



Icahn
School of
Medicine at
Mount
Sinai

Children's
Environmental
Health Center

Glyphosate - Based Weed Killers & Your Child's Health

WHAT IS GLYPHOSATE?

MOST WIDELY USED PESTICIDE

Glyphosate is a weed killer, or herbicide. It is the most extensively used pesticides in the world today for both residential and agricultural purposes. Human exposure to glyphosate is widespread.

We recommend avoiding glyphosate-based herbicides due to the mounting safety concerns outlined below.

HOW ARE WE EXPOSED?

INHALATION & INGESTION

Glyphosate can be inhaled or ingested when it is applied to lawns and gardens. After application, we come into contact with glyphosate through plants, soil, air, and food.

Glyphosate used on lawns and in parks can be tracked into our homes on shoes or strollers that have had contact with glyphosate treated surfaces. Residues of glyphosate are detected on some produce as well as in processed foods.

WHAT ARE THE HEALTH RISKS?

CANCER, HORMONE DISRUPTION, BIRTH DEFECTS, NERVOUS SYSTEM TOXICITY & ANTIBIOTIC RESISTANCE

Studies suggest a number of health risks associated with exposure to glyphosate. Children and fetuses are most vulnerable to pesticide exposures due to their developing organ systems and differences in the way they metabolize toxins. In addition, developmentally normal hand-to-mouth behavior, close proximity to the ground where pesticides settle, and high respiratory rates result in higher exposures in children compared with adults.

- **Cancer:** Glyphosate is classified by the World Health Organization's International Agency for Research on Cancer (IARC) as probably carcinogenic to humans based on strong evidence that it causes cancer in laboratory animals, and some evidence that it increases cancer risk in humans.¹
- **Hormone disruption:** Studies have shown that glyphosate is an Endocrine Disrupting Chemical (EDC), meaning that it interferes with hormones in the body. EDCs can interfere with the development of the brain as well as the function of organ systems, such as the nervous and reproductive systems.
- **Birth defects:** Elevated rates of birth defects have been observed in animals fed with glyphosate-treated crops and in farming communities in areas where large quantities of glyphosate are used. Further research is needed to examine the link between glyphosate and birth defects.
- **Nervous system toxicity:** Laboratory studies suggest that glyphosate is toxic to the nervous system.
- **Antibiotic resistance:** Glyphosate has the potential to make bacteria less sensitive to antibiotics.



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HOW CAN I REDUCE EXPOSURE?

- Avoid using weed killers that list glyphosate as the active ingredient.
- Practice Integrated Pest Management (IPM) methods to reduce the need for synthetic pesticides³
- Leave shoes, strollers and wheeled luggage by the door in your home.
- Wash hands before eating and after playing outdoors.
- Choose GMO-free foods labelled USDA Organic or Non-GMO Project Verified.
- Advocate for glyphosate bans in public spaces in your community.
- Encourage neighbors to avoid use of glyphosate-containing products.

ADDITIONAL RESOURCES

Guyton KZ, Loomis D, Grosse Y, El Ghissassi F, Benbrahim-Tallaa L, Guha N, Scoccianti C, Mattock H, Straif K International Agency for Research on Cancer Monograph Working Group, IARC, Lyon, France. Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate. *Lancet Oncol.* 2015 May;16(5):490-1.

Myers JP, Antoniou MN, Blumberg B, Carroll L, Colborn T, Everett LG, Hansen M, **Landrigan PJ**, Lanphear BP, Mesnage R, Vandenberg LN, Vom Saal FS, Welshons WV, Benbrook CM. Concerns over use of glyphosate-based herbicides and risks associated with exposures: a consensus statement. *Environ Health.* 2016 Feb 17;15(1):19

¹<http://npic.orst.edu/pest/ipm.html>