



Icahn
School of
Medicine at
Mount
Sinai

*Children's
Environmental
Health Center*

Phthalates

What are Phthalates?

A CHEMICAL IN PLASTICS AND COSMETICS

Phthalates are a group of chemicals that are added to plastics to make them more flexible. They are also added to many cosmetic and personal care products to help retain fragrance and color.

How are we exposed to phthalates?

FOODS, PLASTICS, COSMETICS, HOUSEHOLD DUST

- Phthalates can seep out of plastic food packaging and be ingested. Fatty foods like meat and dairy have the highest concentrations of phthalates.
- Phthalate exposure can occur through the use of personal care and household products that contain fragrance or color such as nail polish, shampoo, body wash, cleaning supplies, air fresheners, cosmetics, and others.
- Phthalates can seep out of household products made from polyvinyl chloride (PVC) or vinyl like shower curtains, carpeting, vinyl flooring, and plastic toys. Phthalates accumulate in dust and can be ingested or inhaled.
- Exposure can occur through the use of some plastic medical equipment such as intravenous (IV) tubing.
- Medications, specifically enteric-coated and time release capsules, often contain phthalates.

What are the health effects of phthalates?

HORMONE INTERFERENCE, REPRODUCTION, BEHAVIOR, IMMUNE

Phthalates are classified as endocrine disruptors, meaning they are chemicals that interfere with the body's hormone system to affect health in many ways. Children are exposed to higher levels of phthalates than adults because they are closer to the ground where chemicals settle in dust, often put their hands in their mouths, and ingest more food for their body weight. They are more vulnerable to harm from phthalate exposure because their organ systems are still forming and they have more future years of life for diseases to develop.

- **Reproductive Health:** Phthalates have been shown to disrupt the normal functions of the male sex hormone testosterone, leading to impaired reproductive development and function.
- **Immune System:** Childhood exposure to phthalates may increase the risk of allergic diseases including asthma and eczema.
- **Neurological System:** Exposure to phthalates has been linked to increased risk of autism, hyperactivity, and neurodegenerative diseases such as Alzheimer's and Parkinson's disease.

Are phthalates regulated in consumer products?

The Consumer Product Safety Commission prohibits the use of eight phthalates at concentrations greater than 0.1% in toys and feeding and teething items intended for children under three years old. There are many other phthalates that are not restricted in consumer products. Companies are not required to inform consumers about the presence of phthalates in their products.

How can I reduce my exposure to phthalates?

- Choose glass or stainless steel food and beverage containers.
- Avoid products made from polyvinyl chloride (PVC) or vinyl or labeled with the recycling symbol #3.
- Avoid heating plastic (e.g. in the microwave or dishwasher).
- Choose fresh, whole foods and avoid processed and packaged foods.
- Choose fragrance-free personal care products, household cleaners, and other items.
- Reduce dust with a wet rag, wet mop, or HEPA filter vacuum.

Additional Resources

<https://www.cpsc.gov/Newsroom/News-Releases/2018/CPSC-Prohibits-Certain-Phthalates-in-Childrens-Toys-and-Child-Care-Products#>

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