



Microencapsulated spray against mosquitoes, midges, horseflies and ticks

A modern mosquito spray must combine low toxicity with a high safety factor and protect against a broad spectrum of insects, not feel uncomfortable when applied on the skin and be as odorless as possible. The substance shall be compatible with textiles, plastics and coatings.

Icaridin (Saltidin), meeting with these demands, has therefore been chosen as active substance in the microencapsulated mosquito spray - DR 1.

In the 1980-ies Bayer began working on a theoretical model of a perfect repellent, a project based on all their experience and knowledge through the years. Gradually, the substance Icaridin (Saltidin) was developed and registered in 1998. Today, Icaridin (Saltidin) is approved in many countries all over the world. By micro-encapsulating Icaridin (Saltidin), we combine state of the art-technology with a modern substance.



Microencapsulation offers the following advantages:

- Strong reduction of absorption of active substance through the skin
- Permits constant, regular flow of active substance which provides long-lasting protection
- Water-based, no other chemicals are involved
- Reduced risk of over-dosing.

The microcapsules are equal in size to our red blood cells (4-7 micron, 1 micron = 1/1000 mm). Invisible to the human eye, they consist of a kernel of active substance and an outer shell made of food grade polymers. The shell is porous and permits a constant and regular release of active substance, which guarantees a prolonged repelling effect. Simultaneously, the shell hinders the substance to be freely absorbed through the skin. Practically, this means a minimal absorption compared to conventional application of liquid mosquito spray. The microcapsules lie in a water-based liquid. Slight scent of perfume, particularly chosen as it reinforces the repellent effect on protection from tick's bite.

Oriented studies of DR 1 show:

- 100% protection during 8 hrs on skin against the mosquito *Aedes aegypti* (yellow fever, dengue fever) and *Anopheles gambiae* (malaria)
- 100% repellency during 6 days against *Aedes aegypti* on impregnated cotton cloth
- 100% repellency during 6 hrs against nymphal ticks of *Ixodes ricinus* on impregnated filter paper

Studies performed by Walborg Thorsell, Docent in experimental parasitology.

According to our knowledge, DR 1 should be classified as one of the technologically most advanced and most efficient low-risk mosquito sprays on the market.

The Swedish Chemicals Inspectorate approved DR 1 on April 28, 2008 for protection against mosquitoes, midges and horseflies and reduced risk of tick's bite. (Registration number: 4830).

"Icaridin has been reported in studies on humans to have effect against the following mosquito species; Anopheles, Aedes spp, Armigeres spp, Culex spp, Mansonia sp and Culicoides impunctatus. 20% (w/w) Icaridin also reduces the risk of tick's bite (Ixodes ricinus, larvae, nymphs and adults). Swedish Chemicals Inspectorate".

DR 1 does not contain substances classified as hazardous to environment or health. Non flammable. Do not use mosquito spray on children under the age of 3, where protection with mosquito net is recommended. Store at room temperature. Shake slightly before use.

Active substance: Icaridin (Saltidin) 19.4 % (w/w)
Packaging: bottles with spray, 50 ml and 500 ml