

# Healthy Kids Polycyclic Aromatic Hydrocarbons Information



**Polycyclic aromatic hydrocarbons (PAHs)** are a family of chemicals that form and get released into air when materials like wood, gasoline, coal, garbage, and tobacco are burned. They also form in food that has been grilled, barbecued, smoked, or fried.

PAHs in air can irritate eyes and breathing passages, and lead to asthma and other respiratory problems. They may be especially harmful for children because their lungs and other organs are still developing. Some PAHs may cause cancer.

Finding PAHs in children's urine is common and does not mean their health will be affected. Scientists are still learning what levels may be unsafe.

PAHs form as byproducts, the result of burning materials and cooking food certain ways. Most are not made or used on purpose. One PAH, naphthalene, is used in manufacturing and in moth repellents (such as mothballs).

For more information and resources, please visit our webpage:



Healthy Kids MN

[health.mn.gov/  
HealthyKidsChemicals](http://health.mn.gov/HealthyKidsChemicals)

## Where Can PAHs Be Found?

People are usually exposed to a mixture of PAHs, rather than a single type of PAH.



## How You Can Lower Exposure to PAHs



### Air From Indoor Sources

- Don't idle your vehicle in an attached garage.
- Limit the use of incense and candles around your child. If you use them inside, use good ventilation with fans or open windows.
- Use the kitchen vent fan and/or open windows while cooking.
- Make sure your wood stove and fireplace vent properly.
- If your home has a forced air furnace, replace the filter regularly.
- If you smoke, smoke outside the home or car, and away from your child. For free help to quit smoking, call 1-800-QUIT-NOW or visit [www.quitpartnermn.com](http://www.quitpartnermn.com).
- Avoid areas where your child might breathe secondhand smoke. Ask people not to smoke around your child.
- Instead of using moth repellents, take steps to prevent moths. Use airtight storage containers and bags for clothing and bedding that are not used often. If you must use mothballs, only use them in containers labeled as airtight. Never use them in open spaces like rooms, closets, or attics. Fumes from mothballs can get into the air and cause harmful effects.



### Air From Outdoor Sources

- Minimize your child's time around:
  - Heavy traffic areas or idling vehicles
  - Asphalt road construction and tar roofing sites
  - Motorized, gas-powered equipment such as mowers, weed trimmers, and snow blowers
- When driving in heavy traffic, roll up windows and set fan to re-circulate air inside the car.
- Follow air quality alert recommendations at [www.airnow.gov](http://www.airnow.gov). You can download a cellphone app. During an air quality alert, limit your child's outside time and close windows. This is especially important if your child has asthma.
- If you have an air pollution or environmental complaint, you can submit a complaint form to Minnesota Pollution Control Agency:  
[www.pca.state.mn.us/air/have-complaint](http://www.pca.state.mn.us/air/have-complaint).



### Food

- Serve less grilled, charred, smoked, and fried food. Slow cooking, boiling, or steaming are good alternatives. If you burn food, discard the blackened part before eating.

# PAHs Tested in Your Child's Urine

PAHs change into related chemicals once inside the body. We call these “breakdown products.” Healthy Kids Minnesota tested for breakdown products of PAHs in your child’s urine. PAH breakdown products have long chemical names so we use common abbreviations in this sheet and your child’s results table.

PAH Breakdown Products Tested	Full Chemical Name	Original PAH
1-PYR	1-Hydroxypyrene	pyrene
1-NAP	1-Hydroxynaphthalene	naphthalene
2-NAP	2-Hydroxynaphthalene	naphthalene
2-FLUO	2-Hydroxyfluorene	fluorene
3-FLUO	3-Hydroxyfluorene	fluorene
3-PHEN	3-Hydroxyphenanthrene	phenanthrene

[www.health.mn.gov](http://www.health.mn.gov)  
To obtain this information in a different format, email:  
[health.biomonitoring@state.mn.us](mailto:health.biomonitoring@state.mn.us)

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For more information and resources, please visit our webpage:  
[health.mn.gov/healthykidsmn](http://health.mn.gov/healthykidsmn)