Best Tick Repellent Options

Icaridin / Picaridin (20%) - Icaridin at 20% is proven as effective as Deet at 30% for up to 12 hours. Icaridin doesn't have the same hazardous or damaging effects that Deet has. It won't damage fibres or rubber like Deet does, so it is safe to use on rain gear, tents, and fabrics. Icaridin also does not have the strong, pungent smell of Deet.

DEET (30%) - Deet is proven effective at repelling ticks at 30% concentration for up to 8 hours. Deet can be damaging to certain rubber and synthetic materials. (Can melt holes in them.)

Essential oils - There are several different mixtures of essential oils that can be used to repellent insects and arachnids, though most have an effective time of 2 hours or less.

Permethrin (0.5%) – Currently not available for purchase within Canada as a personal repellent, permethrin is powerful and long lasting. Permethrin is applied to clothing or gear, not skin. It can last several weeks and washes. It is poisonous to all insects, arachnids, fish and cats, so it must be used carefully and responsibly. When used properly you can treat all of your outer layer clothing and gear, which will give you weeks of protection from any bugs on you or your packs and tents, essentially anything cloth.

Clothing – Proper clothing is the most simple and one of the most effective tools to limit access for ticks. Wearing long pants, tucking pant legs into socks, and tucking your shirt into your pants limits access to your skin. Making ticks have to crawl significantly further for an opportunity to bite. Forcing ticks to travel further and longer also increases the effectiveness of other repellents as they are exposed for a longer duration. Wearing light coloured clothing can also make it significantly easier to spot ticks crawling on you before they get to you skin.

"No single chemical completely repels ticks. Do not rely on any product to keep ticks away, perform tick checks at the end of the day or when returning indoors." **www.medicaldaily.com**

The Big Four

Picaridin, a recommendation of the World Health Organization (WHO) for protection against mosquitoes that carry diseases, is not known to irritate skin and eyes, does not have a pungent odor, and does not dissolve plastics. It evaporates from the skin more slowly than DEET or IR3535 and may repel bugs for longer periods. Developed by Bayer AG in the 1980s and sold in the U.S. since 2005, Picaridin "does not carry the same neurotoxicity concerns as DEET but has not been tested as much over the long term." Overall, EWG's assessment is that Picaridin is a good DEET alternative with many of the same advantages and without the same disadvantages. EWG recommends Picaridin 5-10 percent for short protection times, and Picaridin 20 percent for longer periods.

IR3535, or 3-[N-Butyl-N- acetyl]-aminopropionic acid, ethyl ester, was developed by Merck & Co., Inc. in the mid-1970s and has been used in Europe for more than 20 years. Registered for use in the U.S. in 1999, IR3535 can be irritating to the eyes and may dissolve or damage plastics, but poses few other safety risks. Health authorities in Europe have not received reports of problems caused by this chemical. Consumer Reports determined that it performed as well as DEET against deer ticks and the Culex mosquitoes that sometimes carry West Nile virus, though the 20 percent formulation was slightly less effective than DEET in repelling mosquitoes that may carry yellow fever, dengue, and encephalitis. "In sum, IR3535 is a good DEET alternative with many of the same advantages and fewer disadvantages," the authors said. EWG recommends IR3535 20 percent for longer protection times.

DEET is the most common mosquito and tick repellent and "is a reasonable, if imperfect, choice," the authors write. Registered for public use since 1957, DEET gives off a distinct odor and may damage plastic, rubber and vinyl. On the plus side, when used as directed, DEET is considered safe by many public health authorities and organizations, including the Centers for Disease Control and Protection (CDC), the Environmental Protection Agency (EPA), the American Academy of Pediatrics, and WHO. That said, DEET is known to irritate the eyes and in intense doses may even induce neurological damage; though after reviewing reports of seizures, the EPA concluded the rate of adverse reactions to be very low -- about one per 100 million persons. Those who use DEET daily have reported suffering symptoms such as rashes, dizziness, difficulty concentrating and headaches. After reviewing the evidence, "EWG has concluded that DEET is generally safer than many people assume and remains a viable option for people in areas infested with disease-carrying pests...The EPA allows U.S. sales of repellents with up to 100 percent DEET, but increasing concentration does not increase efficacy.... We think it makes sense to follow Canadian government recommendations limiting DEET to 30 percent in any product and even weaker concentrations for young children." EWG recommends DEET 7-10 percent for short protection time and DEET 20-30 percent, especially when contained in time-release formulations, for longer periods.

Oil of lemon eucalyptus is the trade name for a repellent that originated as an extract of the eucalyptus tree native to Australia. If refined, paramenthane-3, 8-diol, also known as **PMD**, results. Many products combine oil of lemon eucalyptus and PMD. Some testing has shown that concentrations of 20 to 26 percent PMD may perform as well as 15 to 20 percent DEET against both mosquitoes and ticks, though its maximum protection time against mosquitoes and ticks is shorter, according to the EPA. Oil of lemon eucalyptus/PMD is not recommended when the risk of West Nile virus is high or against sand flies or 'no-see-ums,' a particularly annoying biting insect. The CDC advises against the use of the oil on children under three years of age. EWG recommends PMD 10 percent for short protection time and oil of lemon eucalyptus 30-40 percent for longer periods.