



Bed Bugs 101

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ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

Bed Bug Lifecycle



How bed bugs get into our homes

- Hitch hiker bug!
- Travel
- Used furniture
- **Bed Bugs don't discriminate against rich or poor, clean or dirty**



<http://www.nkyhealth.org/Prevent-Bed-Bugs-at-Home.aspx>



<http://www.vdacs.virginia.gov/pdf/bb-millermethods.pdf>



<http://www.bloomberg.com/news/articles/2014-04-03/>

Health Effects

- Not known to transmit diseases
- Itching may lead to excessive scratching that may lead to a skin infection
- **Stress**
 - Sleeplessness
 - **Destruction of self-image**
 - Throwing out belongings
- Misusing pesticides

Inspecting for bed bugs

- **SURVEY** for signs of bed bugs
- **LIFT** and look for bed bug hiding spots
- **ELEVATE** your luggage
- **EXAMINE** your luggage
- **PUT** clothes in the dryer



Tools for DIY bed bug eradication

- Flashlight
- Garbage bags/Totes
- Mattress encasements
- Sealant/Caulk
- Monitoring device(s)
- Vacuum
- Clothes dryer
- Steamer
- Desiccant dust (Diatomaceous earth or CimeXa™)
- Tool for applying desiccant dust
- N-95 masks, gloves, goggles



Flashlight



- Use flashlight to inspect dark, hard-to-reach areas
- Also useful for squishing any bugs you might find

Garbage Bags/Totes

- Clutter provides lots of places for bed bugs to hide
- Inspect and/or treat items and put them in bags/totes
- Remove everything from all shelves, closets, dressers, etc. and place in bags/totes
- Seal bags airtight so that bed bugs cannot enter.



Mattress Encasements

- Keep you from having to throw your bed away and prevent new bed bugs from infesting your mattress and box spring
- Make inspection easier
- Not all covers protect!



Sealant/Caulk

- If you own your own home, or have permission from your landlord, seal off cracks and crevices with caulk
 - Around baseboards, cracks in walls, door frames, window frames, etc.
- Eliminates hiding places and paths of travel



<http://goodknightbeds.com/bedbug-survival-guide-how-kill-bedbug-infestation/neighbours>

Climb-Up Pitfall Trap

- Traps used to detect the present of bed bugs
- Place under bed legs + make your bed an island so the only way onto bed is via the legs
- Bugs unable to climb on smooth surface
- You can make your own!



<http://www.vdacs.virginia.gov/pdf/bb-millermethods.pdf>

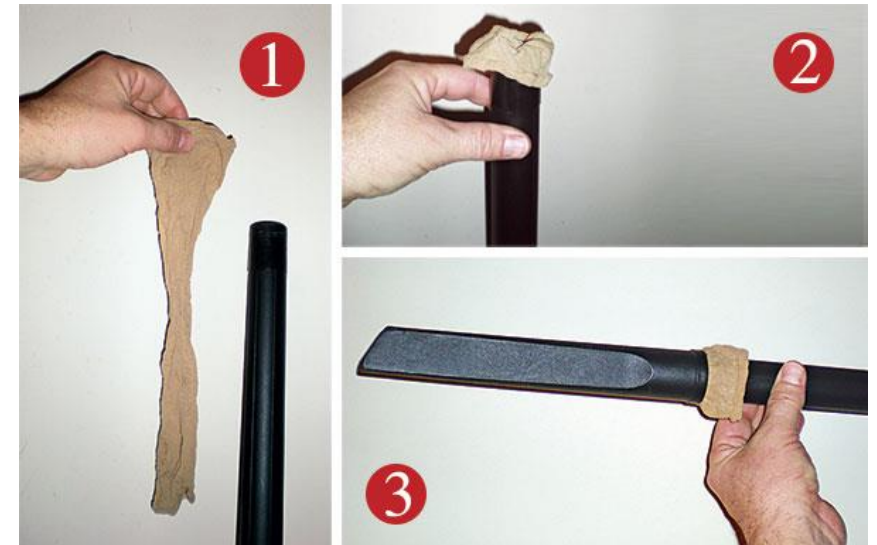


Vacuum

- Makes inspections easier
- Seal used vacuum bag and dispose of outdoors after each cleaning
- If using a vacuum without a bag, consider using an attachment covered with a panty hose to prevent bed bugs from infesting the vacuum cleaner



<http://tomlinsonbomberger.com/how-to-kill-bed-bugs/>



<http://www.mypmp.net/2016/05/19/recommend-this-method-to-bed-bug-afflicted-clients/>

Clothes Dryer

- **All bed bugs and eggs will die immediately at 122°F**
- A loosely filled dryer set on “high” is capable of killing all bed bug life-stages and their eggs in 30 minutes
- Using a removable shelf allows you to treat items that can't be tumbled, like leather shoes, handbags, even books.



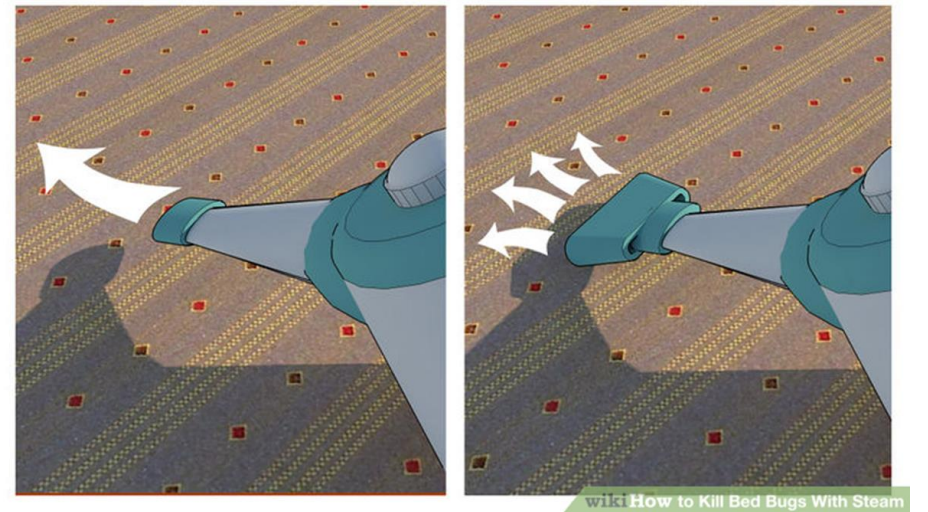
<http://laundry.reviewed.com/content/lg-dlhx4072w-heat-pump-dryer-review>

Steamer

- Internal temperature of items being steamed needs to reach 122°F
- The steam head must be large
- Steaming is slow and labor intensive
- Steam treatment is a good way to use heat on large furniture that can't be placed in a clothes dryer



<http://bedbugtreatmentsite.com/bed-bug-steamer/>



Desiccant Dust-CimeXa™

- CimeXa™ is a non-repellant low toxicity engineered silica dust
- Bed bugs walking on dusted surfaces will become covered in the dust
- Dust absorbs the water and oil on the exoskeleton of the bed bug, causing rapid dehydration and death
- Kills adults, nymphs, and eggs
- Typically kills within 24 hours of contact
- **MUST READ AND FOLLOW THE LABEL!!**



Tool for applying desiccant dust

- Can be applied to cracks and crevices, interior framework of bed frame, mattresses and box springs
- Evenly disperse dust using a small paint brush or hand duster tool
- Thin layer of dust does the job
 - Bugs don't want to climb mountains!
- Can be applied to Climb-Up monitoring devices as well
- Should not be used in areas with high air current (walkways, vents, etc.)



Safety

- N-95 masks should be used when applying desiccant dust
- Gloves can be worn to prevent drying of skin
- Goggles or safety glasses will keep any dust out of your eyes



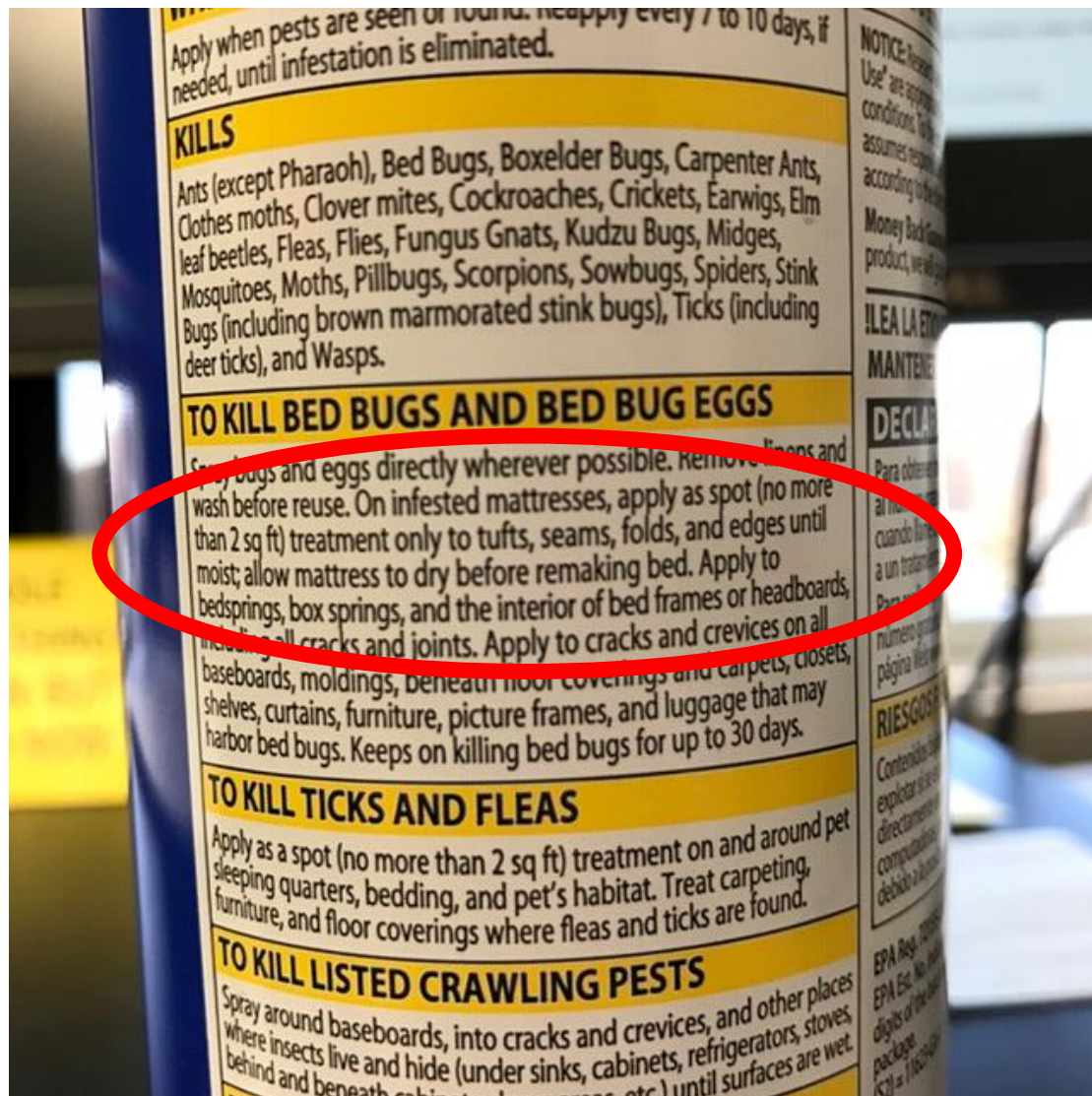
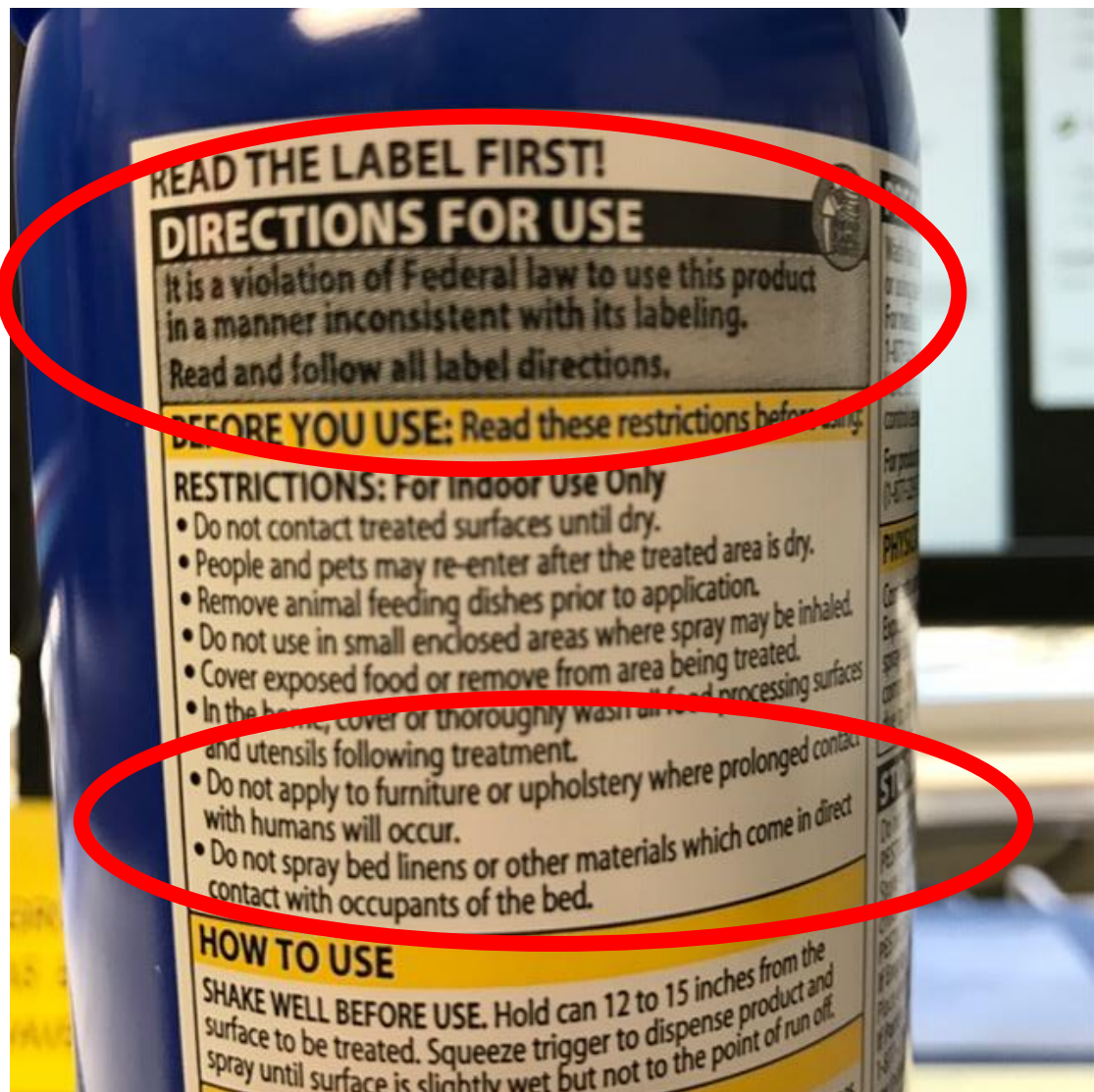
What's wrong with chemical products?



- Most products will kill some bed bugs if applied directly to the bugs
- Sprays have low residual efficacy
- “Bug bombs” move bugs out of one room only to infest another
- Bed bugs are highly resistant to a number of insecticides, and their eggs are impervious to most insecticide formulations
- Even most, if not all, pest management professionals use some non-chemical methods for bed bug management
- Bed bugs don't make you sick, but the poisons used to kill them can!

READ & FOLLOW THE LABEL!





HOT SHOT



FOGGER⁶ WITH ODOR NEUTRALIZER

Nebulizador con neutralizador de olores⁶

**KILLS ON CONTACT
CONTROLS HEAVY INFESTATIONS**

KEEPS KILLING UP TO 2 MONTHS
Kills Roaches, Fleas, Ants (except Fire Ants), Spiders
* & other listed insects

WON'T LEAVE A WET, MESSY RESIDUE

Mata insectos - Controla infestaciones serenas

GUARANTEED! TO WORK, OR
YOUR MONEY BACK*

**KILLS HIDDEN BUGS
PENETRATES INTO CRACKS,
CREVICES & CARPET FIBERS**

*Mata insectos ocultos - Penetra en grietas,
rajaduras y fibras de alfombras*

ONE CAN TREATS
UP TO 2,000 CU FT

CONTAINS
 **3**
(2 OZ) FOGGERS



For Indoor Household/Residential Use Only.
Solo para uso domestico/residencial
en espacios interiores.

Active Ingredients:

Tetramethrin	0.05%
Cypermethrin	0.75%
Other Ingredients	99.20%

KEEP OUT OF REACH OF CHILDREN

CAUTION See side panel for additional
precautionary statements.

MANTÉNGASE FUERA DEL ALCANCE DE LOS NIÑOS

PRECAUCIÓN Consulte el panel lateral para
las declaraciones y precauciones adicionales.

**INSTRUCCIONES
ESPAÑOL DENTRO
DE LA CAJA**

*For terms of guarantee,
see bottom panel.

**Total Net Wt
6 oz (170 g)**

Indoor Pest



INSTRUCCIONES EN ESPAÑOL
DENTRO DE LA CAJA



FOGGER⁶

WITH
ODOR NEUTRALIZER
Nebulizador con neutralizador de olores

Hot Shot® Fogger⁶ with Odor Neutralizer creates a fine, penetrating mist that reaches deep into cracks and crevices to flush out and kill hidden bugs on contact. When used as directed, the clear, non-staining formula will not harm drapes, upholstery, fabrics, carpeting, bedspreads, floor tiles, wood floors, linens, furniture, walls, clothing, ceilings, shades or blinds. Kills both flying and crawling insects on contact.

— QUICK FACTS —

- Fast acting – works in two hours
- Non-staining, no messy residue
- Coverage: Each can covers 2,000 cu ft of unobstructed space (15.5 ft x 16 ft with 8 ft ceiling). Do not use in rooms 5 ft x 5 ft or smaller. Instead, allow fog to enter from other rooms.

— KILLS —

- | | |
|---------------------------|-----------------------------|
| • Ants (except Fire Ants) | • Palmetto Bugs |
| • Black Carpet Beetles | • Pillbugs |
| • Brown Dog Ticks | • Rice Weevils |
| • Crickets | • Roaches |
| • Earwigs | • Saw Toothed Grain Beetles |
| • Firebrats | • Silverfish |
| • Fleas | • Small Flying Moths |
| • Flies | • Spiders |
| • Gnats | • Waterbugs |
| • Houseflies | |
| • Mosquitoes | |

Does not control Bed Bugs.

— WHERE TO USE —

In enclosed spaces such as:

- | | |
|---------------|-----------------|
| • Apartments | • Crawl Spaces |
| • Attics | • Garages |
| • Barns | • Homes |
| • Basements | • Households |
| • Boat Cabins | • Sheds |
| • Cabins | • Storage Areas |
| • Campers | • Trailers |

Take home message

- Take actions to PREVENT getting bed bugs
- If you have an infestation, don't rely on store-bought chemical products to eliminate the bed bugs
- If you do use chemicals, READ AND FOLLOW THE LABEL
- Best to take a multifaceted, IPM approach to eliminate bed bugs

Questions?



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