

Addressing Additives in Plastics: The Role of a New Global Agreement on Plastic Pollution



Additives are critical to the function and performance of plastic products. A wide array of chemicals are used as additives in plastics, including plasticizers, flame retardants, pigments, antioxidants, stabilizers, antistatic, nucleating agents, and inks. These chemicals are registered and evaluated for safety under domestic chemical management and product regulatory systems in many developed countries. Some plastic additives have been restricted globally through mechanisms such as the Stockholm Convention.

ICCA recognizes that the leakage of plastic pollution into the environment is a critical global problem. The chemicals and plastics industry strongly [supports the creation of a global agreement](#) to accelerate action to address this issue. Many stakeholders have raised concerns about the use of chemical additives in plastics and stress the need to address additives as part of a new treaty on plastic pollution. Separately, there are calls to address plastics additives in other multilateral forums, e.g. under the successor to SAICM, or under the Basel Convention where NGOs called to reclassify all plastic wastes as hazardous. Some stakeholders are also calling for a global standard requiring disclosure of hazardous chemicals used in products traded internationally, including for chemical additives used in plastics.

Key concerns raised by organizations about the use of additives in plastic include:

- **Transparency:** There is no global database listing specific additives used in plastic (and other) products, though there is an [ECHA high-volume plastic additive initiative](#).
- **Substances of Concern:** While there is no universal definition of a “substance of concern” and chemical additives are regulated at the domestic (and sometimes global/regional) level, there is a push to eliminate these chemistries altogether from plastic products.
- **Leachability:** There are concerns that chemical additives may leach from plastic products, posing risks to human health and the environment. Research is underway by industry and others to explore additive leachability and bioaccessibility.
- **Barriers to recycling and to a transition to a (non-toxic) Plastics Circular Economy:**
 - Recycling of plastic products (and their wastes) in countries lacking regulatory controls on the use of post-consumer recycled plastic can result in substances of concern being used in food contact materials, children’s toys, etc.
 - Lack of traceability of chemical additives in plastics throughout their life cycle can make conventional recycling difficult in all countries and pose barriers to a circular economy.

ICCA strongly believes that a global agreement on plastic pollution should facilitate a circular economy for plastics without duplicating existing instruments that already address chemicals in products, including additives in plastics.

Additives are a vast and diverse set of chemicals that are used in applications beyond plastics. There are global conventions including Stockholm and Basel, and many existing stringent regional and domestic regulations that assess chemicals, including chemicals used in plastic products. When a risk is found under these instruments, restrictions or bans are developed, including for chemical additives in plastics. Further, there are many voluntary instruments and pilots with the objective of ensuring and improving the safe use of chemicals in products, including in plastics (e.g. the UN CiP Initiative for collaboration along the value chain, and value-chain pilots by the private sector). ICCA strongly supports increasing enforcement and improving implementation of these existing instruments. A new global agreement to address plastic pollution should not duplicate these existing instruments and voluntary efforts.

Key actions for a global agreement on plastic pollution to address concerns with plastic additives include:

- **Improving access to waste management:** Billions of people lack access to waste management, and in many countries, trash containing plastics is openly burned, often releasing hazardous compounds into the environment. Improving access to waste management and environmentally sound disposal and recycling of plastic products is critical.
- **Promote innovation and technology solutions to trace chemicals throughout their lifecycle:** Technologies such as blockchain can track the use of chemicals in products along the value chain, including their end-of-life disposal and recycling to facilitate proper management.
- **Provide guidance and enhanced capacity building for plastics recycling:** Poor recycling practices can result in hazardous additives contaminating recycling streams.
- **Establish guidance on product design:** Guidance on design for recycling can include recommendations for more recyclable, sustainable, and less toxic additives where possible as part of the product design process.
- **Promote advanced (chemical) recycling:** Chemical recycling can treat mixed and contaminated plastic waste that cannot be recycled mechanically. Through chemical recycling technologies, contaminants, additives, and other impurities are removed, resulting in feedstock that can remain in a closed loop to produce recycled plastic for all applications, including food contact.

Building domestic capacity to safely manage chemicals is critical. Plastic products are a vast category that provide enormous benefits to society, including towards achieving many of the UN Sustainable Development Goals. The exposure and risks posed by additives necessary for construction products or electronics with limited human/environment exposure, should be treated differently than products with direct human contact, such as food packaging. ICCA supports research initiatives to understand these exposures, including efforts sponsored by industry, to better understand the leachability of additives.¹

Domestic and/or regional regulations identify substances of concern and limit the use of those chemistries to mitigate risks to human health and the environment. ICCA strongly supports the establishment of science- and risk-based chemical management systems in all countries and is an active participant in the Strategic Approach to International Chemicals Management (SAICM).

¹ For example, Cefic recently awarded funding to a project led by Duke University will develop a quantitative model to evaluate additive leachability and bioaccessibility in realistic aquatic environments.