

DEET (N,N-DIETHYL-META-TOLUAMIDE)-ToxFAQs™

What is DEET?

DEET (N,N-diethyl-meta-toluamide) is a man-made chemical. In its pure form, it is a nearly colorless to amber-color liquid, with a faint aromatic odor. DEET is the active ingredient in some common repellents widely used to repel biting insects (such as mosquitos and bed bugs) and acarids (such as ticks and mites).



DEET can be added to sprays, mists, lotions, and wipes, in a wide range of concentrations. These products can be applied directly onto human skin or onto clothing. A significant benefit of DEET is better protection against illnesses transmitted by mosquitos or ticks, such as the West Nile Virus and Lyme disease.

What happens to DEET in the environment?

DEET can enter the air during spray applications. It can get into surface waters from swimming in these waters after applying it to your skin. Showering or washing clothes that have DEET on them can lead to DEET in the wastewater where it may eventually enter sewage treatment facilities and get released into waterways.

In the air, DEET can be quickly broken down by reacting with other molecules in the air. One half of the amount of DEET in air will disappear in about 5 hours. In water, DEET will not evaporate into the air but is broken down by microorganisms in the water. It does not stay in the environment long and approximately one half of the amount of DEET in water is expected to disappear in 4 weeks or less. DEET does not build up in animals.

How can I be exposed to DEET?

Exposure to DEET mostly occurs by intentionally putting products that contain it on your skin or clothes. While spraying DEET on your skin, you may accidentally breathe some in. If it is on your hands and you eat without washing your hands, you may eat a small amount of DEET.

How can DEET affect my health?

DEET products are extensively used with very little risk to human health.

Occasionally, there have been reports of people having negative reactions after excessive use of repellents containing DEET. These effects included seizures, uncoordinated movements, agitation, aggressive behavior, low blood pressure, and skin irritation.

In animal studies, rats fed DEET before, during, and after pregnancy had pups that weighed normal when born but less than normal later on as they ate less food. Children of women who used sunscreen with DEET during pregnancy had normal weights and development through 1 year of age.

DEET is commonly found in insect repellants. If used properly, the health risk of using these products is very low.

DEET (N,N-DIETHYL-META-TOLUAMIDE)

Can DEET cause cancer?

Studies indicate that exposure to DEET is not likely to increase your risk of developing cancer.

Long-term studies in animals given DEET in their food or applied to their skin did not find an increase in tumors.

The [U.S. Department of Health and Human Services \(DHHS\)](#) has not classified DEET as to its carcinogenicity (cancer causing ability).

The [U.S. Environmental Protection Agency \(EPA\)](#) has determined that DEET is not classifiable as a human carcinogen.

The [International Agency for Research on Cancer \(IARC\)](#) has not classified DEET as to its carcinogenicity.

Can I get a medical test to check for DEET?

DEET and its breakdown products can be measured in blood and urine. Because these chemicals leave the body fairly rapidly, the tests need to be conducted within hours after exposure. These tests cannot predict whether you will have any health problems.

How can I protect myself and my family from DEET?

There are steps you can take to avoid overexposure to DEET:

- Do not apply products containing DEET over cuts, wounds, or irritated skin.
- Do not apply near eyes and mouth; do not apply to hands of young children.
- Do not allow young children to apply this product; apply to your hands and then put it on the children.
- Use just enough repellent to cover exposed skin and/or clothing.
- Do not use under clothing.
- Avoid over-application of this product.
- After returning indoors, wash treated skin with soap and water; wash treated clothes before wearing again.

For more information:

Call **CDC-INFO** at 1-800-232-4636, or submit your question online at:

<https://wwwn.cdc.gov/dcs/ContactUs/Form>

Go to ATSDR's Toxicological Profile for DEET:

<https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=1451&tid=201>

Go to ATSDR's ToxGuide for DEET: [DEET ToxGuide \(cdc.gov\)](#), or ToxFAQs for DEET: [DEET - ToxFAQs \(cdc.gov\)](#) & contact your ATSDR Regional Representative at http://www.atsdr.cdc.gov/DRO/dro_org.html

