

# Moth protection with the active substance permethrin

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## 1. WHY

Wool carpets and wall-to-wall wool carpets are treated with moth repellents to protect them against moth and beetle larvae. To this purpose permethrin is commonly used nowadays (approx. 98%). Permethrin acts as an ingestion poison and not a contact poison.

## 2. SUBSTANCE PERMETHRIN

The only disadvantage of virgin sheep's wool is the danger of moth infestation (common clothes moth - *Tineola bisselliella*) which makes treatment with moth repellent indispensable.

EULAN SPA 01 (certified in accordance with the Ökotex Standard 100) is a biocidal substance on the basis of permethrin (CAS No.: 52645-53-1) used to protect wool and products made of wool from destruction through moth larvae and carpet beetles. Permethrin is used industrially in the exhaust process. During this process the cuticle structure of the wool opens, allowing the permethrin solution to penetrate the core. After the procedure the structure of the cuticle closes again and the permethrin is enclosed firmly in the wool. There is no permethrin on the surface of the wool. Larvae only die when they digest wools that has been treated with permethrin. The treated wool does not affect the larvae in any other form.

The German Federal Institute for Risk Assessment (BfR) takes the following position in its Opinion No. 011/2008: No health risk through permethrin in wool carpets.

The long-term study of the BfR has shown that differences could not be determined in the values. Measurements did not show any differences between healthy persons in accommodation with carpets treated with permethrin and a reference group whose accommodation was not equipped specially with wall-to-wall wool carpets.

[http://www.bfr.bund.de/de/a-z\\_index/permethrin-4880.html](http://www.bfr.bund.de/de/a-z_index/permethrin-4880.html)

<https://tanatexchemicals.com/de/product/veredelung/eulan-spa-01/>

[https://www.oekotex.com/de/business/oeko\\_tex\\_certified\\_products/ots\\_100\\_active\\_chemical\\_products/ots\\_100\\_products\\_with\\_biological\\_activity/products\\_with\\_biological\\_activity.html](https://www.oekotex.com/de/business/oeko_tex_certified_products/ots_100_active_chemical_products/ots_100_products_with_biological_activity/products_with_biological_activity.html)

## 3. OTHER PRODUCERS

Other producers of carpets who process undyed natural wool will, in our opinion, not be able to avoid using moth protection. As a rule these producers fumigate their warehouses during the weekend to kill the moths (for example with Fendona, BEAPHAR Permethrin, etc.) Meaning that no staff may enter the premises. After the weekend the warehouses can be entered again. However the treated carpets continue to emit gas until no more moth protection is present.

The method of fumigating the warehouse is not an alternative for us for the following reasons:

1. Contact poison - during fumigation the moths already die during contact.
2. Products can enter the market while still emitting gas.
3. Once the gas has been emitted completely, moth protection no longer exists.
4. The development period of moth eggs depends on the temperature. At low temperatures the eggs can even remain inactive for up to a year and then continue developing when temperatures rise again.
5. Many carpet departments with unprotected natural wool products also have to fumigate their departments at regular intervals with the disadvantages mentioned above.

#### **4. APPLICATION OF PERMETHRIN**

The active substance permethrin is used in shampoos to eliminate head lice and crab lice. In addition, it is considered substance of choice for ointments used for scabies. Permethrin is furthermore used as an insect repellent to impregnate clothing or mosquito nets. Summary: Bad for the moths, no problem for humans. For further information please refer to the database on medicinal products.

#### **5. WHY DOES THE MOTH PROTECTION HAVE TO BE IDENTIFIED?**

The new Regulation (EU) No. 528/2012 of the European Parliament and of the Council concerning the making available on the market and use of biocidal products, called the Biocide Regulation“, was passed in May 2012. After being published in the Official Journal of the European Union (No. L 167), the regulation came into force on July, 17 2012.

The new regulation has to be applied as of September 1, 2013 and thus replaces the previously applicable Biocide Directive (98/8/EC). It regulates Europe-wide the making available on the market and the use of biocidal products, which for example include disinfectants, wood preservatives, but also substances for controlling rodents.

Since September 2013 European regulations apply for goods treated with biocides. Treated goods may only contain active substances that can be put into circulation in the respective type of product. In addition, identification is required.

This regulation (EU) 528/2012 (Biocide Regulation) was in particular necessary and is so strict because permethrin is used in agriculture as a pesticide and therefore can be and is ingested through food.

#### **6. COMPANY STATEMENT**

Paulig Teppichweberei GmbH has always manufactured its products so that both people and the environment are protected.

High-quality products made of 100% virgin wool have to be protected against moths. There is no health risk for human beings through permethrin in wool carpets.

It is important for us that the consumers are informed about the usage of biocidal substances in all their spheres of life and that a strict guideline was drawn up to this purpose in the form of the Regulation (EU) 528/2012.

We there include the following text on our labels: „Protected against moths with the active substance permethrin“.

Schwarzach on July 17, 2018  
Paulig Teppichweberei GmbH

Thomas Paulig  
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