

This fact sheet answers the most frequently asked health questions (FAQs) about di-*n*-octylphthalate (DNOP). For more information, call the ATSDR Information Center at 1-800-447-1544. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to di-*n*-octylphthalate occurs mainly from eating food or drinking water that is stored in plastic containers. The health effects of breathing, ingesting, or touching di-*n*-octylphthalate are not known. This substance has been found in at least 300 of the 1,416 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is di-*n*-octylphthalate?

(Pronounced dī/-n-ōk'/tīl thāl' āt)

Di-*n*-octylphthalate is a colorless, odorless, oily liquid that doesn't evaporate easily. It is a man-made substance used to keep plastics soft or more flexible. This type of plastic can be used for medical tubing and blood storage bags, wire and cables, carpetback coating, floor tile, and adhesives. It is also used in cosmetics and pesticides.

What happens to di-*n*-octylphthalate when it enters the environment?

- Di-*n*-octylphthalate can be released to water or air during its manufacture, by leaking from plastics in landfills, or from the burning of plastic products.
- If di-*n*-octylphthalate is released into the air, it may be deposited on the ground or to surface water in rain or dust particles.
- Di-*n*-octylphthalate sticks tightly to soil, sediment, and dust particles.
- Di-*n*-octylphthalate is mainly broken down into other substances by microorganisms.

- It can also be broken down in reactions with sunlight, other chemicals in the atmosphere, or water.
- Small amounts of di-*n*-octylphthalate can build up in animals that live in water, such as fish and oysters.

How might I be exposed to di-*n*-octylphthalate?

- Eating foods stored in containers made with di-*n*-octylphthalate that has leaked into the food.
- Receiving blood transfusions, dialysis, or other medical treatments in which the equipment is made of plastics containing di-*n*-octylphthalate.
- Breathing contaminated air, drinking contaminated water, or touching contaminated soil near hazardous waste sites or an industrial manufacturing facility that uses or makes di-*n*-octylphthalate.

How can di-*n*-octylphthalate affect my health?

Little information is known about the health effects that might be caused by di-*n*-octylphthalate. It is not known what happens when you breathe or ingest the chemical.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

Some rats and mice that were given very high doses of di-*n*-octylphthalate by mouth died. Mildly harmful effects have been seen in the livers of some rats and mice given very high doses of di-*n*-octylphthalate by mouth for short (14 days or less) or intermediate periods (15 to 365 days) of time, but lower doses given for short periods of time generally caused no harmful effects.

No information is available on the health effects of having di-*n*-octylphthalate in contact with human skin. It can be mildly irritating when applied to the skin of animals.

It is not known whether or not di-*n*-octylphthalate could affect the ability to have children, or if it could cause birth defects.

How likely is di-*n*-octylphthalate to cause cancer?

Di-*n*-octylphthalate is not known to cause cancer in humans or animals.

Di-*n*-octylphthalate has not been classified as to its carcinogenicity by the Department of Health and Human Services (DHHS), the International Agency for Research on Cancer (IARC), or the EPA.

Is there a medical test to show whether I've been exposed to di-*n*-octylphthalate?

Di-*n*-octylphthalate and its principal breakdown products can be measured in urine, blood, and tissues. However, it is not known if they are specific for di-*n*-octylphthalate or for how long after exposure occurs the test is useful. These facts cannot be used to determine how much di-*n*-octylphthalate you were exposed to or predict whether harmful effects will occur.

This test is not part of a routine medical examination, but it can be done by the doctor's request at special laboratories.

Has the federal government made recommendations to protect human health?

The EPA has recently determined that there is not enough evidence to say that di-*n*-octylphthalate causes harmful effects in humans or the environment.

The EPA requires that spills or accidental releases into the environment of 5,000 pounds or more of di-*n*-octylphthalate be reported to the EPA.

Glossary

CAS: Chemical Abstracts Service.

Carcinogenicity: Ability to cause cancer.

Evaporate: To change into a vapor or a gas.

Ingest: To eat or drink something.

Sediment: Mud and debris that have settled to the bottom of a body of water.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Di-*n*-octylphthalate produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

