EL The Hidden Costs of a Plastic Planet: Health

HOW PLASTIC IS MAKING PEOPLE SICK AND WHAT WE CAN DO ABOUT IT



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Plastic is a global health crisis hiding in plain sight: If the world continues to make, use, and discard plastic, people will continue to experience its negative health impacts. Because of pervasive systemic oppression, Black, Indigenous, and impoverished communities globally will continue to be hit the hardest.

Ninety-nine percent of plastics are made from fossil fuels, and over 40% of plastics are used for disposable packaging. Plastics are toxic in two ways. First, through exposure to the polymer itself, typically through ingestion or inhalation of microplastics. Second, from the many toxic additives that are mixed with polymers to give familiar plastics their color, flexibility, or other properties.

What we know about the toxic impacts is clear: Plastic poses distinct risks to human health at every phase of its life.

Extraction & Transport of Feedstocks: Pumping and piping the oil and gas feedstocks used to make plastics release toxins that harm skin, eyes, and other sensory organs; the respiratory, nervous, and gastrointestinal systems; liver; and brain. The petrochemical components of plastic are linked to cancer; neurological, reproductive, toxicity; impairment of the immune system.



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Refining & Manufacture: Transforming fossil fuel feedstocks into plastic resins and additives releases chemicals that impair the nervous system; reproductive and developmental problems; cancer; leukemia; and genetic impacts like low birth weight.

Products & Packaging: Use of plastic consumer goods leads to ingestion and/or inhalation of large amounts of both microplastics and toxic substances, with known or suspected carcinogenic, developmental, or endocrine-disrupting impacts.

Waste Management: All plastic waste management technologies lead to exposure for workers and communities through breathing contaminated air, touching poisoned water or soil, or eating food grown in that environment.

In the Environment: Large and microscopic plastics can contaminate food chains by accumulating in the soil and water, leading to many of the same health impacts caused by ingestion and inhalation of plastics, detailed above. In addition, microplastics in the human body can lead to inflammation, genotoxicity, apoptosis, necrosis, cancer, cardiovascular diseases, inflammatory bowel disease, diabetes, rheumatoid arthritis, chronic inflammation, autoimmune conditions, neurodegenerative diseases, and even stroke.

KEY DEFINITIONS

- **Polymer:** are natural or synthetic materials made of long, repeating chains of molecules (monomers).
- **Microplastic:** a fragment of plastic that is typically 5 mm or less in length.
- feedstock: raw materials that are used as the building blocks for future plastic products.
- **Single-use plastic**: plastic products that are used once and thrown away. Examples include food packaging, bottles, straws, and bags.

THE HIDDEN COSTS OF A PLASTIC PLANET: HEALTH



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Ambitious and comprehensive action is needed **<u>now</u>** to stop plastic from poisoning people and the environment. Solutions must be guided by respect for human health and the right to a healthy environment.

We already know enough about the severe harms to human health along the plastic life cycle to demand action.

Solutions must:

- Focus on preventing harm wherever it could occur in the plastic life cycle;
- Account for plastics as end-products and the thousands of additives used to make them;
- Strive to eliminate exposure to all hazardous materials along plastic's whole life cycle;
- Ensure access to information regarding the chemical substances in products and processes;
- Increase independent research to fill existing and future knowledge gaps on the health harms from the full life cycle of plastic;
- Build on transparency across the supply chain especially regarding exposure to hazardous materials;
- Assess possible health and environmental impacts of technologies touted as "solutions," such as incineration and plastic-to-fuel technologies;
- Integrate the right to meaningful participation in decisionmaking about plastic-related risks;
- Guarantee access to justice when and where harm occurs.

Plastic has a complex set of life cycle phases, each with a separate universe of stakeholders. As a result, piecemeal measures — like those that work only at a local level, only at a single point in the life cycle, or concerning a single product stream (i.e., bags, foam, etc.) — are often undermined or offset by the emergence of new plastics, new additives, and new exposure points interwoven in global supply chains.

Ultimately, solutions must focus on comprehensive reduction: make and use less plastic. When taken together, these solutions will add up to a strong strategy for addressing plastic's total harms to the <u>climate</u> and public health.

ACTIONS WE CAN TAKE

- Start from the beginning: Many people (even policymakers) don't know about the health impacts of plastics, so we often have to educate first.
- Share information and raise awareness on toxics and their impact across the whole life cycle of plastic.
- Build capacity for individual and collective action among all people in a given community.
- Embolden and empower people.
- Place blame where it belongs: on manufacturers. Avoid blaming consumers for their individual behavior.
- Focus instead on collective action for systemic solutions and change. For instance: advocate for reusable and refillable systems rather than alternative kinds of singleuse plastic. Speak out about the need for health information disclosures about products *and* their packaging.

The full report is available online at <u>www.ciel.org/plasticandhealth</u>



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