

# Anti bed bug sheet protection – 2015-08-24

Do you need protection against bedbugs during your travels?

Are you a business-traveller or a festival fan?

Are you planning a pilgrimage or world tour?

Do you want to be sure when abroad that you are not sharing your bed with insects?

The **anti bed bug sheet protection**, an innovative product developed by 7flies, is the ideal solution in all destinations infested by bedbugs.

How does it work?

For bedbugs, touching one of our sheets feels like touching a burning hot-plate. They will not come into unnecessary contact with it. Simply spread it on the mattress before going to bed. The bedbugs will stay away and you can sleep in peace.

Here is a selection of additional tips on dealing with bedbugs from our entomology expert Eva Scholl:

- **Prevention:** Avoid bedbug-infested hotels (check travellers' hotel assessments on the Internet); do not pack more than you need.
- **How to detect an infestation:** By the smell (sickly-sweet); be on the look-out for signs of infestation on the mattress and headboard; pull the bed away from the wall.  
We also recommend being careful about your choice of destination and where you stay. More and more travellers are reporting cases of bedbug-infested hotels in their travel reports on the Internet.
- **Keep bugs away from your luggage:** Place your suitcase with you on the sheet or spray the outside of your case with insect repellent (which is toxic: avoid inhaling it). Beware of wardrobes! While most bedbugs tend to remain no further than 1.50 metres away from their food source, they may travel longer distances if they are disturbed, for example, by eradication efforts. Be sure to have a plastic bag for items you suspect may be contaminated.
- **Avoid bringing bed bugs home with you:** Undress in the bath or shower; place any suspect items in plastic bags and deep freeze for at least 24 hours, or tumble-dry for 30 minutes or wash at 60°C.
- **If you are bitten:** peoples' reactions vary widely. If there is any itching at all, it is likely to be severe and long-lasting. There have been no reported cases of diseases being transmitted by bedbugs. Permanent psychological effects are nonetheless possible. We regularly see panicky attempts by individuals to combat bedbugs on their own and the wrong choice of methods giving rise to astronomical yet perfectly avoidable costs.

For further information please consult our [FAQs](#).

You may also consult our expert [Eva Scholl](#) for more detailed individual advice about preventing or dealing with bedbug infestations.

If you have any questions about the product itself, do not hesitate to contact [us](#).

[Order now!](#)

## ***Our product - the Bettwanzen-Schutzlaken (anti-bedbug sheet protection)***

### **An innovative product**

During the production process an active substance that repels arthropods is incorporated as a fibre copolymer into the fabric of the sheet. The substance thereby remains embedded in the material, guaranteeing a lasting effect and protection of the environment.

This patented process is an innovation on the world market: to our knowledge it is the only process involving the use of an insect repellent in which the active substance remains intact for re-use.

### **The idea**

This insect-repellent sheet is a completely new technique that complements the existing range of repellents for use against bedbugs, ticks, fleas, mosquitoes, harvest-bugs and other arthropods.

By packing one of our sheets, you are sure to leave nothing to chance. Simply spread it out wherever you want to lie down.

Use this innovative product to sit or lie on in order to keep creepy-crawlies almost totally at bay. Or use it as a screen to keep out mosquitoes.

When it is time to move on, the sheet goes back into your suitcase, ready for the next stage of the journey.

## The material

The sheet is made of a material that meets all the necessary requirements in terms of:

1. Effectiveness.
2. Limiting the quantity of active substance to the strict minimum.
3. Low weight.
4. Protecting your health and the environment with no side-effects and at an affordable price

For some years now it has been used as a means of health protection in crisis zones. Now it is available to private customers. The use of materials is kept to an absolute minimum and totally optimised in order to achieve an overall product that is lightweight, functional, cost-effective and environment-friendly.

- The repellent effect works when there is an efficient quantity of active substance per square metre of material. In order to achieve the desired effect the material must therefore be just thick enough to absorb the active substance.
- The thickness and composition of the fabric are therefore precisely calculated in order to achieve the optimum quantity of active substance while keeping the weight of the product to a minimum.

The composition of the fabric and the quantity of active substance per square metre are perfectly balanced, combining minimum weight with sufficient thickness for a maximum effect. The lightweight cotton mix (50% cotton, 50% polyester) is smooth without being slippery.

The cotton makes the sheet pleasantly soft to the touch, while the synthetic fibres make it lightweight, tough and easy to care for. The size fits a single bed.

This textile design developed specifically for the **anti bed bug sheet protection** achieves precisely the desired effect: the sheet weighs only 450 gm and contains 2% repellent, in other words less than half the permissible dose.

## The active substance

The repellent substance is permethrin, which is chemically related to the naturally-occurring compound pyrethrum, one of the countless substances used by plants to stop their blossom from being eaten by insects. Permethrin therefore “imitates” a natural substance; it is a member of the large family of pyrethroids, all of which have an effect on the nervous system and have a strong repellent effect. Unlike its natural counterpart, however, permethrin is odourless. Of all the pyrethrum-like substances, permethrin is by far the one with the lowest evaporation rate and solubility, the lowest toxicity for mammals (apart from cats) and is the longest lasting. A topical dose of permethrin (i.e. when it is absorbed through the body surface) is more than 4 000 times more toxic to bedbugs, ticks, fleas, mosquitoes, harvest-bugs and other arthropods than to almost all mammals when ingested orally (through the mouth).

Permethrin is recommended by **WHO** and **NATO** as a repellent for health protection purposes in crisis zones. For decades it has been used effectively as a spray for outer clothing. It acts only when the insects come into contact with the active substance and exclusively as a repellent. Even the first contact with this substance, which in the case of almost all crawling insects is through the antennae, is visibly unpleasant for insects. After contact they try immediately to clean their antennae and avoid further contact where possible.

Up until now the finished textile was sprayed with or soaked in permethrin. The innovative feature of the **anti bed bug sheet protection** is to embed the repellent directly inside the fibre, ensuring that it remains evenly distributed over the whole surface of the sheet.

## Effectiveness

Since the permethrin is chemically bound within the fibre of the sheet, its repellent function can last a lifetime, or at least 50 washes, provided the sheet is properly cared for. Independent studies have confirmed that it effectively repels more

than 95% of pests. A team composed of scientists from the German Army, the Federal Institute for Risk Assessment and the University of Mainz have studied the product and confirmed its effectiveness

The repellent is odourless and invisible.

In order to preserve its repellent function, this sheet, which looks like any other, must be given the proper care. Instructions for care can be found, among other places, in the [FAQs](#).

This innovative technology for protection against bedbugs and other arthropods is guaranteed to enhance the quality of your life.

Don't give pests a chance!

## Product information

Size: **160 x 240 cm**

Weight: **approx. 500 g**

Colour: **white**

Textile: **50% cotton, 50% polyester**

Active substance incorporated in the textile fibres: **approx. 2% permethrin in the form of a fibre co-polymer**

Care: **Machine wash at 60C°, can be tumble-dried, steam but do not iron – easy care**

Certified: **Textiles Vertrauen (Confidence in Textiles)**



**Exclusive from Eva Scholl**

## Bedbugs

Many people, if they know anything at all about bedbugs, think they are a thing of the past. Indeed there was a period during which western European countries were free of these pests. But for some time now these creatures have been back on the scene and increasingly are invading our beds.

The presence of these unwelcome guests has nothing to do with not keeping your home clean enough. In fact they are more likely to have travelled back in your luggage following a stay abroad. Backpackers in particular, or travellers who like to stay in typical local accommodation in remote parts of the world, may come into contact with bedbugs and unwittingly bring them back home with them.

Bedbugs are flat and oval-shaped, grow to a size of roughly 5 to 8 mm and are reddish or light brown. Since they come out at night, it is not always easy to catch sight of them. During the day they crawl into cracks and only start moving after nightfall. What you can easily detect, however, are the droppings of these creatures which look like little black dots.



They like to live in mattresses, wooden bedframes or old wooden furniture, old books, floor tiles (above all in the cracks), under carpets, behind pictures and in cracks in the wall. They are quick-moving, above all under lower temperatures, for they are very sensitive to the cold. But high temperatures are not a problem for them either: when it gets hot they crawl into dark corners and cracks. Under ideal conditions bedbugs can survive for up to 18 months without food.

## Signs of bedbug infestation

		
Under a sofa	Behind a picture	Under a cushion

## Further information / Links

[Angriff der Blutsauger - Die Rückkehr der Bettwanzen](#) (Attack of the bloodsuckers – return of the bedbugs).

Article by *Susanne Kluge-Paustian* (*Bayrisches Fernsehen*)

[Bettwanzen-Alarm in Vancouver - Blutsauger auf dem Vormarsch](#) (Bedbug alert in Vancouver – bloodsuckers on the march)

Article of 03.Februar 2010 - *n-tv.de*

[Vancouver - Invasion der Bettwanzen](#) (Invasion of the bedbugs)

*Focus-Online-News* editor *Christina Steinlein*

[US-Umweltbehörde lädt zum Bettwanzen-Gipfel](#) (US Environmental Protection Agency hosts bedbug summit)

<http://www.breakingnewsenglish.com/0904/090416-bedbugs.html> (English version of this story)

Article by *Dina Cappiello*, 16 April 2009 (*Welt.de*)

[VIDEO: Minimonster breiten sich aus - Erster US-Bettwanzen Gipfel](#) (Mini-monsters are spreading – first US bedbug summit)

*ntv.de*, *US-Bettwanzen Gipfel*, April 2009

[Bed bugs - Wikipedia](#)

## Frequently asked questions

### How does the anti bed bug sheet protection work?

For crawling insects – and only for them – contact with the sheet is like touching a burning hotplate, because the sheet contains a repellent substance. Since the active substance is incorporated into the textile fibre itself during the production process, the effect is guaranteed to last practically a lifetime.

### How does permethrin work?

The repellent permethrin is chemically related to the naturally-occurring compound pyrethrum, one of the countless substances used by plants to stop their blossom from being eaten by insects. Permethrin therefore “imitates” a natural substance and is a member of the large family of pyrethroids, all of which have a strong repellent effect against arthropods. Of all these active substances, permethrin is by far the one with the lowest evaporation rate and solubility, the lowest toxicity for mammals (apart from cats) and it is the longest-lasting. Permethrin when applied topically (i.e. when it is absorbed through the body surface) is more than 4 000 times more toxic to bedbugs, ticks, fleas, mosquitoes, harvest-bugs and other arthropods than to almost all mammals when ingested orally.

## **What are arthropods?**

Arthropods have a jointed body and limbs and usually a hard shell or exoskeleton to which the muscles are attached on the inside. More than 75% of creatures fall into this category, the majority of them insects. Other arthropods are ticks, mites, spiders, scorpions, centipedes and crabs. All of these lay eggs, from which the adult creatures develop after going through several larval and molting stages.

## **How is the anti bed bug sheet protection used?**

It is the ideal travel companion for business trips, trekking tours, pilgrimages or major events lasting several days. Spread the sheet on the mattress before lying down, making sure that the sheet is hanging over the mattress on all sides. For maximum protection, ensure that your whole body is on the sheet.

When using the hotel bedcover ensure that it is placed completely ON TOP of the sheet. The sheet is only useful if there are no alternative routes that the bedbugs can use to climb into the bed.

The sheet is not a substitute for sustained pest control efforts but is a useful accompanying measure to provide immediate protection in the case of a severe infestation.

If there is lasting contact the insects can develop resistance after 12 generations. We therefore strongly recommend that you do not use the sheet on a permanent basis. It requires professional expertise and a great deal of experience in order to combat bedbug infestations.

## **What will I be protected against?**

The sheet offers protection against bedbugs, ticks, harvest-bugs, fleas, ants and other crawling insects and arthropods.

If you roll yourself in the sheet or use it as a cover or screen it can also provide protection against flying insects, such as mosquitoes, gnats and flies.

## **Care instructions**

The textile mix (50 % cotton, 50 % polyester) is simple to care for and does not crease easily.

Careful handling of this sheet with its invisible protection will lengthen its useful life. We recommend washing with a liquid detergent up to a temperature of 60°C. The sheet can be tumble-dried. Dry cleaning is not recommended.

**Be careful when ironing!** All the features of this sheet have been designed for maximum functionality. The fabric does not crease easily and does not need ironing – on the contrary, ironing will reduce the duration of its repellent effect. If you nonetheless feel you need to iron it, be sure to place a cloth between the iron and the sheet in order to help protect its repellent function.

## **The repellent effect is completely odourless and invisible.**

When the sheet is delivered you may wonder about the smell or the fact that it feels slightly sticky to the touch. This is just the finishing agent. If necessary you can wash it before use. It is up to you, bearing in mind that each wash has some effect on the material and its effectiveness.

To avoid confusing the sheet with ordinary sheets and make it easier to find, we suggest storing it separately from your ordinary bedlinen, for example with your suitcase, sleeping bag, camping gear or toilet bag, or in the car.

## **How long does the protective effect last?**

If well cared for, the protective effect lasts as long as the material itself.

## **Can the sheet be used for vulnerable individuals (e.g. pregnant women, nursing mothers, babies and toddlers, the elderly, convalescent patients and people prone to allergies or hypersensitivity)?**

Precisely the elderly and hypersensitive individuals or people with weakened immune systems need protection from insect and tick bites that could make them ill. Ticks, for example, are particularly prevalent in high grass and under park benches. The repellent poses no known risks for pregnant women, nursing mothers and babies (even when applied in the form of an ointment). Allergies against all chemicals – whether synthetic or naturally occurring – are possible.

**Warning to allergy sufferers!** We recommend that you test the sheet by lying on it well before you plan to use it. In almost 30 years we have not encountered a single case of an allergic reaction to permethrin. Neither have we been able to find a single reported case of permethrin allergy in our extensive research on the subject. However warnings against this substance are posted on allergy forums on the Internet.

## **Why is the sheet white?**

The colour of the sheet is an extra source of protection. If in spite of everything a blood-sucking insect does find its way onto the sheet, it can easily be seen against the white background and removed.

## **Can I dye the sheet?**

Dyeing involves a series of chemical processes that may reduce or even prematurely destroy the protective effect of the sheet. It should therefore not be dyed.

## **Why is the anti bed bug sheet protection hemmed only at the short ends and left unhemmed on the sides?**

The main purpose of the sheet is to deter insects. That function, in the opinion of our expert entomologist, takes absolute precedence over esthetic considerations. With a view to sustainability we also wish to reduce all superfluous features. We have quite deliberately decided not to hem the sides for a number of reasons:

- An optimum width would in our view be 180 cm. For the moment there are no suppliers of that width in this patented quality. That being the case it is important to use the available 160 cm of fabric to the full.
- Most of our customers need two sheets when travelling as a couple. The overlapping seams of the two sheets would be uncomfortable.
- For use in a double bed many customers sew two sheets together, which would mean unpicking the side hems.
- The selvage edges on the sides do not fray when left unhemmed.

If you expressly wish you can order a sheet hemmed on all sides. However we recommend using the full width of the sheet and hemming the two ends only.

**Tip:** To avoid uncomfortable seams we recommend sewing the two overlapping sheets together to make a flat, as opposed to a butt seam.

## **Are the sheets available in a thinner fabric?**

Every gram counts when you are packing. The thickness, density and composition of the material used to make our feather-light anti-bedbug sheet are precisely geared to its function. Thickness has been precisely calculated to allow the fabric to take up exactly the right amount of repellent without making the sheet unnecessarily heavy. The sheet is made of an easy-to-care-for and resistant cotton mix. The synthetic fibres make it lightweight, tough and non-iron. The cotton makes it absorbent and soft to the touch.

## **Are the sheets available in other materials, for example pure cotton?**

On request, for large orders. Please contact [us](#).

## **For which animals is the sheet not recommended?**

Cats have a different metabolism to other mammals. The active substance is harmful to them as well as to reptiles and aquatic animals.

## **Are there sizes other than 160x240 cm?**

Special sizes may be produced on request. Please consult [us](#) directly about price and availability.

## **What about protecting the environment?**

The product is environment-friendly in terms of the textile production process, the use of the product as a protective sheet and the long-lasting nature of its repellent effect:

- During the production process all solvents and residues are recuperated and recycled so that the waste water is free of contaminants. Since permethrin, like all pyrethroids, is highly toxic for aquatic animals, this makes the process particularly environment-friendly.
- When the sheet is being used all the active substance stays in the fabric.
- Given the long-lasting repellent effect, there is no need for the user to re-treat the sheet, with the risks that this entails.

## **Are there only sheets – or are other products also available in the same fabric?**

On request you can order sleeping bags, clothing for people and animals, sports and leisure-wear, picnic rugs and dog blankets. Please contact [us](#) directly.

## **How much protection do I get in the case of a severe infestation?**

Sniff the air in the room you intend to spend the night in. A severe bedbug infestation can often be detected as soon as you open the door due to its unpleasant sickly-sweet smell. Under such conditions the sheet is only

effective up to a point: some 2.5 % of the bedbugs are likely to resist the repellent effect. While in the case of ten bedbugs that means that practically none will get through, in the case of 100 there will be two or three and in the case of 1 000 there will be something like 25 particularly hungry specimens able to get to your body despite the sheet! Avoid sleeping in strongly infested rooms whenever possible.

We recommend paying particular attention to rooms that have remained unused for some considerable time before your visit, during off-peak periods in tourist areas, for example, or in emergency accommodation. Bedbugs suck blood on average once a week and can go for months without eating, particularly in cool temperature conditions. In such rooms there is therefore a higher risk of encountering hungry bedbugs that are able to overcome the barrier for a time. Whether they are still able to bite properly under such conditions is currently being investigated.

The white colour of the sheet offers you an additional safety guarantee: any insect that is able to find its way into your bed will be easily visible.

### **How do I check that the repellent effect still works after a long period of use?**

Place a few ticks, bedbugs, ants, flies or mosquitoes on the sheet and keep them there for a few minutes, for example using a glass. Afterwards observe their behaviour for a while. You will easily be able to see whether there is any resistance to the repellent, for example on the part of bedbugs.

### **Practical tip for the hypersensitive**

Although our customers theoretically understand that the sheet is safe to use, we nonetheless hear occasional reports of a vague sensation of discomfort. Fear can also make you ill.

If you have the slightest worry, we recommend placing a towel between the sheet and the body, leaving about 30 cm of uncovered sheet all around you in order to completely maintain the protective function.

## **About us**

We have made it our job to protect people in an environment-friendly and effective way against diseases than can be transmitted through insect bites.

With our Bettwanzen-frei™ (anti-bedbug) sheet you can create a small safe haven for yourself.

We can at last offer you this product thanks in large part to the efforts of our pest control expert, biologist Eva Scholl, who after more than 25 years of professional experience is a leading expert in this field and knows how to treat all kinds of infestations.

**Eva Scholl** Diplom-Biologist / Entomologist

\*1951 in Rheinbrohl/Neuwied, Germany; married, two children

Eva, a qualified biologist, has been working as a pest control consultant for over 30 years. Her special field is to provide advice on sustainable forms of pest control and prevention to private individuals, local authorities, associations and companies. Eva has been studying ticks for many years. She has made many public appearances, gives regular lectures, is an active participant in numerous events and has published countless studies and articles.

Need advice on pest control? – Ask <http://schaedlingsbiologie.de/home.html>

### **Kontakt:**

#### **SchädlingsBiologie Scholl**

Dipl.-Biol./Entomologist Eva Scholl

Tel.: +49 (0) 163 - 212 20 16

[ephaS@t-online.de](mailto:ephaS@t-online.de)

D-53227 Bonn, Königswinterer Str. 521

D-90469 Nürnberg, Neunkirchener Str. 116

Tel.: +49 (0) 911 433 13 74

new: <http://schaedlingsbiologie.de> (17. Juli 2015)

### **Order**

Guaranteed long-lasting insect-repellent effect

Size: 160×220 cm \* Colour: white

96,00 EUR (incl. 19% VAT.)

Postage 4.10 EUR (for Germany)

Postage costs for other countries according to the relevant rates e.g.: Austria 8.60 EUR, Switzerland 13.90 EUR.  
Please contact us if necessary.

## **Order**

**anti bed bug sheet protection** guaranteed long-lasting insect-repellent effect

Size: 160×240 cm \* Colour: white

96,00 EUR (incl. 19% VAT.)

Postage 4.10 EUR (for Germany)

Postage costs for other countries according to the relevant rates e.g.: Austria 8.60 EUR, Switzerland 13.90 EUR.

Please contact us if necessary.

If you are not satisfied you may return the sheet within 2 weeks with no questions asked! And you even get 10 EUR from us. (Offer valid only once per household.)

N.B: Currently due to the large demand there may be slight delays in deliveries for which we apologise in advance.

1 for 96.00 EUR

2 for 180.00 EUR (instead of 192.00 EUR)

3 for 260.00 EUR (instead of 288.00 EUR)

Contitions for other quantities: Please contact [ephas@t-online.de](mailto:ephas@t-online.de)