, and ankles and spreads to the trunk. It sometimes involves the palms and soles. The red to purple, spotted (petechial) rash of RMSF is usually not seen until the sixth day or later after onset of symptoms and occurs in 35-60% of patients with the infection.
 - o In the most common form of tularemia, a skin ulcer appears at the site where the organism entered the body. The ulcer is accompanied by swelling of regional lymph glands, usually in the armpit or groin.
 - o In about 30% of patients (and up to 60% of children), ehrlichiosis can cause a rash. The appearance of the rash ranges from macular to maculopapular to petechial, and may appear after the onset of fever.

Tick-borne diseases can result in mild symptoms treatable at home to severe infections requiring hospitalization. Although easily treated with antibiotics, these diseases can be difficult for physicians to diagnose. However, early recognition and treatment of the infection decreases the risk of serious complications. So immediately notify your supervisor and see your doctor if you have been bitten by a tick and experience any of the symptoms described here.

WHERE TO PURCHASE PERMETHRIN

- WAL-MART
- DICK'S SPORTING GOODS
- TRACTOR SUPPLY COMPANY
 - BENMEADOWS.COM
 - FLORIDA FARM & FEED, INC.

PERMETHRIN FIRST AID

EYES: Flush with water for at least 15 minutes. If irritation persists, obtain medical attention.

SKIN: Remove contaminated clothing and wash with soap and water immediately. Obtain medical attention.

INHALATION: Remove to fresh air. If breathing is difficult or if any discomfort persists, obtain medical attention.

INGESTION: Obtain medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN: Contains the pyrethroid insecticide permethrin and has low oral toxicity, moderate dermal toxicity and moderate eye irritation. Initial treatment is removal of exposure by washing, emesis or lavage and is followed by symptomatic and supportive care.

MSDS or Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Material Safety Data Sheet U.S Department of Labor
May be used to comply with Occupational Safety and Health Administration
OSHA's Hazard Communication Standard, (Non-Mandatory Form)
29 CFR 1910.1200. Standard must be consulted Form Approved
for specific requirements. OMB No. 1218-0072

IDENTITY (As Used on Label and List)

Permethrin 13.3

Date: April 14, 2011

Section I

Control Solutions, Inc. Spills: (800) 424-9300 CHEMTREC
5903 Genoa-Red Bluff Medical: (866) 897-8050 SafetyCall® International
Pasadena, TX 77507
281-892-2500

Section II - Hazardous Ingredients/Identity

Hazardous Components (Specific Chemical Identity: Common Name(s) OSHA PEL ACGIH TLV Other Limits % (Optional)

Permethrin 52645-53-1 None 13.30%

*Contains Petroleum Distillates

Section III - Physical/Chemical Ingredients

ODOR: Faint, mild pH: 5.0-6.0 MELTING POINT: Not Available
APPEARANCE: Viscous yellow to brown liquid SOLUBILITY (H₂O): 0.07 +- 0.02 ppm
VAPOR DENSITY: >1 (Air=1) % VOLATILES: NA SPECIFIC GRAVITY: 1.190 to 1.272 at 20°C
BOILING POINT: 198-200°C at 0.3 mm HG VAPOR PRESSURE: 3.4 x 10 Torr at 25°C

Section IV - Fire and Explosion Data

FLASHPOINT: >105°F (closed cup) FLAMMABILITY LIMITS: UFL: N/A LFL: N/A
EXTINGUISHING MEDIA: Water fog, foam. DEGREE OF FIRE/EXPLOSION HAZARD: Slightly combustible. Overheated, sealed containers are an explosion hazard. Vapors which form inside empty containers may also present an explosion hazard during a fire. SPECIAL FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind residents and all areas where fire seriously threatens the product containers. Wear full protective clothing including rubber boots, neoprene gloves and self-contained breathing apparatus. Attempt to keep drums cool. Do not breathe or contact smoke or vapors. CONDITIONS TO AVOID (INCOMPATIBILITY): Heat and fire. Thermal decomposition and burning may produce toxic by-products and an explosion hazard. HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and/or carbon dioxide. Chlorine and hydrogen chloride may be formed.

Section V - Reactivity Data

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will not occur

Section VI - Health Hazard Information

PRIMARY ROUTES OF ENTRY: Acute and chronic effects from overexposure may result from inhalation and ingestion. ACUTE EFFECTS FROM OVEREXPOSURE: Data available to date on human exposure suggests that permethrin does not produce skin sensations (feelings of numbing and tingling), although other pyrethroids have been known to cause these reactions. If they occur, these sensations subside and disappear within a few hours. Large, toxic doses administered to laboratory animals have produced central nervous system effects with symptoms that include diarrhea, salivation, bloody nose, tremors and intermittent convulsions. Overexposure of animals to permethrin via inhalation has also produced hyperactivity and hypersensitivity.

CHRONIC EFFECTS FROM OVEREXPOSURE: In studies with laboratory animals, permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long terms feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system and histopathological changes in the lungs and liver. An overall lack of Geno toxicity has been demonstrated in mutagenicity testing with permethrin.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None presently known Permethrin
13.3% page 2 of 2

CARCINOGENICITY: NTP: No IARC: No OSHA: No

Section VII – Health Hazard Information (cont'd.)

and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long terms feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system and histopathological changes in the lungs and liver. An overall lack of Geno toxicity has been demonstrated in mutagenicity testing with permethrin.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None presently known

CARCINOGENICITY: NTP: No IARC: No OSHA: No

Section VIII – First Aid

EYES: Flush with water for at least 15 minutes. If irritation persists, obtain medical attention.

SKIN: Remove contaminated clothing and wash with soap and water immediately. Obtain medical attention.

INHALATION: Remove to fresh air. If breathing is difficult or if any discomfort persists, obtain medical attention.

INGESTION: Obtain medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN: Contains the pyrethroid insecticide permethrin and has low oral toxicity, moderate dermal toxicity and moderate eye irritation. Initial treatment is removal of exposure by washing, emesis or lavage and is followed by symptomatic and supportive care. **You may also call Safety Call International for emergency medical information.**

Section IX - Precautions for Safe Handling/Use

STORAGE AND HANDLING: Store in a cool, dry place and avoid excess heat. Store in original containers only. Carefully open containers. After partial use, replace bungs or cap and close tightly. Wash hands and other exposed skin surfaces thoroughly prior to smoking or consuming food or beverages. Shower after handling or applying the product. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

PROTECTIVE REQUIREMENTS: VENTILATION: Thoroughly ventilate all transport vehicles prior to unloading. Store in a cool, dry, well-ventilated place. General exhaust ventilation is considered sufficient.

WORK CLOTHING: Wear long-sleeved coveralls or uniform, cap, safety shoes and neoprene gloves.

EYE PROTECTION: Where potential of splashing exists, or contact with mist, protective safety glasses and/or, goggles and face shield should be worn. A source of clean water for flushing the eyes should be nearby.

RESPIRATORY PROT.: For fires, use self-contained breathing apparatus only. For moderate vapor liquid mist exposure, use half face or full face air purifying respirators which are NIOSH/MSHA approved for pesticides.

GLOVES: Where chemical protective gloves made of neoprene when handling this product.

Section X - Environmental and Disposal Information

SPILL OR LEAK: Isolate and post spill area. Wear prescribed protective clothing and equipment. Keep material out of streams and sewers. Contain and absorb spilled material with a solid absorbent such as sand, cat litter, commercial clay or other suitable absorbent. Place in an approved drum and dispose of material following the method outlined below under "Waste Disposal". To decontaminate spill area, tools and equipment, wash with a suitable solution (e.g. organic solvent, detergent, bleach or caustic) and dispose of solution following the method outlined below under "Waste Disposal".

WASTE DISPOSAL: Open dumping or burning of this material is prohibited. An acceptable method of disposal is to burn in an incinerator in accordance with all local, state and federal environmental laws, rules, standards and regulations. Because acceptable methods of disposal may vary by location and because regulatory requirements may change, the appropriate regulatory agencies should be contacted prior to disposal. Steel containers which contained these materials must be crushed and disposed of in a sanitary landfill. Do not cut or weld steel containers.

KEEP OUT OF REACH OF CHILDREN

ABBREVIATION KEY

N/A: NOT AVAILABLE OR APPLICABLE N/E: NOT ESTABLISHED ND: Not Determined

TLV: THRESHOLD LIMIT VALUE TWA: TIME WEIGHTED AVG./8 HOUR WORKDAY

STEL: SHORT TERM EXPOSURE LIMIT D.O.T.: DEPARTMENT OF TRANSPORTATION

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.