



"PFAS Pollution: Challenges, Risks, and Regulatory Strategies for a Safer Future"

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SCOPE: The ultimate goal is to provide a comprehensive understanding of PFAS-related risks, the effectiveness of current regulatory approaches, and the necessity of continued efforts in research, risk assessment, and policy development to ensure environmental and public health safety

METHODOLOGY: Literature Review and Data Collection in the context of Regulatory and Policy Evaluation

Health Risks: -Reproductive and developmental issues -Increased risk of certain cancers -Immune system suppression -Endocrine disruption -Metabolic disorders	Challenges in Regulation: -No universally accepted PFAS definition -Inconsistent classification and nomenclature -Lack of standardized detection methods -Difficulties in regulatory oversight and risk assessment	Per- and polyfluoroalkyl substances (PFAS) are synthetic chemicals that have been widely used in industrial and consumer applications due to their unique chemical and physical properties. These substances exhibit high resistance to degradation, making them persistent in the environment and prone to bioaccumulation in humans, wildlife, and ecosystems.	While it is widely recognized that PFAS pose potential health risks in various environments, the connection between the level of exposure and the severity of those risks is still being actively studied. Growing attention is being directed toward understanding how the frequency and duration of human exposure to PFAS may influence the likelihood and intensity of associated health effects. Cosmetics -Unintentional PFAS impurities make risk assessment challenging and hinder efforts to remove these substances, as they often are not listed on product labels.	PFAS ARE FOUND IN: ❖ Water resistant materials ❖ Personal care products ❖ Food packaging ❖ Fire fighting foams ❖ Pesticides ❖ Non-stick cookware
The absence of consensus on whether a particular substance qualifies as a PFAS introduces uncertainty regarding its historical and industrial usage, leading to potential inconsistencies in regulatory and scientific discussions. The search for alternatives is therefore a challenging and extensive task and is important in all use categories.		Ongoing studies are working to better understand how different levels of PFAS exposure affect health, with a particular focus on the long-term effects of low-level exposure. Children are of special concern, as exposure has been linked to issues such as low birth weight, early onset of puberty, bone development abnormalities, and behavioral changes.		

Regulation / Law	Description	Scope	Key Provisions
EU 2022/2400	Persistent Organic Pollutants (POPs)	Waste	Sets concentration limits for certain PFAS in waste
EU 2020/2184	Drinking Water Quality Regulation	Drinking water	Sets standards for monitoring and limiting PFAS in drinking water.
EU 2025/40	Packaging Regulation	Food packaging	Contains provisions regarding PFAS in food packaging due to their resistant properties.
EU 2024/2462	Amendment to Annex XVII of REACH	Cosmetics	Introduces restrictions on the use of PFHxA, its salts, and related substances.
French Law 2025-188	French National Law on PFAS	Consumer products	Bans PFAS in consumer products due to health and environmental impacts.

RESULTS AND DISCUSSION: The work underscores the urgent need for coordinated global action to address the risks associated with PFAS. While significant progress has been made in understanding the environmental and health impacts of these chemicals, challenges remain in regulation, detection, and substitution. Ongoing research, regulatory harmonization and the development of safer alternatives are critical to mitigating the long-term risks posed by PFAS and safeguarding public health and the environment.

REFERENCE

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