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Minnesota Department of Health | Biomonitoring MAKING HEALTH TEST RESULTS CLEAR

In partnership with the Healthy Kids Minnesota program, we created a suite of multilingual materials to help families make sense of their children's test results – what they mean, why they matter, and what to do next.

The materials included:

1. Cover letter
2. Information sheets to give more information about common exposure sources, and steps to reduce risk
3. Results sheet that uses a modified dot plot to show each child's scores, flag when follow-up is needed, and place results in context with other children in the program
4. Educational animation that walks families through the results page step by step, ensuring clarity for all backgrounds while pointing to additional resources



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Healthy Kids Metals Information

Metals are naturally found in the environment and get into food, air, and water. Some metals are essential nutrients at low levels. They are also used in industry and farming and can be found in some products we purchase including foods. If children are exposed to high levels of certain metals, it may harm their health. Some possible health effects include learning and behavior problems, allergic reactions, damage to the lungs, heart and kidneys, and an increase in cancer risk as an adult.

Finding metals in a child's urine is normal and does not mean their health will be affected. For most chemicals, scientists are still learning what levels may be unsafe.

Important Note Regarding Lead: Exposure to lead has many harmful health effects for children. Testing urine is not a good way to check for lead so it is not one of the metals included in Healthy Kids Minnesota. **If you are concerned about lead exposure, speak to your child's health care provider or local clinic.**

Arsenic

and soil. Some arsenic in the ies. It was an ingredient in

Ways to Lower Exposure:

- Rice is the main source of arsenic in food. If your child eats rice or rice products multiple times per day:
 - Eat a variety of rice types and brands because some types of rice have more arsenic. White rice has lower arsenic than brown rice.
 - Check where the rice is grown. White basmati rice from California, India, and Pakistan and sushi rice from the U.S. may have less arsenic.
 - Cook the rice in extra water like you cook pasta – use 6 times as much water as rice and then drain.
 - Try serving other grains in place of rice such as oats, quinoa, or corn.
 - Eat less of other rice products.
- Limit your child's apple, pear, and grape juice to 4 oz. or less per day.
- Test your private well water. If arsenic is detected, consider installing a treatment unit or using a different drinking water source.
- Have your children wash their hands after playing on older wooden structures, and do not burn this wood.

Note: The form of arsenic (called organic arsenic) found in fish and seafood is not a health concern.

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Healthy Kids Minnesota 2022

Your Child's Metals Results (Other Metals)

Watch a walkthrough of how to read your results: health.mn.gov/HealthyKidsVideo

Chemical not found in your child's sample

Your child's level

Other kids' levels

Results show micrograms (mcg) of chemical per liter (L) of urine

Levels in the shaded area mean your child's exposure was on the high end

Chemical	Your child's level	Found in % of all kids	Average level from all kids	Notes
Antimony	Not found	13%	Average not given because chemical not found in enough kids	
Cadmium	Not found	4%	Average not given because chemical not found in enough kids	
Chromium	0.2 mcg/L	80%		Your child's result is higher than expected compared to other kids. See info sheet. No medical treatment needed.
Cobalt	0.2 mcg/L	72%		Healthy Kids staff will call you to discuss exposure sources. See info sheet. No medical treatment needed.
Molybdenum	64.5 mcg/L	97%	Average not given because chemical not found in enough kids	Healthy Kids staff will call you to discuss exposure sources. See info sheet. No medical treatment needed.
Nickel	1.0 mcg/L			

Where Can Metals Be Found?

Cr Chromium Co Cobalt Mo Molybdenum W Tungsten U Uranium

and can get into air, water, soil, and food. Children are exposed eating, drinking, and playing. Human activities, like fossil-fuel burn, put metals in the environment. Here are ways kids can reduce exposure.

Ways to Lower Exposure:

- Clean floors and surfaces in your home, especially where your child plays.
- Wash hands before eating.

Pesticides Tested in Your Child's Urine

Pesticides can change into related chemicals once they enter the body. We call these "breakdown products." Healthy Kids Minnesota tested for eight chemicals in your child's urine—one pesticide and seven pesticide breakdown products.

Name	Main Uses	Common Ways Kids Are Exposed
2,4-D <small>2,4-Dichlorophenoxyacetic acid</small>	<ul style="list-style-type: none"> Controls weeds in home lawns Widely used in farming to control weeds 	<ul style="list-style-type: none"> Eating food Playing on treated lawns Nearby farming use
IMPY <small>Imidacloprid</small>	<ul style="list-style-type: none"> Controls insects in farming (crops, livestock) 	<ul style="list-style-type: none"> Eating food Nearby farming use
PNP <small>Permethrin</small>	<ul style="list-style-type: none"> Previously used to control insects in farming but use is no longer allowed in the U.S. PNP is also a breakdown product of an industrial chemical called nitrobenzene 	<ul style="list-style-type: none"> Scientists are still learning how kids are exposed to this chemical
TCPY <small>Chlorpyrifos</small>	<ul style="list-style-type: none"> In the home, chlorpyrifos can be used in ant and roach bait stations only – no other home uses are allowed Outside the home, chlorpyrifos can be used to control insects on farms and non-farm settings such as golf courses Chlorpyrifos-methyl is used on stored grain 	<ul style="list-style-type: none"> Eating food Air exposure, nearby farming use
3-PBA, 4-F-3-PBA, trans-DCCA, cis-DCCA <small>3-phenoxybenzoic acid, 4-fluoro-3-phenoxybenzoic acid, trans-2,2-dichloro-1,1-dimethyl-3-(4-chlorophenyl)ethane-1-one, cis-2,2-dichloro-1,1-dimethyl-3-(4-chlorophenyl)ethane-1-one</small>	<ul style="list-style-type: none"> Controls insects in the home and yard/garden Used in some flea and tick products for pets Controls insects in farming 	<ul style="list-style-type: none"> Eating food Contact with treated areas in home and yard Nearby farming use Contact with pets

Where Can Phthalates Be Found? (cont.)

In Plastics and Building Materials

Applies to: MBP, MECP, MEHP, MCP, MONP, MINP, MCP, MCOP, MCNP, MECP, MEHT, MCO, MINCH



How You Can Lower Exposure to Phenols

Food and Beverages

Applies to: Bisphenol A, Bisphenol F, Bisphenol S

- Choose fresh or frozen food rather than canned food, if possible.
- Choose food or drinks in glass containers rather than metal cans. Do not heat food in metal cans.
- Store leftovers in glass or stainless steel containers instead of plastic.
- Microwave foods in ceramic or glass dishes instead of plastic containers.

Personal Care Products

Applies to: Benzophenone-3, Triclosan, Triclocarban, Methyl paraben, Ethyl paraben, Propyl paraben, Butyl paraben

- Read the labels on personal care products. Choose ones that do not include parabens, benzophenone-3 (oxybenzone), triclosan, or triclocarban in the ingredient list.
- Choose sunscreens with zinc oxide and/or titanium dioxide as active ingredients, which physically (rather than chemically) block the sun.

Cleaning and Household Products

Applies to: Triclosan, Triclocarban, 2,4-Dichlorophenol

- Read the labels on cleaning products. Choose ones that do not include triclosan or triclocarban in the ingredient list.
- Avoid or limit use of household products or clothing marketed as "antimicrobial" or "antibacterial".

Healthy Kids Metals Information

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Finding metals in a child's urine is normal and does not mean their health will be affected. For most chemicals, scientists are still learning what levels may be unsafe.

Important Note Regarding Lead: Exposure to lead has many harmful health effects for children. Testing urine is not a good way to check for lead so it is not one of the metals included in Healthy Kids Minnesota. **If you are concerned about lead exposure, speak to your child's health care provider or local clinic.**

Where Can Metals Be Found?



Healthy Kids Organophosphorus Flame Retardants Information



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.

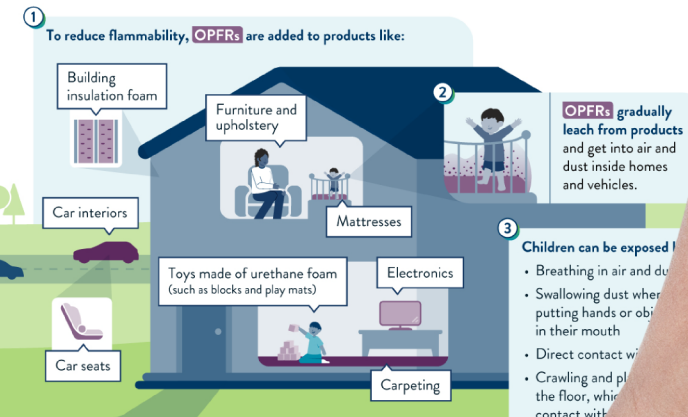
For more information and resources, please visit our webpage:



Healthy Kids MN
health.mn.gov/HealthyKidsChemicals

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.

Where Can OPFRs Be Found?



How You Can Lower Exposure to OPFRs

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.

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.

Since 2019, Minnesota law has restricted the amount of certain OPFRs in children's products, mattresses, and residential upholstered furniture. Older products (before this restriction) may contain higher levels of some OPFRs.

OPFRs Tested in Your Child's Urine

OPFRs change into related chemicals once inside the body. We call these "breakdown products." Healthy Kids Minnesota tested for 11 chemicals in your child's urine—OPFRs and their breakdown products. Flame retardants and their breakdown products have long chemical names so we use common abbreviations in your child's results sheet.

BCEtP, BCPP, BDCPP, DBuP, DB2P, DCP, DPHP, TBBA, iPPPP, tBPPP



For more information on the full chemical names, please visit: health.mn.gov/HealthyKidsResults

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

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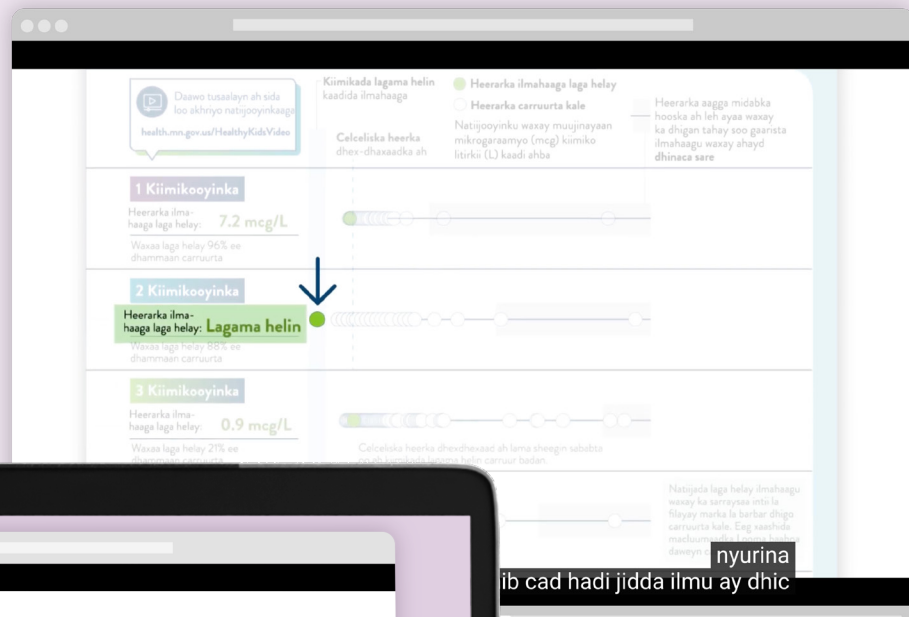
For more information and resources, please visit our webpage: health.mn.gov/healthykidsmn

Minnesota Department of Health | Biomonitoring ILLUSTRATING RISK REDUCTION FOR CHILDREN'S HEALTH

We created a series of six informational packets available in five languages as part of our collaboration with Healthy Kids Minnesota. Throughout the materials, custom illustrations highlight potential sources of chemical exposure and guide families on how to reduce risk. Chemical names are transformed into a stylized graphic element – making them more approachable than complex scientific terms – and creating a visual link to the program's Results Sheets, which use the same treatment.

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The video was translated into Hmong, Karen, Somali, & Spanish.



Minnesota Department of Health | Biomonitoring

AN ANIMATED GUIDE TO HEALTH TEST RESULTS

As part of our collaboration with the Healthy Kids Minnesota program, we created an animated video – available in five languages – to help families understand test results showing levels of certain chemicals in their child's urine. The video walks through the results page step by step, making the information clear for families of all backgrounds, while thanking them for their participation and pointing them to additional resources.

health.state.mn.us



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