PFAS IN CLOTHING
STUDY IN INDONESIA, CHINA, AND RUSSIA SHOWS BARRIERS FOR NON-TOXIC CIRCULAR ECONOMY

February 2022

BROMINATED FLAME RETARDANTS IN PLASTIC PRODUCTS FROM CHINA, INDONESIA, AND RUSSIA

February 2022

A CALL TO ACTION: FREE CHILDREN FROM BPA'S TOXIC LEGACY
BPA IN PLASTIC PRODUCTS FROM BANGLADESH, BHUTAN, CHINA, INDONESIA, MALAYSIA, RUSSIA, SRI LANKA & TANZANIA THAT ARE IN CONTACT WITH FOOD OR WITH CHILDREN'S MOUTHS

February 2022
ADDITIVES IN PLASTICS

TOXICS IN

TOXICS OUT

RECYCLED PLASTIC PRODUCTS

RECYCLING TOXIC CHEMICALS

PLASTIC PELLETS

PLASTIC WASTE MANAGEMENT

TOXICS OUT

TOXICS OUT
THE PROBLEM

• Highly persistent
• Many regrettable substitutes
• Diet and drinking water have been established as the main exposure routes to PFAS; however, exposures from dust, indoor environments, and personal care and consumer products are also important.
DATA
• Analysing the presence of 55 targeted PFAS in from 25 items of waterproof and stain resistant clothes
• 4 of 55 analysed PFAS identified in the products (more is likely present)
• Findings of fluorotelomer alcohols (FTOHs) in the samples suggest that side chain fluorotelomer-based polymers were likely used to achieve water repellence in the products

IMPLICATIONS
• Present fluorotelomer alcohols notably degrade to PFOA, a chemical listed for global elimination
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Throwaway Packaging, Forever Chemicals
European wide survey of PFAS in disposable food packaging and tableware

Forever Chemicals Round and Round
Contamination of water bodies with perfluorinated substances and brominated flame retardants in the Prague area
Václav Mach
Jitka Straková
Arnika November 2021
THE PROBLEM

• Persistent, lack of data, regrettable substitutes
• Disrupt endocrine (EDC), immune and reproductive systems
• Humans are exposed through food, dust ingestion, and through dermal exposure
• The BFRs in plastic toys likely originating from unregulated recycling of e-waste plastics
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TOXIOIXOT LOOPTHOLE
Recycling Hazardous Waste into New Products

Arnika 2018

WEAK CONTROLS: EUROPEAN E-WASTE POISONS AFRICA'S FOOD CHAIN

April 2019
DATA
• All lab-tested (and pre-screened) items contained POP-BFRs (PBDEs)

IMPLICATIONS
• BFRs have been found in consumer products even where fire resistance is not necessary, suggesting that the products are made from recycled plastics sourced from electronics waste
• POPs recycling contaminates children’s toys!
THE PROBLEM

• 90% of the world’s population have BPA in their bodies; children in particular sensitive

• Associated with reproductive harm in men and women, neurological and brain effects, diabetes and obesity

• Primary source of exposure to BPA for most people is through the diet. While air, dust, and water are other possible sources of exposure
DATA
• 78% (76/98) of all the samples contained BPA above the limit of quantification (LOQ).
• 14 out of 23 (61%) products labelled “BPA-free” or “0% BPA” were found to be mislabelled because they contained BPA
• One baby feeding bottle made in China and purchased in Malaysia, violates existing Malaysian legislation
• Two baby feeding bottles made in India, both non-compliant with Indian legislation, are marketed in country lacking an appropriate legislation (Bhutan)

IMPLICATIONS
• Most of the concentration limits respect the legal thresholds in the countries considered
REGRETTABLE SUBSTITUTION: SHifting to BPA-Free, but with BPF or BPS

- **1891**: Bisphenol A (BPA) first prepared by Russian chemist Aleksandr Dianin.
- **Early 1930s**: British biochemist Edward Charles Dodds tests BPA as an artificial estrogen.
- **1958**: Mobay, General Electric, and Bayer begin producing BPA-derived polycarbonate plastics.
- **1997**: Adverse effects of BPA in animal studies first observed.
- **2000**: The Endocrine Society warns that lab research shows cause for concern over EDCs, like BPA.
- **2015**: A systematic review finds that BPS and BPF are hormonally active, like BPA.
- **2017**: The US FDA, EU, Canada and others ban the use of BPA in baby bottles.
- **2012**: The EU and ECA list BPA as a substance of very high concern.
IPEN in action for

• Class-based approach
• No regrettable substitutes
• Global incentives (Stockholm and Basel Conventions, Strategic Approach to International Chemicals Management (SAICM))
• Control over entire lifecycle (end-of-life, wastes)
• Systematic solutions (Plastic Treaty)