Children's Environmental Health Network

February 9, 2020

Testimony Concerning
House Bill 229 – Chlorpyrifos Ban
Submitted to Maryland General Assembly

Position: Support

Chlorpyrifos is toxic to children's brain development, even at very low levels of exposure. There is no safe level.

I, Nsedu Obot Whitherspoon, executive director of the Children's Environmental Health Network (CEHN), submit this testimony in strong support of House Bill 229 – to ban the use of chlorpyrifos and protect the health of children.

CEHN is a national non-profit that has been dedicated to protecting children from environmental hazards and promoting a healthy environment for 28 years. CEHN is also a proud member of the Smart on Pesticides Maryland Coalition, which represents 104 member organizations and businesses in advocating for a ban of the toxic pesticide chlorpyrifos.

During this 2020 legislative session, the General Assembly has the historic opportunity to ban chlorpyrifos in Maryland. Along with representing the Smart on Pesticides Coalition and CEHN, I am also a mother of four

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Children and a Charles County resident. So, both personally and professionally, I consider this legislation to be one of the most important votes members of both chambers will make this session.

Chlorpyrifos is an inexpensive organophosphate pesticide that has been used since 1965. OPs are toxic nerve agents and have a common method of toxicity; they are designed to impact the central nervous system by blocking an enzyme called acetylcholinesterase. This enzyme normally breaks down acetylcholine, a chemical that the body uses to transmit nerve impulses. It causes insects to convulse and die. **All organophosphate insecticides are toxic and potentially lethal to humans.** Chlorpyrifos is also found in waterways and injures wildlife.

Human exposure to chlorpyrifos can occur through eating fruits and vegetables that have been treated, and through inhalation or skin absorption. Unfortunately, it is used on many kids' favorite fruits including apples, grapes, strawberries and peaches. Exposures can also occur when applying the pesticide, by working and walking in fields where the pesticide has been applied, and by living or going to school near places that have been treated.[i] [ii]

Scientific consensus has found exposure to organophosphate pesticides such as chlorpyrifos can damage children's brains and cause intellectual impairments and neurodevelopmental disorders including poor cognitive, behavioral and social development.[iii] This scientific consensus is based on a wide variety of studies with different locations (urban and rural), diverse populations and methods of measuring exposure.

Additionally, an overwhelming number of studies have linked chlorpyrifos exposure in developing fetuses (several studies have seen changes in the brain structure of children exposed to chlorpyrifos in the womb), infants, children, and pregnant women with a host of impacts including preterm birth, low birth weight, congenital abnormalities, pediatric

cancers, and asthma, in addition to neurobehavioral and cognitive deficits such as lowered IQ, ADHD, and autism spectrum disorders.[iv],[v]

Many of the researchers assessed exposure to chlorpyrifos at low levels of exposure and could not identify a safe level of exposure -- concluding no level is safe. In fact, in 2016, the U.S. Environmental Protection Agency proposed a rule to ban chlorpyrifos after a review of the science citing that even low levels of exposure present a clear risk to children's health and that any level of exposure is unsafe. The Trump administration reversed this decision in 2017 stating that the science was not resolved, and more study was needed.

In 2017 and 2018, additional studies on prenatal exposure to chlorpyrifos in rats added to the weight of epidemiological evidence concerning children's neurodevelopment. These studies found that exposure to chlorpyrifos in the womb caused decreased learning, hyperactivity and anxiety in rat pups at doses lower than those that affected acetylcholinesterase.[vi, vii, viii]

It is also important to consider that farm workers, their children and residents living in agricultural and rural communities are at greater risk. These workers and families have increased exposure to pesticides and can carry the pesticide into the home on their clothes and shoes.[ix], [x] Several studies have found that pregnant women living in an agricultural community have higher exposures to pesticides including chlorpyrifos.[xi] In addition, these families often live in poor areas and have limited access to services, which puts them at even greater risk for adverse health outcomes.

It is cost effective to ban chlorpyrifos. Safe, cost-effective alternatives that are less toxic to humans and the environment are currently used throughout Maryland to target pests on farms, orchards, vineyards, and golf courses. So why risk our children's health when there are safer alternatives available? In addition to these cost-effective alternatives, the economic costs associated with neurodevelopmental problems is large. For example, economists

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estimate that it costs twice as much to educate a child with learning and developmental disabilities in the US than a child without disabilities. [xii]

Protecting children is a moral imperative. Children are our most vulnerable population, both in terms of their physiology—children are more susceptible to environmental hazards, like pesticides, due to the continued development of their major organ systems —and because they are not yet able to advocate for their own safety. Eliminating the possibility of exposure to chlorpyrifos through legislation—with no exemptions—is the only action that will keep our children safe.

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