

FAQ – Permethrin active content in HHL Technology Vital Protection

What is the active ingredient?

The active ingredient is permethrin - a man made version of a natural insect repellent found in certain chrysanthemum plants.

The HHL Technology process used within the products utilises a proprietary permethrin formula to provide effective, odourless insect protection that lasts beyond the expected lifetime of the textile item.

How much Permethrin is present?

We utilise ultra low dosages of permethrin as part of our anti mosquito system, at 500ppm it is far less than the World Health Organisation recommended levels for use in their long lasting mosquito nets.

Is it safe to use?

Permethrin has been successfully used in the United States as a U.S. Environmental Protection Agency (EPA) registered product since 1977, with an excellent safety record.

It is widely used in crop protection, domestic insect control products, anti- mosquito nets and topical sprays and creams as well as in impregnated garment end uses such as military uniforms and travel clothing.

It is also used in lice shampoos for children, flea dips for dogs, and various other products, some of which are regulated by the FDA.

We have chosen permethrin because it has not had any known side effects on humans when utilised correctly and is extremely effective at ultra low levels when used in our technology.

Our products are not water solvent therefore will not be removed from the textile when say the article is placed in a human beings mouth or in a washing machine.

Our products have been tested independently – they do not emit any Volatile Organic Compounds (VOCs), nor do they cause skin irritation.

Here are some quotes from the US EPA - please note they are working with far higher doses of Permethrin than are present in our products:

*“The Agency considered post-application exposure to both outdoor residential misting systems and Permethrin treated clothing. **All scenarios were below the Agency’s non-cancer and cancer LOCs.**”*

*“All non-cancer post-application exposure scenarios for military personnel and garment workers exposed to Permethrin impregnated battle dress or fabric, respectively, **do not exceed the Agency’s LOC.**”*

Please note – LOC = Level of Concern

The other ingredients contained within our products are IP protected and mainly based on cosmetic preparations i.e. ingredients used on skin. All ingredients meet regulations of REACH (Registration, Evaluation and Approval of Chemicals) and the EBD (European Biocides Directive).

Does it harm the environment?

During the Nosilife product manufacture no waste product is allowed to enter the water course, therefore there is no negative effect on aquatic life.

Permethrin is also listed as a registered product by the UK Pesticides Safety Directive. In their factsheet on Permethrin the UK Environment Agency states:

*“Permethrin is unlikely to be a hazard to the environment when used as recommended.....
Permethrin has a low to moderate persistence in the soil environment and is readily degraded in soil and water.....no significant global impacts to the environment are considered likely.”*