

Dinitrophenols - ToxFAQs™

What are dinitrophenols?

Dinitrophenols are a class of manufactured chemicals that do not occur naturally in the environment. There are six different dinitrophenols.

The most commercially important dinitrophenol, 2,4-dinitrophenol, is a yellow solid. It is used in making dyes, wood preservatives, and explosives, and as a photographic developer.

In the 1930s 2,4-dinitrophenol was used in diet pills but was banned for this use in 1938 because of health risks. However, in recent years, unregulated websites have illegally marketed it for weight loss and body building.



What happens to dinitrophenols in the environment?

Different types of dinitrophenols will act differently in the environment. Dinitrophenols can be either solids or gases in the air and may travel long distances through the air.

Dinitrophenols can be removed from the air into water or soil. Once in soil, dinitrophenols can move into groundwater or break down in soil. Dinitrophenols will move onto sediment or suspended soil from water if the water is acidic and has lots of organic material.

How can I be exposed to dinitrophenols?

Most people are not likely to be exposed to dinitrophenols. If you live near a hazardous waste site, you might be exposed to dinitrophenols from contaminated air, water, or dirt. Taking illegal diet pills or supplements that contain dinitrophenols will expose you to this chemical.

How can dinitrophenols affect my health?

Most of the information on health effects of dinitrophenols comes from old studies of patients who were prescribed diet pills containing dinitrophenol before it was banned.

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Swallowing low levels of dinitrophenols for short or long periods of time can cause an increase in heart and breathing rates, weight loss, a feeling of warmth, increase sweating, and possibly death. Cataracts, skin rashes, and fewer white blood cells in the blood were also seen in people who swallowed low levels of dinitrophenols.

In the 1940s and earlier, factory workers who breathed or came in contact with high amounts of dinitrophenols for a short and long period of time experienced fever, sweating, restlessness, decreases in white blood cells, and sometimes death.

Studies in animals show that the most common effect of dinitrophenol is weight loss and increased body temperature. It has also caused damage to the heart, liver, and kidneys.

Dinitrophenols

Can dinitrophenols cause cancer?

There is no information available in people and not enough information in animals to determine if dinitrophenols are carcinogenic (cancer causing).

The Department of Health and Human Services, U.S. Environmental Protection Agency (EPA), and International Agency for Research on Cancer (IARC) have not evaluated the potential for dinitrophenols to cause cancer.

Can I get a medical test to check for dinitrophenols?

Tests are available to measure levels of dinitrophenols and its breakdown products in blood and urine. These tests cannot predict whether you will have health problems from the exposure to dinitrophenols. Doctor's offices do not routinely offer these tests. If you think you were exposed to dinitrophenols, call your doctor, nurse, clinic, or poison control center.

How can I protect myself and my family from dinitrophenols?

Most people don't need to take any special steps to avoid dinitrophenols in their daily lives. Children should avoid playing in dirt near hazardous waste sites to avoid coming in contact with dinitrophenols. It is important not to purchase or take illegal diet pills or supplements that have dinitrophenols in them as these can cause serious health problems, including death.

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 dinitrophenols: <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=729&tid=132>

Go to ATSDR's Toxic Substances Portal: <https://wwwn.cdc.gov/TSP/index.aspx>

Find & contact your ATSDR Regional Representative at http://www.atsdr.cdc.gov/DRO/dro_org.html