



CDC's Third National Report on Human Exposure to Environmental Chemicals

Spotlight on Phthalates

Phthalates are a group of chemicals used in the manufacture of plastics. They often are called plasticizers. Phthalates can prolong the lifespan or durability of plastics and increase the flexibility of some plastics. In addition, phthalates have been used as solvents for other materials. They are used in hundreds of products, including vinyl flooring; adhesives; detergents; lubricating oils; automotive plastics; plastic clothing, such as raincoats; and personal-care products, such as soap, shampoo, hair spray, and nail polish.

Phthalates are used widely in flexible polyvinyl chloride plastics (PVC), such as plastic bags, garden hoses, inflatable recreational toys, blood-storage containers, intravenous tubing, children's toys, and some pharmaceutical and pesticide products. Before 1999, phthalates were used in pacifiers, soft rattles, and teethers.

How People Are Exposed to Phthalates

People can be exposed to phthalates by

- Using consumer products that contain phthalates.
- Breathing household dust contaminated with phthalates.
- Having a medical treatment, such as a blood transfusion or dialysis, that uses equipment made of plastics.
- Living near a manufacturing facility that makes products containing phthalates.

How Phthalates Affect People's Health

The health effects of phthalates in people are not yet fully known. Although several studies in people have explored possible associations with developmental and reproductive outcomes (semen quality, genital development in boys, and shortened pregnancy), more research is needed.

Levels of Phthalates in the U.S. Population

- For the *Third Report*, scientists tested urine samples from people 6 years and older who took part in CDC's national study known as the National Health and Nutrition Examination Survey.
- Information about specific levels of phthalates in the U.S. population may be found by reviewing the *Report* at <http://www.cdc.gov/exposurereport>.

For More Information

■ Agency for Toxic Substances and Disease Registry

Public Health Statement for Di-n-butyl Phthalate:

<http://www.atsdr.cdc.gov/toxprofiles/phs135.html>

Public Health Statement for Di(2-ethylhexyl)phthalate (DEHP):

<http://www.atsdr.cdc.gov/toxprofiles/phs9.html>

Public Health Statement for Diethyl Phthalate:

<http://www.atsdr.cdc.gov/toxprofiles/phs73.html>

Public Health Statement for Di-n-octylphthalate (DNOP):

<http://www.atsdr.cdc.gov/toxprofiles/phs95.html>

ToxFAQs for Di-n-butyl Phthalate:

<http://www.atsdr.cdc.gov/tfacts135.html>

ToxFAQs for Di(2-ethylhexyl)phthalate (DEHP):

<http://www.atsdr.cdc.gov/tfacts9.html>

ToxFAQs for Diethyl Phthalate:

<http://www.atsdr.cdc.gov/tfacts73.html>

ToxFAQs for Di-n-octylphthalate (DNOP):

<http://www.atsdr.cdc.gov/tfacts95.html>

■ Food and Drug Administration

Phthalates and Cosmetics Products:

<http://www.cfsan.fda.gov/~dms/cos-phth.html>

DEHP in Plastic Medical Devices:

<http://www.fda.gov/cdrh/consumer/dehp.html>

National Institutes of Health National Library of Medicine Phthalates:

http://toxtown.nlm.nih.gov/text_version/chemical/phthalates.html

■ U.S. Consumer Product Safety Commission

The Risk of Chronic Toxicity Associated with Exposure to Diisononyl Phthalate (DINP) in Children's Products:

<http://www.cpsc.gov/phth/dinp.html>

■ U.S. Environmental Protection Agency

Consumer Fact Sheet on Di (2- ethylhexyl) Phthalate:

<http://www.epa.gov/safewater/dwh/c-soc/phthalat.html>

Dibutyl phthalate:

<http://www.epa.gov/iris/subst/0038.htm>

Di(2-ethylhexyl) phthalate (DEHP):

<http://www.epa.gov/iris/subst/0014.htm>

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