To the members of the [STATE] Legislature,

We the undersigned nursing and health organizations write to share our concern regarding legislation being proposed to weaken regulation for PFAS chemicals and permit other fluoropolymers to be used. Known health effects from PFAS exposure include cancer, liver disease, decreased fertility, hormone disruption, developmental harm, and effects on the immune system—including decreased response to vaccines.[1,2]

Since 2018 the U.S. Department of Defense, Congress and 24 states[3] have adopted a definition of PFAS as chemicals containing ‘‘at least one fully fluorinated carbon

[1] Agency for Toxic Substances and Disease Registry (ATSDR). (May 2021). *Toxicological profile for Perfluoroalkyls.* https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf
[2] National Academies of Sciences, Engineering, and Medicine. (2022). *Guidance on PFAS exposure, testing, and clinical follow-up.* The National Academies Press. https://doi.org/10.17226/26156.
[3] Safer States. (March 2025). *Why a strong PFAS definition matters.* https://www.saferstates.org/wp-content/uploads/PFAS-Definition-Factsheet.pdf

atom".[4,5] This definition is consistent with, similar to, and a simpler version of the definition stated by the Organisation for Economic Co-operation and Development (OECD).[6] Different forms of PFAS are still PFAS as all PFAS have at least one fully fluorinated carbon atom. The carbon-fluorine bond is the strongest single bond in organic chemistry giving PFAS their shared characteristic of persistence. This extreme resistance to breakdown in the environment, leads some scientists to dub PFAS "forever chemicals."

Recently industry groups have made attempts at the state level to change the definition of PFAS or insert exemptions for certain types of PFAS, such as those used for cookware and bakeware, into state legislation.[7] The cookware and bakeware industry have increased pressure on state legislators to abandon efforts to restrict the use of PFAS in cookware claiming that other forms of PFAS used to make cookware, such as PTFE and other fluoropolymers, are safe[8] and shouldn't be regulated as PFAS. Cookware made with PTFE and other fluoropolymers involves using PFAS chemicals like PFOA and GenX.[9] These chemicals have been linked to serious health problems including kidney and liver damage, weakened immune systems and cancer.[10]

The factories that make fluoropolymers have caused pollution in nearby communities and drinking water like West Virginia and North Carolina, which are well documented. Numerous lawsuits and media stories regarding PFAS pollution are linked to the production of polymers like PTFE used in nonstick cookware.[11] PTFE used in cookware can flake off and become microplastics, which consumers ingest.[12] Microplastics, including those from fluoropolymers used in cookware, are a growing concern for

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[4] Hauprich-Baggerman, M. (September 7 2023). *Additional U.S. states ban PFAS-containing products.* UL Solutions. https://www.ul.com/news/additional-us-states-ban-pfas-containing-products

[5] See, for example, the NDAA for FY2022, Public Law 117-81 (passed the Senate by a vote of 88-11 & House by 363-70), §345(f)(4)("The term 'perfluoroalkyl or polyfluoroalkyl substance' means any man-made chemical with at least one fully fluorinated carbon atom."); The NDAA for FY2021, Public Law 116-283 (passed the Senate by a vote of 81-13 & House by 322-87) § 335(e)(2)("The term 'PFAS' means a perfluoroalkyl or polyfluoroalkyl substance with at least one fully fluorinated carbon atom, including the chemical GenX."); The NDAA for FY2020, Public Law 116-92 (passed the Senate by a vote of 86-8 and House by 377-48) § 332(c)(3)("The term ''PFAS'' means perfluoroalkyl and polyfluoroalkyl substances that are man-made chemicals with at least one fully fluorinated carbon atom.").

[6] OECD. (July 9, 2021). Reconciling terminology of the universe of Per- and Polyfluoroalkyl substances: Recommendations and practical guidance. *Series on Risk Management.* https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/CBC/MONO(2021)25&docLanguage=En.

[7] See, for example Lindauer, S. PFAS chemicals, Pub. L. No. 1399 (2024). https://iga.in.gov/pdf-documents/123/2024/house/bills/HB1399/HB1399.02.COMH.pdf.

[8] Cookware Sustainability Alliance. (2024). *The Facts.* https://www.cookwaresustainabilityalliance.org/resources#facts

[9] The Ecology Center. (n.d.) *Supply chains of nonstick PTFE pan coatings: Case studies.* https://www.ecocenter.org/our-work/healthy-stuff-lab/reports/whats-cooking/supply-chains-nonstick-ptfe-pan-coatings-case-studies#:~:text=Fluoropolymers%20such%20as%20PTFE%20are,water%20or%20soil%20once%20contaminated.

[10] Environmental Protection Agency (EPA). *Human health toxicity assessment for GenX chemicals.* https://www.epa.gov/system/files/documents/2023-03/GenX-Toxicity-Assessment-factsheet-March-2023-update.pdf

[11] Tabuchi, H. (May 28, 2024). *Lawyers to plastics makers: Prepare for 'astronomical' PFAS lawsuits. The New York Times.* https://www.nytimes.com/2024/05/28/climate/pfas-forever-chemicals-industry-lawsuits.html#:~:text=PFAS%2Drelated%20lawsuits%20have%20already,a%20longstanding%20commitment%20to%20safety.

[12] Luo, Y., Gibson, C.T., Chuah, C., Tang, Y., Naidu, R., & Fang, C. (2022). Raman imaging for the identification of Teflon microplastics and nanoplastics released from non-stick cookware. *Science of The Total Environment, 851,* Part 2. https://doi.org/10.1016/j.scitotenv.2022.158293.

human health.[13] PTFE microplastics have been found in urine and semen with researchers linking PTFE microplastics with reduced sperm counts.[14]

Fluoropolymers are dangerous at all stages of their production and use. Claims that fluoropolymers are safe or that they can't get into living things ignores the harmful effects they can have throughout their entire life cycle. When fluoropolymers are made, they release many other harmful chemicals into the air and water including chlorofluorocarbons (CFCs) which damage the ozone layer, as well as hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFCs) which contribute to global warming.[15] Claims about new research showing these types of PFAS break down more easily should be met with skepticism as there is no new peer reviewed research stating that fluoropolymers are any less persistent than other PFAS. In fact, the promises of recycling PTFE have shown to cause astonishingly high levels of PFAS in the nearby waters such as this case in Kentucky.[16,17]

The FDA's approval of PFAS in cookware doesn't mean the chemicals are safe for human health. The FDA has a record of problematic approvals[18] and their process allows chemicals to be used[19] without proper review or revisiting new data. FDA testing of food specifically has not included the chemicals used in food contact materials, nor is it clear that it would capture what could leach out of those materials.

The use of PFAS in pacemakers vs cookware is not comparable. Pacemakers are a vital medical device meant to keep people alive. Non-stick cookware is a convenience that can be met with already existing alternatives. Stainless steel and cast iron are safer alternatives to cookware made from PFAS plastics and can be non-stick when the pan is heated prior to cooking.

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[13] Chartres, N., Cooper, C.B., Bland, G., Pelch, K.E., Gandhi, S.A., BakenRa, A. & Woodruff, T.J. (2024). *Environmental Science & Technology, 58* (52), 22843-22864. https://doi.org/10.1021/acs.est.3c09524

[14] Malesu, V. K. (2024). Study finds microplastics in semen and urine, linking PTFE exposure to lower sperm count. *News Medical Life Sciences.* https://www.news-medical.net/news/20241001/Study-finds-microplastics-in-semen-and-urine-linking-PTFE-exposure-to-lower-sperm-count.aspx

[15] Dalmijn, J., Glüge, J., Scheringer, M., & Cousins, I.T. (2024). Emission inventory of PFAS and other fluorinated organic substances for the fluoropolymer production industry in Europe. *Environmental Science Processes & Impacts, 26,* 269-287. https://pubs.rsc.org/en/content/articlepdf/2024/em/d3em00426k

[16] Van Velzer, R. (2021). 'Concerning' levels of forever chemicals polluting Henderson, Ky. *Louisville Public Media.* https://www.lpm.org/news/2021-08-16/concerning-levels-of-forever-chemicals-polluting-henderson-ky

[17] Van Velzer, R. & Scheck, T. (2021). Henderson grapples with widespread pollution from Teflon recycler. *WFPL News & The Gleaner.* https://www.thegleaner.com/story/news/local/2021/11/09/pfas-pollution-henderson-kentucky-louisville-public-radio/6347013001

[18] Benesh, M. (February 10, 2022). Research: For decades, the FDA knew toxic 'forever chemicals' were dangerous but continued to allow their use. *Environmental Working Group.* https://www.ewg.org/research/decades-fda-knew-toxic-forever-chemicals-were-dangerous-continued-allow-their-use

[19] Backhaus, O. & Benesh, M. (April 13, 2022). EWG analysis: Almost all new food chemicals greenlighted by industry, not the FDA. *Environmental Working Group.* https://www.ewg.org/news-insights/news/2022/04/ewg-analysis-almost-all-new-food-chemicals-greenlighted-industry-not-fda

The marketplace is already responding to state regulation and transitioning away from PFAS. Many manufacturers have multiple product lines that include options that don't contain PFAS.

We urge you to oppose any exemptions to PFAS regulations.

We applaud your efforts to curb the spread of PFAS chemicals which are polluting our drinking water, farms, and communities. PFAS contamination is widespread and communities and state water agencies are shouldering the increasing cost of cleanup. In order for [STATE] policies to address the PFAS crisis to be effective, it is critical that [STATE] use a comprehensive, science-based and widely adopted definition of PFAS.[20]

Sincerely,

Alliance of Nurses for Healthy Environments

American Association of Occupational Health Nurses

American Nurses Association\ California

Association of Community Health Nursing Educators (ACHNE)

California Nurses for Environmental Health and Justice

Connecticut Nurses Association

Council of Public Health Nursing Organizations

Delaware Nurses Association

National Association of Hispanic Nurses

National Association of Nurse Practitioners in Women's Health (NPWH)

National Association of Pediatric Nurse Practitioners

National League for Nursing

[20] Safer States. (February 2024). Accurate, comprehensive, widespread, and protective: *Explaining the PFAS definition that has been adopted by 22 states and the U.S. military.* https://www.saferstates.org/wp-content/uploads/PFAS-Definition-Factsheet_2.7.2024.pdf.

New York State American Academy of Pediatrics

Physicians for Social Responsibility Maine