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| **Basic information about PFCs**  THE PROBLEM: Highly fluorinated chemicals (PFCs) have been detected in the blood of more than 95% of Americans.  How can this have happened? Facilities where they are manufactured for use in consumer products and their use in fire-fighting training have contaminated drinking water across the United States. PFCs leaked into the water supply near production facilities in West Virginia and Ohio. Hundreds of thousands of people were found to have C8 in their bodies and independent scientists discovered a wide range of health problems associated with this exposure. http://www.c8sciencepanel.org/prob\_link.html  According to the National Institute of Environmental Health Sciences:“PFCs, perfluorinated chemicals, are a large group of manufactured compounds that are widely used to make everyday products more resistant to stains, grease, and water. For example, PFCs may be used to keep food from sticking to cookware, to make sofas and carpets resistant to stains, to make clothes and mattresses more waterproof, and may also be used in some food packaging, as well as in some firefighting materials. Because they help reduce friction, they are also used in a variety of other industries, including aerospace, automotive, building and construction, and electronics. PFCs break down very slowly in the environment and are often characterized as persistent. There is widespread wildlife and human exposure to several PFCs, including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).  Both PFOA and PFOS are byproducts of other commercial products, meaning they are released into the environment when other products are made, used, or discarded.” (<https://www.niehs.nih.gov/health/materials/perflourinated_chemicals_508.pdf> )  SUBSTITUTES? Some manufacture and use of PFCs have been discontinued. Although short-chain versions have been substituted and advertised as safe, they are not proving to be safe alternatives. “Most short-chain alternatives do not break down in nature. Like their long-chain cousins, they will be with us forever. Short-chain fluorinated alternatives are even more difficult to clean up from the environment than the long-chains. Activated carbon filtration, commonly used for removing long-chain compounds from water, is much less effective at removing short-chains. Studies show that highly fluorinated chemicals can move from contaminated water into food crops such as lettuce and strawberries. Surprisingly, short-chain alternatives are found in such crops at higher levels than long-chains.” (Source: Green Science Policy Institute).  Useful sources of information**.**   Silent Spring Institute  <https://silentspring.org/research-update/fast-food-packaging-contains-potentially-harmful-chemicals>   Fluorinated Chemicals in Food Packaging <http://pubs.acs.org/doi/abs/10.1021/acs.estlett.6b00435>   “The Teflon Toxin:  Dupont and the Chemistry of Deception” - <https://theintercept.com/2015/08/11/dupont-chemistry-deception/>   Scientists call for action:  <http://greensciencepolicy.org/drinking-water-of-millions-contaminated-by-fluorinated-chemicals-scientists-call-for-action/>  Green Science Policy “Myths vs Facts” - <http://greensciencepolicy.org/wp-content/uploads/2017/04/Fluorinated-Alternatives-Myths-vs.-Facts.pdf>   More Green Science Policy Institute information:  <http://greensciencepolicy.org/highly-fluorinated-chemicals/>  EPA;  What EPA is Doing:  <https://www.epa.gov/pfas/and-polyfluoroalkyl-substances-pfass-what-epa-doing#tab-1>   EPA Background and Resources:  <https://clu-in.org/contaminantfocus/default.focus/sec/Per-_and_Polyfluoroalkyl_Substances_(PFASs)/cat/Overview/>  Health Advisories for PFAs:  <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>  Bioaccumulation of PFAs in food crops:  <https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=307369>  Department of Defense    <https://serdp-estcp.org/News-and-Events/Blog/New-Projects-Addressing-Issues-Associated-with-Per-and-Polyfluoroalkyl-Substances-PFASs>  Examples of states taking action.  West Virginia: <http://digital.vpr.net/post/dupont-settles-pfoa-class-action-lawsuit-west-virginia-ohio#stream/0>   Ohio: <https://phys.org/news/2017-05-high-pfoa-mid-ohio-river-valley.html>   Colorado:  El Paso County water contamination shows need for statewide limits  <http://www.denverpost.com/2017/09/28/el-paso-county-water-contamination-shows-need-for-statewide-limits/> <http://www.denverpost.com/2017/09/17/colorado-state-limit-pfcs-contamination-groundwater/>   New Jersey:   New Jersey just set the nation's lowest [safe drinking water standard](http://www.nj.gov/dep/newsrel/2017/17_0104.htm) for the chemical PFOA.  It is also the first state giving PFOA its own maximum contaminant level.  <http://www.ehn.org/new-jersey-sets-new-pfoa-level-below-vermont-standard-vermont-public-radio-2506286321.html>   Vermont: <http://www.healthvermont.gov/response/environmental/pfoa-drinking-water-2016>   Washington State: <http://www.ecy.wa.gov/programs/hwtr/RTT/pbt/pfas.html>   Minnesota: <http://www.startribune.com/minnesota-drastically-tightens-safety-limits-on-3m-chemicals-in-groundwater/423874423/> |