

# New Tick Repellent Ingredient Registered by EPA



On July 20, 2020, the Environmental Protection Agency (EPA) registered a new active ingredient called nootkatone, which repels and kill ticks, mosquitoes, and other pests including bed bugs, and fleas. The Center for Disease Control (CDC) discovered and developed the new ingredient, a non-toxic chemical found in Alaska yellow cedar trees and grapefruit skin in minute amounts. Nootkatone smells and tastes like grapefruit, and is used in the fragrance industry for perfumes and food industry for flavoring. It can be used on humans and pets.

Nootkatone apparently kills bugs differently than previous classes of insecticides, including pyrethroids, organophosphates, carbamates, and cyclodienes. Since it is a new chemical – the first insecticide approved in 11 years – it can kill bugs that are resistant to currently available pesticides. It lasts on skin and clothing for several hours.

CDC's exclusively licensed partner, Evolva, and HHS Biomedical Advanced Research Development Authority were crucial to nootkatone development. Evolva can produce large amounts of nootkatone for low-cost, as it takes several tons of grapefruit to produce 2.2 lbs of nootkatone.

Dr. Brian Fallon, director of the Lyme and Tick-Borne Diseases

Research Center at Columbia University in New York City, said of nootkatone, "I think it's a major contribution to our arsenal of repellents."(nbcnews.com)

Tick-borne diseases represent almost 80 percent of reported vector-borne disease cases in the U.S. Reported cases of vector-borne diseases doubled from 2004 to 2018. Companies interested to develop brand name products will be required to submit a registration package to EPA for review, and products could be available in stores as early as 2022.

Current ingredients registered by the EPA as skin-applied insect repellents include Catnip oil, Oil of citronella, DEET, IR 3535, p-Methane-3,8-diol (pmd), Oil of lemon eucalyptus, Picardin, 2-undecanone, and now nootkatone.

**LDA's Tick-Insect Repellents: Check the Facts**

**LDA's TBD & Prevention Page**

**CDC Press release**

**CDC Digital Press Kit**

**NY Times: Citrus Flavoring Is Weaponized Against Insect-Borne Diseases**

**Nbcnews.com: First new insect repellent approved in 11 years smells like grapefruit**