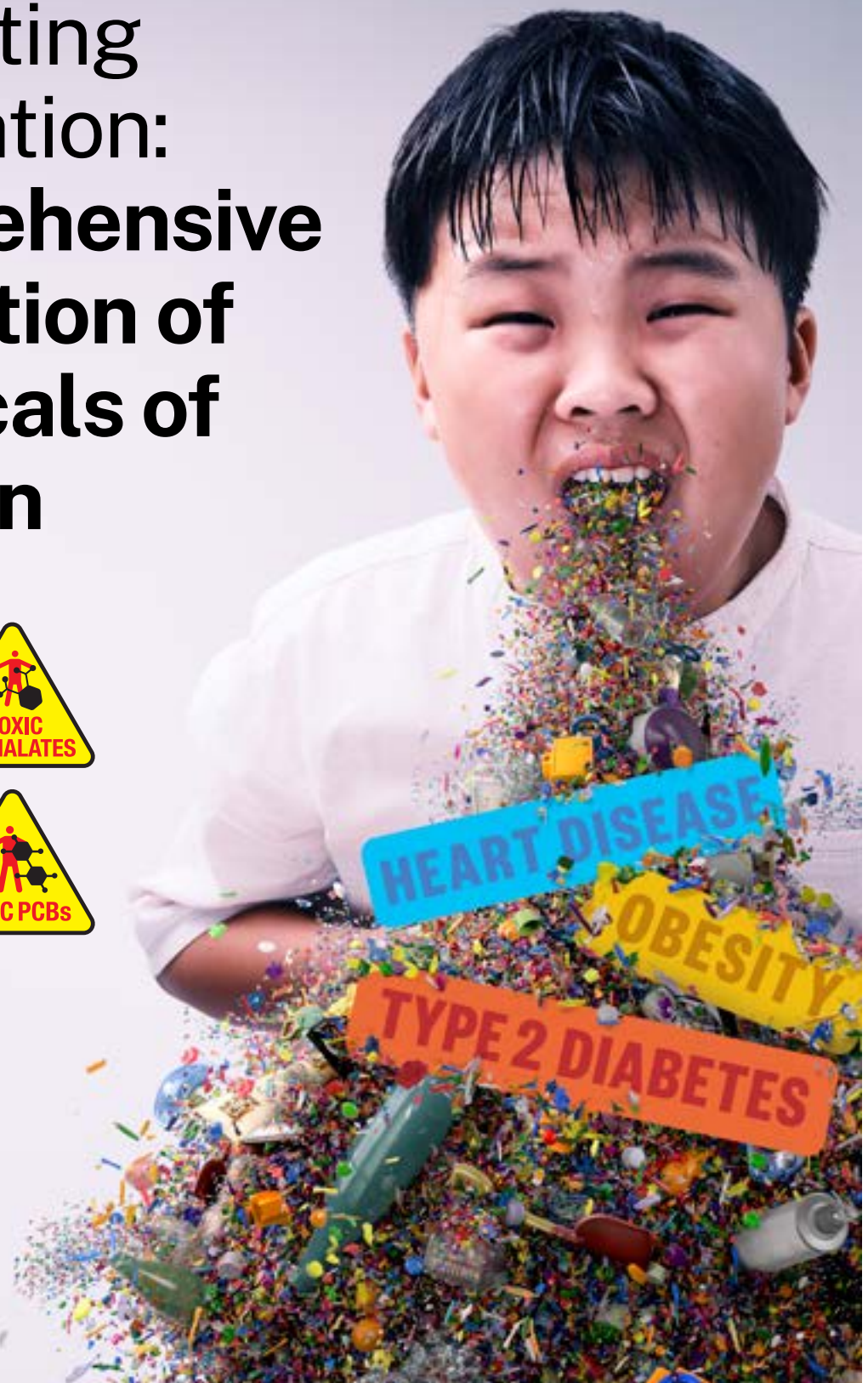


# Supporting Information: Comprehensive Regulation of Chemicals of Concern



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### Key Points:

- World leading scientists have found exposure to chemical classes used in plastic increases health harms throughout the entire human lifecycle.
- We need to protect the community from harmful chemicals and provide industry with certainty by comprehensively regulating chemicals under the Global Plastics Treaty.
- It's critical for the Global Plastics Treaty to adopt a hazard and group-based approach for chemicals that science has shown to have intrinsically harmful characteristics (persistence, bioaccumulation, mobility and toxicity) rather than risk.
- Comprehensive regulation should be similar to other multilateral environment treaties (MEA) and list classes of chemicals in an annexure.
- To address issues of double regulation:
  - If the class of chemicals is listed in another MEA, then impose control measures; and
  - If the class of chemicals is not listed in another MEA then regulate the chemical under the treaty.
- The list should start with the following five chemical classes that world leading scientists have shown are strongly associated with serious health harms:
  - Bisphenols (regulate)
  - Phthalates (regulate)
  - Polychlorinated biphenyls (PCBs) (control)
  - Polybrominated Diphenyl Ethers (PBDEs) (control); and
  - Per and polyfluroalkyl substances (PFAS) (control or regulate depending on whether they are already listed under an MEA).
- With 16,000 chemicals used in plastic and every single chemical that has been investigated found to be harmful –we need to act now, and not wait for 16,000 inadequate risk assessments that will fail to protect our health.



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# Supporting Evidence:

- The peer-reviewed [Umbrella Review of Meta-Analyses Evaluating Associations between Human Health and Exposure to Major Classes of Plastic-Associated Chemicals](#) found statistically significant correlations between chemicals in each of these five classes and health harms.
- This review synthesised data from 52 systematic reviews, involving >900 meta-analyses on ~1.5 million individuals, including pregnant women, babies, children and adults.
- It found exposure to chemicals found in commonly-used plastics increases health risks throughout the entire human lifecycle – and that none of the examined chemicals can be considered safe.
- The five chemical classes investigated were:
  - Bisphenols (specifically BPA)
  - Phthalates
  - Polychlorinated biphenyls (PCBs)
  - Polybrominated diphenyl ethers (PBDEs)
  - Per- and polyfluoroalkyl substances (PFAS)



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# FAQs

### **What is the difference between risk and hazard-based regulation approaches?**

A risk-based approach assesses one chemical at a time, typically for its cancer-causing toxicity only, while failing to consider other mechanisms of harm and relevant human health outcomes (potential or actual).

A risk based approach doesn't consider hazard potential based on inherent harmful characteristics of the chemical, nor can it feasibly test for the multitude of real-world exposure scenarios that exist.

### **Aren't chemicals used in plastic already regulated by other MEAs?**

There is currently a haphazard patchwork of regulation, each of which is narrow in scope, so that only a small fraction of the thousands of existing plastic chemicals are addressed, resulting in many plastic chemicals with well-known hazards continuing to be used in plastics.

### **How many chemicals should be regulated under this Treaty?**

There are many other chemicals which scientists are concerned about, including those that have not even been studied in humans. But the list of chemicals of concern that Minderoo and JBI's umbrella review demonstrates strong evidence of human health harms for is where we should start.



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## Supporting Information: Comprehensive Regulation of Chemicals of Concern

# FAQs

### Individual nations could regulate chemicals of concern in their domestic laws, why do we need a Global Plastics Treaty?

A single treaty regulating the full life cycle of chemicals used in plastic would provide:

- **Health and environmental benefits** by regulating chemicals known to be harmful to human health.
- Certainty and **decrease the regulatory burden** for business and industry by providing clarity on what chemicals can and cannot be used in plastic production.
- The ability for **science to be at the forefront of regulation** by ensuring regulatory action is informed by research.

### What health impacts do these chemicals of concern have on humans?

The peer-reviewed Umbrella Review found exposure to the above chemicals linked to a wide range of health outcomes, including those occurring:

- Before birth (miscarriage)
- At birth (low weight, genital malformation), and in children (neurodevelopment issues, obesity, blood pressure, asthma and bronchitis, precocious puberty in girls — i.e., onset before eight years)
- During adulthood (endometriosis, sperm concentration and quality, insulin resistance and type 2 diabetes, thyroid function, polycystic ovarian syndrome, obesity, cardiovascular disease, hypertension, and cancer).

[Learn more](#)

[globalplasticstreaty.com](https://globalplasticstreaty.com)



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