

Myths About DEET

Some of the myths and the truth that dispels them, according to the U.S. Environmental Protection Agency and its Re-registration Eligibility decision for DEET. 1

· **Myth: *DEET is highly toxic and causes cancer and genetic mutations***

"In studies using laboratory animals, DEET generally has been shown to be of low acute toxicity. It is slightly toxic by the eye, dermal, and oral routes and has been placed in Toxicity Category III (the second lowest of the four categories) for these effects." "DEET has been classified as a Group D carcinogen (not classifiable as a human carcinogen)." "DEET is not mutagenic under the conditions of the test assays. ...the results are all negative."

· **Myth: *DEET is toxic to and causes seizures in children***

"Based on the existing reproductive and developmental toxicity data, there is no evidence that would lead the Agency to believe that DEET is uniquely toxic to infants and/or children." "Seizure coinciding with DEET use can be expected, given an estimated 15,000-20,000 afebrile (occurring without a fever) seizures in children (aged 0-19 years) estimated annually and an estimated 17 million children using DEET perhaps 10 times a year." "Given only 14 to 32 cases since 1960 (the first case was reported in 1961) and 50-80 million people using DEET each year, the observed incidence of recognized seizures is about one per 100 million users." "There is no compelling information that exposure to DEET is causing an appreciable number of seizures, and data from animal studies do not support or predict symptoms experienced by children exposed to DEET."

· **Myth: *Because it is absorbed through the skin, products with a low concentration of DEET are safer***

"Products that are formulated by diluting concentrated DEET with a solvent such as ethanol have a greater dermal absorption than products that are undiluted. This point is illustrated in the human dermal absorption study (MRID 42578501) in which a 15% DEET product yielded 20% dermal absorption while an undiluted DEET product yielded 12% dermal absorption."

· **Myth: *Products with a low concentration of DEET are safer, especially for children***

"The scientific data reviewed by the Agency for DEET do not support the claim that certain concentration DEET formulations are safer than others. Also, there appears to be no correlation between the reported cases of seizure and the concentration of DEET that was used. All direct and indirect claims of child safety (e.g. "...for children," "...for kids.") must be removed from DEET labeling for those products to be reregistered."

Summary

"The use of effective insect repellents provides certain public health benefits. Application of DEET insect repellents to the skin and clothing can help prevent bites from ticks and other biting insects that may cause disease. Lyme Disease may develop from the bite of an infected deer tick, and mosquitoes can transmit malaria, yellow fever, dengue fever, and encephalitis."

"The Agency has concluded that DEET insect repellents will generally not cause unreasonable risk to humans and the environment, However, because DEET is: (1) so widely used among the U.S. population, including children; (2) is one of the few residential-use pesticides that is applied directly to the skin; and (3) has been thought to be associated with incidents of seizure, the Agency believes that it is prudent to require improved label warnings and restrictions for DEET products. The agency believes that such common sense measures will be especially protective of children and other individuals more sensitive to chemical substances."

1 U.S. Environmental Protection Agency, Reregistration Eligibility Decision (RED) for DEET, EPA Doc. No. 738-R-98-010, September 1998. The full text can be found at <http://www.epa.gov:80/opprrd1/REDs/0002red.pdf>