

Support SB 686 (HB 1022)

PFAS (per- and polyfluoroalkyl substances) are "forever chemicals" that persist in our environment and accumulate in human bodies. They have known and documented health effects (list of references at the end), including:

- Increased risk of infections due to weakened immune function
- Reduced vaccine response in children and adults (e.g., diminished antibodies to tetanus, diphtheria, MMR)
- General immunosuppression (classified as a "presumed immune hazard" by the National Toxicology Program)
- Multiple types of cancer
- Lipid and liver disorders
- Neurodevelopmental and Behavioral Effects
- Decreased fertility in women
- Reduced sperm count and motility in men
 - Hormonal disruption (especially thyroid and sex hormones)
- Increased risk of miscarriage
- Earlier onset of menopause
- Reduced birth weight
- Impaired insulin sensitivity
- Autoimmune and inflammatory diseases
- Cardiovascular and metabolic effects
- Bone density reduction

Please take this important step to protect Maryland families. In the future please also consider if there is a big gap in PFAS policy: food contamination. Food sources are the major cause of PFAS contamination and now enter our food supply through pesticides, biosolids and contaminated containers.

Please vote favorably.

Sincerely,
Mark Meyerovich
District 15

References

Agricultural sources, biosolids, and plant uptake

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9. Rankin K, Mabury SA, Jenkins TM, Washington JW. A North American and global survey of perfluoroalkyl substances in surface soils: distribution

- patterns and mode of occurrence. *Chemosphere*. 2016;161:333-341. doi:10.1016/j.chemosphere.2016.06.109.
10. Zhang M, Wang P, Lu Y, et al. Bioaccumulation and human exposure of perfluoroalkyl acids (PFAAs) in vegetables from the largest vegetable production base of China. *Environ Int*. 2020;135:105347. doi:10.1016/j.envint.2019.105347.
 11. Wen B, Li L, Zhang H, Ma Y, Shan X-Q, Zhang S. Mechanistic and field studies on PFOS/PFOA and related PFAAs in plants and soils (suite of work including plant-uptake and protein/lipid correlations).

General PFAS class, occurrence, and testing frameworks

12. Evich MG, Davis MJB, McCord JP, et al. Per- and polyfluoroalkyl substances in the environment. *Science*. 2022;375(6580):eabg9065. doi:10.1126/science.abg9065. PMID: 35113710.
13. ATSDR. *Toxicological Profile for Perfluoroalkyls (Perfluoroalkyl and Polyfluoroalkyl Substances)*. Atlanta, GA: Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services; 2021.
14. National Academies of Sciences, Engineering, and Medicine. *Guidance on PFAS Exposure, Testing, and Clinical Follow-Up*. Washington, DC: National Academies Press; 2022. doi:10.17226/26156.

Immune effects and vaccine response

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Cancer and chronic disease (touched on conceptually; only fully verified items listed)

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<https://popularrationalism.substack.com/p/from-big-chem-to-your-table-pfas>