

Title: Global plastic treaty needs to address chemicals

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One-Sentence Summary: A global plastic treaty needs to address all issues of plastics chemicals across life cycle as an inseparable part of the plastic pollution problem.

Main Text: In March, the global community agreed to establish a legally binding treaty to end plastic pollution (1). To deliver on this goal, the treaty needs to cover all issues of plastics chemicals as an inseparable part of the problem.

5 Plastics are complex materials consisting of chemical mixtures, including polymers, additives, residual monomers and processing aids, and non-intentionally added substances. Such mixtures leach across the plastics life cycle, from feedstock extraction, production, use, to recycling and disposal, also recombining along complex, unplanned pathways (2). This results in widespread human exposure and poses serious consequences to the environment.

10 Out of over 10,000 known plastics chemicals, at least 2,400 are classified as toxic, such as many phthalates and brominated flame retardants (3, 4, 5). Documented health effects include premature births, low birth weight, obesity, diabetes, cardiovascular disease, endometriosis, infertility, and cancers, thus spanning generations (6). In the US alone, associated costs of endocrine-disrupting chemicals amount to USD 300 billion/year (7, 8). The total burden on community, ecosystem health, and biodiversity is far greater (9, 10).

15 Even with material recycling, plastics chemicals ultimately proliferate in the ecosystem, whether as emissions or by entering new products, entailing new chemical cocktails and exposures for waste-laborers, consumers, and (frontline) communities (11). An effective, fair and safe circular economy can only be achieved by phasing out toxic chemicals from plastic production (12).

20 As negotiations for a global treaty begin, plastics chemicals need to be front and center. However, preparatory meeting documents published officially over September and October focus on downstream plastic waste and work from a narrow definition of chemicals as hazardous additives. To enable the treaty to fully address plastics' ecological, health and environmental justice problems, it is essential to redefine plastics as complex chemical mixtures and to integrate chemical issues across the life cycle within the scope and core obligations of the legal
25 instrument.

References and Notes

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