



Protecting, Maintaining and Improving the Health of All Minnesotans

Dear family,

Thank you again for being part of Healthy Kids Minnesota! This is your second results packet. It has a lot of information.

What is in this packet?

- Your child's results for the **8 pesticides and 12 environmental phenols** we measured in their urine and comparisons to other kids in the program.
- Fact sheets about pesticides and environmental phenols and tips for reducing exposures.

Why did we measure pesticides and environmental phenols in kids?

- Children's developing bodies are especially sensitive to chemicals that are found in our environment – in our air, water, soil, food, and products we use.
- Measuring these chemicals that may harm health gives us a picture of children's chemical exposures across the state.
- Results will help inform families and address community concerns, and help promote policies and programs to reduce childhood exposures.

What can you learn from your child's results?

- You can see how your child's results compare to other children's results in Healthy Kids. This can tell you if your child's results are higher or lower than average.
- You can learn common ways that children can be exposed and ways to reduce exposure.

What these results cannot tell you

- They can't tell you whether your child will have a certain health outcome from an exposure. We're including a resource sheet to support you as you follow your child's development.
- They can't tell you exactly how your child was exposed.
- They can't tell you about your child's long-term exposure to these metals. Results from urine show recent exposures.

Please call or email me if you have questions about your child's results. We will mail results for the other chemicals in a separate mailing when they are ready. Again, thank you very much for participating in Healthy Kids Minnesota!

Sincerely,

A handwritten signature in black ink, appearing to read 'Jessica Nelson', followed by a vertical line.

Jessica Nelson, PhD, MPH
Healthy Kids Minnesota Principal Investigator
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HEALTHY KIDS MINNESOTA 2021 RESULTS

YOUR CHILD'S ENVIRONMENTAL PHENOLS RESULTS

How to Read the Results

Your child's level: Results show micrograms (µg) of chemical per liter (L) of urine.

Average level from all kids: The typical level found in kids from Healthy Kids Minnesota 2021.

Percent of kids with chemical found: This is the percentage of kids from Healthy Kids Minnesota 2021 who had a detectable level of the chemical in their urine.

*: Result did not meet laboratory acceptance criteria

**: Average not calculated because the chemical was not found in enough kids.

Environmental Phenol Tested	YOUR CHILD'S LEVEL (µg/L)	Average Level from All Kids (µg/L)	Percent of Kids with Chemical Found
BENZOPHENONE-3	10.1	6.79	96%
BISPHENOL A	not found	0.67	88%
BISPHENOL F	not found	0.29	72%
BISPHENOL S	0.7	0.43	86%
TRICLOSAN	1.2	0.54	53%
TRICLOCARBAN	not found	**	0%
METHYL PARABEN	2.1	9.40	100%
ETHYL PARABEN	1.1	0.76	96%
PROPYL PARABEN	0.9	0.82	86%
BUTYL PARABEN	22.1	**	10%
2,4-DICHLOROPHENOL	0.3	0.40	94%
2,5-DICHLOROPHENOL	0.4	0.80	96%

Interpreting the Results

- Scientists are still learning about what chemical levels in kids' urine are safe.
- We will call you if your child's levels are at the high end of exposure.
- If your child's level is above the average, this does not mean their health will be affected. Read the information sheet included and see if there are ways to reduce your child's exposure.
- If you would like to compare your child's levels to more results from Healthy Kids Minnesota 2021 (like the 95th percentile), scan the code below for this information.
- It is not necessary to share these results with your child's health care provider but you can do so if you choose. Resources for provider: 1) bring this packet, 2) visit our provider web page, www.web.health.state.mn.us/communities/environment/biomonitoring/projects/healthykidsprov, 3) call Jessica Nelson at MDH, 651-201-3610.

Testing performed by MDH Public Health Laboratory, 601 Robert St N, St Paul, MN 55164

MDH82XXX 01/01/2016

Scan the code to the right for more information and additional resources.



Healthy Kids Environmental Phenols Information

Environmental Phenols

Healthy Kids Minnesota measured twelve environmental phenols in your child's urine. These chemicals are commonly used in the products we buy, household materials, and food and beverage packaging. Due to their widespread use, environmental phenols are commonly found in people.

Many environmental phenols are considered "endocrine-disrupting" chemicals. This means that they affect the body's natural hormones. Hormone changes can affect development in infants and children. However, finding environmental phenols in a child'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 webpage: [Healthy Kids Minnesota: Chemical Information and Resources](#)

Phenols Measured in Your Child's Urine

Benzophenone-3 (also called oxybenzone)

What are the main uses?

- Some sunscreens
- Personal care products (such as body washes, moisturizers)
- Plastics
- Varnish and oil-based paints

What are common ways kids are exposed?

Using certain sunscreen and personal care products

Triclosan, Triclocarbon

What are the main uses?

Used to slow the growth of bacteria, fungi, and mildew in:

- Toys, sporting goods, clothing
- Some personal care products (like toothpastes, soaps, lotions)
- Housewares/home furnishings

What are common ways kids are exposed?

Using antibacterial and antimicrobial products

Phenols Measured in Your Child's Urine continued

Bisphenol A, Bisphenol F, Bisphenol S

What are the main uses?

Used as a protective coating in:

- Metal food and drink cans
- Some paper receipts

Used in plastics for:

- Housewares (such as plastic dinnerware, storage containers)
- Building materials (like grout, laminate flooring)
- Some dental sealants/fillings

What are common ways kids are exposed?

- Eating canned food or drinking canned beverages
- Consuming food/water stored or microwaved in certain plastic containers

Methyl paraben, Ethyl paraben, Propyl paraben, Butyl paraben

What are the main uses?

Used as preservatives in:

- Personal care products (such as lotions, sunscreens, shampoos, skin cleansers, baby wipes, cosmetics)
- Some household products (like stain removers, pet shampoos)
- Certain foods and food packaging
- Some medications

What are common ways kids are exposed?

- Using personal care products
- Eating food

2,4-dichlorophenol and 2,5-dichlorophenol

What are the main uses?

- 2,4-dichlorophenol is used to make other chemicals. It is also a breakdown product of triclosan (another environmental phenol) and the pesticide 2,4-D.
- 2,5-dichlorophenol is a breakdown product of a chemical used in moth repellents (moth balls, crystals, flakes, and bars). It is also used in room, trashcan, and toilet deodorizers.

- Formed during some types of manufacturing and from burning municipal waste, coal, and wood.

What are common ways kids are exposed?

Using room, trashcan, and toilet deodorizers and moth repellents

How You Can Lower Exposure to Phenols



Food/Beverages in Metal Cans and Plastic Containers

Applies to bisphenol A, F, and S

Ways to Lower Your Child's Exposure

- 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, parabens, triclosan, triclocarbon

Ways to Lower Your Child's Exposure

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



Antibacterial/Antimicrobial Cleaning and Household Products

Applies to triclosan, triclocarbon

Ways to Lower Your Child's Exposure

- Read the labels on cleaning products. Choose ones that do not include triclosan or triclocarbon in the ingredient list.
- Avoid or limit use of household products or clothing marketed as “antimicrobial” or “antibacterial”, which may contain triclosan or triclocarbon.

How You Can Lower Exposure to Phenols continued



Air Fresheners, Deodorizers, Moth Repellents

Applies to 2,5-dichlorophenol

Ways to Lower Your Child's Exposure

- Avoid or limit use of air freshening products, moth repellents, and block deodorants in trashcans and toilets.



House Dust

Applies to all environmental phenols

Ways to Lower Your Child's Exposure

Environmental phenols in consumer products and building materials can end up in house dust:

- Clean floors and surfaces in your home to keep dust from building up.
- Have your child wash their hands before eating.

Minnesota Department of Health

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

HEALTHY KIDS MINNESOTA 2021 RESULTS

YOUR CHILD'S PESTICIDE RESULTS

How to Read the Results

Your child's level: Results show micrograms (μg) of chemical per liter (L) of urine.

Average level from all kids: The typical level found in kids from Healthy Kids Minnesota 2021.

Percent of kids with chemical found: This is the percentage of kids from Healthy Kids Minnesota 2021 who had a detectable level of the chemical in their urine.

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Pesticide Tested	YOUR CHILD'S LEVEL ($\mu\text{g/L}$)	Average Level from All Kids ($\mu\text{g/L}$)	Percent of Kids with Chemical Found
2,4-D	0.7	0.6	97%
PNP	1.2	0.8	97%
TCPY	not found	0.7	92%
IMPY	not found	**	26%
3-PBA	3.2	0.5	90%
4-F-3-PBA	not found	**	8%
TRANS-DCCA	not found	0.4	52%
CIS-DDCA	not found	**	26%

Interpreting the Results

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Healthy Kids Pesticides Information

Pesticides

Pesticides control a variety of pests such as insects, weeds, and bacteria. They are used in farming, in and around the home, and many other places. Children can be exposed to pesticides where they live, learn, and play.

The health effects of pesticides depend on the specific pesticide. For example, some may harm the nervous system, irritate skin or eyes, or increase cancer risk. Infants and children are often more sensitive than adults. However, finding pesticides in a child's urine is common and does not mean your child's health will be affected. Scientists are still learning what levels may be unsafe.

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



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

Pesticides Measured in Your Child's Urine

2,4-D

What are the main uses?

- Controls weeds in home lawns
- Widely used in farming to control weeds

What are common ways kids are exposed?

- Eating food
- Playing on treated lawns
- Nearby farming use

IMPY

Breakdown product of diazinon

What are the main uses?

Controls insects in farming (crops, livestock)

What are common ways kids are exposed?

- Eating food
- Nearby farming use

Pesticides Measured in Your Child's Urine continued

PNP

Breakdown product of methyl- and ethyl-parathion

What are the main uses?

- 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

What are common ways kids are exposed?

Living close to industries that use or release nitrobenzene

TCPY

Breakdown product of chlorpyrifos and chlorpyrifos-methyl

What are the main uses?

- 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 only be used to control insects in places where young children do not spend time, like golf courses
- Chlorpyrifos-methyl is used on stored grain

What are common ways kids are exposed?

Eating food*

**Chlorpyrifos use on food crops no longer allowed after February 2022*

3-PBA, 4-F-3-PBA, trans-DCCA, cis-DCCA

Breakdown products from a group of insecticides called pyrethroids

What are the main uses?

- Control insects in the home and yard/garden
- Used in some flea and tick products for pets
- Control insects in farming

What are common ways kids are exposed?

- Eating food
- Contact with treated areas in home and yard
- Contact with pets
- Nearby farming use

How You Can Lower Exposure to Pesticides



Pesticides Used in the Home

Applies to TCPY, 3-PBA, 4-F-3-PBA, trans-DCCA, cis-DCCA

Ways to Lower Your Child's Exposure

Making your home less welcoming to pests is the best way to avoid using pesticides—like cleaning up food spills quickly, sealing holes and cracks, and fixing plumbing leaks.

If you need to use a pest control product:

- Make sure to identify the pest correctly and that the pest is listed on the label.
- Follow instructions on the product label.

- Choose baits and gels. They are more contained than sprays. Place baits and gels where your child or pet cannot touch them.
- If using a spray, limit use to targeted locations or cracks and crevices. Ventilate your home by opening windows.
- Keep your child, pet, toys, clothes, etc. away from treated area.
- Avoid foggers or bug bombs.
- If the pest problem is severe, consider hiring a certified applicator.
- Always store pesticides in their original containers out of your child's reach.



Pesticides Used on Lawns

Applies to 2,4-D

Ways to Lower Your Child's Exposure

Keeping your lawn strong and healthy is the best way to avoid using pesticides like weedkillers.

Consider tolerating some pest activity, like weeds, in your lawn. If you need to use a pest control product:

- Make sure to identify the pest correctly and that the pest is listed on the label.
- Follow instructions on the product label.

- Make sure children and pets are not nearby while applying and keep them away from the treated area for the time listed on the label.
- For liquid products, choose calm weather so it doesn't drift to other places.
- Take shoes off before entering the house and change clothes after applying.
- Always store pesticides in their original containers out of your child's reach.



Pesticide Residues on Food

Applies to all chemicals except PNP

Ways to Lower Your Child's Exposure

- Wash fruits and vegetables before eating.
- See our website for lists of fruits and vegetables with the most and least pesticide residues.



Pesticides Used on Pets

Applies to 3-PBA, 4,F,3-FPBA, trans-DCCA, cis-DCCA

Ways to Lower Your Child's Exposure

- Ask your veterinarian to help you select the most appropriate products.
- Follow the label directions and never over-treat your pet.

How You Can Lower Exposure to Pesticides continued



Pesticides in the Air from Farms and Neighboring Properties

Applies to all chemicals except PNP

Ways to Lower Your Child's Exposure

Keep your child and pet indoors with windows closed if you know pesticides are being sprayed nearby.

If you think your child came in contact with pesticide drift, follow these steps:

- Handle medical emergencies first and call 911, if needed.

- Call the Minnesota Poison Control System 24/7 at (800)222-1222 or a doctor to determine if they need medical attention.

- Report the incident to Minnesota Department of Agriculture: 651-201-6333. Pesticide drift is against Minnesota law.



Pesticides in Drinking Water

Applies to all chemicals except PNP

Ways to Lower Your Child's Exposure

Water from public water systems is already tested for many pesticides.

If you are concerned about pesticides in your private well, consider your well's risk factors:

- Pesticides are more likely to occur in wells in farming areas with vulnerable groundwater. There is a water vulnerability map on our website.

- Testing for nitrate can indicate if there are pesticides in your water. At three milligrams per liter of nitrate or above, the likelihood increases.
- If you are concerned about pesticides in your water, reverse osmosis (RO) devices remove nearly all pesticides when properly maintained.



Pesticide Residues Brought Home from Work

Applies to all chemicals

Ways to Lower Your Child's Exposure

- Follow safe work practices and the product label instructions.
- Do not bring pesticide containers or pesticides home from work.

- After work, change your clothes and shoes before entering your home and car. Shower before touching your child.
- Wash work clothes separately from other clothes.

Minnesota Department of Health

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To obtain this information in a different format, email

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If you have questions or concerns about your child's development, here are some resources to use.

- **The Follow Along Program** (www.health.state.mn.us/mnfap/) supports you as you follow your child's development, as an infant, toddler, and young child. It helps you know if your child is playing, talking, growing, moving, and interacting like other children of the same age. The program will connect you to a nurse or other local public health staff members if you have questions or concerns. Program staff will share developmental information and activities, connecting you to other supports and services as needed. You can join in this program at no cost, regardless of immigration and financial status.
- **Help Me Grow Minnesota** (<https://helpmegrowmn.org/HMG/index.html>) connects your family to your local school district to talk with people trained in infant and early child development about possible supports and next steps for your child. The services through your local school district are called **Early Childhood Special Education (ECSE)**.
- **Help Me Connect** ([Home - Help Me Connect \(state.mn.us\)](http://Home-HelpMeConnect.state.mn.us)) is a navigator connecting expectant families, families with young children (birth – 8 years old), and those working with families to services in their local communities that support healthy child development and family well-being.