

Diethanolamine (DEA): A Carcinogenic Ingredient in Cosmetics & Personal Products

Q. What is DEA?

A. DEA is diethanolamine, a chemical that is used as a wetting agent in shampoos, lotions, creams and other cosmetics. DEA is used widely because it provides a rich lather in shampoos and keeps a favorable consistency in lotions and creams. DEA by itself is not harmful but while sitting on the store shelves or in your cabinet at home, DEA can react with other ingredients in the cosmetic formula to form an extremely potent carcinogen called nitrosodiethanolamine (NDEA). NDEA is readily absorbed through the skin and has been linked with stomach, esophagus, liver and bladder cancers.

According to the International Agency for Research on Cancer (IARC), "There is sufficient evidence of a carcinogenic effect of N-nitrosodiethanolamine -- ." (1) IARC recommends that NDEA should be treated as if it were a carcinogen in humans. The National Toxicology Program similarly concluded: "There is sufficient evidence for the carcinogenicity of N-nitrosodiethanolamine in experimental animals."(2) Of over 44 different species in which N-nitroso compounds have been tested, all have been susceptible.(3) Humans are most unlikely to be the only exception to this trend.

Q. Why isn't this chemical regulated by the FDA?

A. The cosmetics industry is the least regulated industry under the jurisdiction of the FDA. The FDA can make recommendations but it has very little power to enforce them. In 1979 the FDA ordered industry to eliminate NDEA from their products. In 1992, the FDA tested 12 products for NDEA contamination and found that 8 of them still contained this potent carcinogen. While levels have been reduced, there is still an avoidable risk of cancer when nitrosamine contaminated products are used. Even small amounts of this potent carcinogen can increase the risk of cancer.

Q. Which products should I avoid to eliminate exposure to NDEA?

A. This is perhaps the biggest concern with the cosmetics industry. Consumers have a right to know about the dangers of products they purchase. To date, there is no way of knowing whether a particular cosmetic has been contaminated with NDEA. The best approximation is determining whether the cosmetic contains DEA. The following cosmetic ingredients are among those contaminated with DEA:

Cocamide DEA or Cocamide Diethanolamine
DEA Lauryl Sulfate or Diethanolamine Lauryl Sulfate
Lauramide DEA or Lauramide Diethanolamine
Linoleamide DEA or Linoleamide Diethanolamine
Oleamide DEA or Oleamide Diethanolamine
Any product containing TEA or Triethanolamine

If you are unable to avoid products containing these ingredients, there are a few things you can do to protect yourself from cancer risks.

(1) Be sure to rinse off the product thoroughly after use.

(2) Using cold water when shampooing can reduce the amount of NDEA that is absorbed through your skin.

More...

[National Toxicology Report...press release](#)

[Caution-DEA increases cancer](#)

[Petition to ban DEA](#)

Footnotes:

1 International Agency for Research on Cancer, Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans: Some N-Nitroso Compounds 17:77-82, 1978.

2 NTP. Seventh Annual Report on Carcinogens. U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, National Institute of Environmental Health Sciences, Technical Resources Inc., Rockville, MD, 1994.

3 Lijinsky, William. Chemistry and Biology of N-Nitroso Compounds. Cambridge University Press, New York, 1992.

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