April 14, 2025

Dear Distinguished Delegates to the Stockholm Convention:

We are scientists, health professionals, and advocates with expertise in toxic chemicals and pollutants that harm the developing brain. Many of us are affiliated with Project TENDR, a collaboration of leading scientists, health professionals, and environmental health advocates who came together out of concern over the substantial evidence linking toxic chemicals to neurodevelopmental disorders, such as autism spectrum disorder, attention deficits, hyperactivity, intellectual disability, and learning disorders.

We are writing in support of listing chlorpyrifos as a persistent organic pollutant ("POP") under Annex A of the Stockholm Convention with no specific exemptions. Based on decades of scientific evidence of harm, we believe chlorpyrifos should be eliminated from use worldwide to protect children's developing brains from lasting impacts.

Strong Body of Evidence Finds Chlorpyrifos is a Neurodevelopmental Toxicant

Chlorpyrifos is an organophosphate pesticide, a chemical class comprised of nerve agents that inhibit the neurodevelopmental process and adversely impact later neurological functioning. Numerous studies in the United States and other countries, spanning diverse populations in both agricultural and urban settings, correlate chlorpyrifos exposure with developmental delays, cognitive impairments, and behavioral issues in children (1,2) In one review, adverse effects on neurodevelopment were seen in all but one of the 27 studies evaluated (3). The latest research from France (4), Thailand (5), Denmark (6), Costa Rica (7), and China (8) confirm findings of the earlier studies.

Organophosphate pesticides such as chlorpyrifos are associated with symptoms or diagnoses of attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (1,4). One study found the children born to pregnant women living near agricultural fields where chlorpyrifos was applied had a 60% greater likelihood of developing autism than the children of pregnant women who were not in proximity to those fields (9). A new study for the first time links chlorpyrifos with the learning disability, dyslexia (10).

In addition to the epidemiologic findings in children, adverse effects on cognition, motor activity, and social behaviors were repeatedly demonstrated in rodents dosed with low levels of

chlorpyrifos and other organophosphates in early life (1,11). A strong body of scientific evidence clearly indicates that chlorpyrifos is a neurodevelopmental toxicant.

Low Exposures to Chlorpyrifos Can Impact Children's Developing Brains.

Importantly, dozens of studies over more than three decades demonstrate that chlorpyrifos can harm children's developing brains at levels far lower than the levels that can impact an adult (1). Neurological damage from low-level exposures may occur even when neither the pregnant woman nor fetus show signs or symptoms, with the neurodevelopmental problems only manifesting months or years later. In 2019, the European Food Safety Authority (EFSA) stated that the European Union could not set a safe exposure level for chlorpyrifos, in part due to its effects on child brain development (12).

Ban Chlorpyrifos with No Exemptions

To protect children from lasting and entirely preventable harm, we urge the Parties to list chlorpyrifos in Annex A of the Stockholm Convention with no specific exemptions that would allow its continued use. Thank you for considering this scientific letter; we would be glad to provide further information as needed.

Sincerely,

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