



Healthy Kids

Organophosphorus Flame Retardants Information

Organophosphorus Flame Retardants

Flame retardants are chemicals added to many kinds of products to make it harder for them to catch on fire. Organophosphorus flame retardants (OPFRs) are one type of flame retardant. Due to their widespread use, OPFRs are commonly found in indoor and outdoor environments.

Scientists are still studying how these flame retardants affect people's health. Some may interfere with the body's natural hormones, which can affect development in infants and children. Some may harm the nervous system, reproductive system, or cause cancer. However, **finding OPFRs in children's urine is common and does not mean their health will be affected.** Scientists are still learning what levels may be unsafe.



For more information and resources, please visit our web page: [Healthy Kids Minnesota: Chemical Information and Resources.](#)

What are the main uses?

- OPFRs are added to products like furniture, mattresses, carpeting, upholstery, electronics, and building insulation foam to reduce their flammability.
- Children's products may contain certain OPFRs. Examples include car seats and toys made of urethane foam such as blocks and play mats.
- Since 2019, Minnesota law has restricted the amount of certain OPFRs in children's products, mattresses, and residential upholstered furniture.

What are common ways kids can be exposed?

- OPFRs gradually leach from products and get into air and dust inside homes and vehicles.
- Children can be exposed by breathing in air and dust, swallowing dust when they put their hands or objects into their mouth, or from direct contact with products.
- Children crawl and like to play on the floor, meaning they may have more contact with dust.

How you can lower exposure to flame retardants

- Regularly clean floors and surfaces in your home to keep dust from building up.
- Have your child wash their hands before eating.
- Replace upholstered furniture that is torn or has crumbling foam.
- Consider replacing old products for children that contain urethane foam. Older products are more likely to contain banned flame retardants.
- Furniture may have an attached label indicating whether the upholstery contains added flame retardant chemicals (but not which ones). For other products, you can contact the company to ask about added flame retardants.

Flame retardants measured in your child's urine

OPFRs change into related chemicals once inside the body. We call these “breakdown products.” Healthy Kids Minnesota measured breakdown products of OPFRs in your child's urine. Flame retardants and their breakdown products have long chemical names so we use common abbreviations in this sheet and your child's results table.

OPFR BREAKDOWN PRODUCTS MEASURED	ORIGINAL OPFR
BCETP	TCEP
BDCPP	TDCPP
DPHP	TPHP and EHDPHP
BCPP	T CPP
DBuP	TBP
DBZP	TBzP
DCP	TCP
tBPPP	tBTPP
iPPPP	4tBPDPP
TBBA	EH-TBB



For more information on the full chemical names, please visit our web page: [Healthy Kids Minnesota: Explanation of Results.](#)

Minnesota Department of Health

Biomonitoring Program
625 Robert St N
PO BOX 64975
St. Paul, MN 55155-2538

health.biomonitoring@state.mn.us
www.health.state.mn.us

To obtain this information in a different format, email health.biomonitoring@state.mn.us