UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF CHEMICAL SAFETY AND
POLLUTION PREVENTION

Dr. Deanna Scher, Ph.D.
Chair
Children's Health Protection Advisory Committee (CHPAC)
625 N. Robert Street
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Dear Dr. Scher:

Thank you again for your January 26, 2021 letter to U.S. Environmental Protection Agency's (EPA) Acting Administrator, Jane Nishida, on behalf of the Children's Health Protection Advisory Committee (CHPAC) regarding recommendations on chemical prioritization and data needs to protect children's health under the Toxic Substances Control Act (TSCA).

As I stated in my interim response in February, EPA is committed to delivering on the promise of the Frank R. Lautenberg Chemical Safety for the 21st Century Act and appreciate the Committee's thoughtful input on ways to ensure children's environmental health is addressed in prioritizing chemicals for risk evaluation under TSCA. On the eve of CHPAC's next meeting, this letter is a more detailed response to the Committee's suggestions, identifying key actions and pending activities as EPA continues to forge a path in implementation.

Since my interim response, EPA has undertaken a number of specific actions in support of our mutual goals to protect children's health, including:

- Updating the EPA Policy on Children's Health to protect children from environmental exposures by consistently and explicitly considering early life exposure and lifelong health in all human health decisions.

- Prioritizing actions to further advance environmental justice by integrating into EPA's programs and services a more consistent and systematic consideration of the fair, just, and impartial treatment of all individuals. This commitment is part of EPA's response to the Biden-Harris Administration's directive to all federal agencies.

- Finalizing a rule to implement the vacatur of the January 6, 2021 final rule, "Strengthening Transparency in Pivotal Science Underlying Significant Regulatory Actions and Influential Scientific Information." This action allows for the consideration and use of more complete research findings to inform policy decisions.

- Developing a whole-of-agency approach to address PFAS in the PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024. EPA's approach is shaped by unique challenges posed by PFAS contamination. EPA cannot solve the problem of "forever chemicals" by tackling one route of exposure or one use at a time. Rather, the EPA needs to use every tool in its toolbox. The actions described in the PFAS Roadmap each represent important and meaningful steps to safeguard communities from PFAS contamination. Cumulatively, these actions will build upon one another and lead to more enduring and protective solutions for children's health.

- Releasing a draft Strategy to Reduce Lead Exposures and Disparities in U.S. Communities for public comment. The Strategy will advance the Agency's work to protect the public from lead with an emphasis on high-risk communities and children's health utilizing the full suite of EPA authorities, expertise, and resources to reduce lead exposure.

Additionally, under my leadership, the Office of Chemical Safety and Pollution Prevention announced a series of actions specific to the implementation of TSCA that strengthen protections from chemical risks, including to children. EPA is forging a new path forward for TSCA Chemical Risk Evaluations with some important policy changes surrounding risk evaluations to restore public trust, provide regulatory certainty, and most importantly, ensure that people at all life stages and in all populations who may be exposed to these chemicals are protected, including:

- **Expanding the Consideration of Exposure Pathways and the Fenceline Community Exposure Screening Level Approach.** Certain approaches and assumptions used for risk evaluations under the prior Administration are being revisited. Most relevantly, this includes developing a process for ensuring all routes of exposure to a chemical are included in risk evaluations to ensure potentially exposed or susceptible subpopulations (including pregnant women and children) are appropriately included.

- **Applying a Whole Chemical Approach.** Under the previous administration, EPA made separate unreasonable risk determinations for every condition of use of a chemical. For the first 10 chemicals under TSCA and for any similar chemical that presents significant risks across many uses, EPA will continue to assess and analyze each condition of use, but then the agency plans to make a determination of unreasonable risk for the whole chemical when it is clear the majority of the conditions of use warrant one determination.

- **Revisiting Personal Protective Equipment (PPE) Assumptions.** EPA is revisiting the assumption that PPE is always used in occupational settings when making risk determinations for a chemical. Instead, the agency plans to consider information on use of PPE, or other ways industry protects its workers (which includes workers who are adolescents and of reproductive age), as a potential way to address unreasonable risk during the risk management process.

- **Improving Systematic Review.** Improving the agency's approach to identifying, collecting, screening and evaluating the scientific studies that are used to inform TSCA chemical risk evaluations (known as systematic review) based on feedback received from the National Academies of Science, Engineering, and Medicine (NASEM). The TSCA systematic review procedures include careful consideration of all populations and life stages, including children and women of reproductive age, when included in the Population Exposure Comparator Outcome [PECO] that defines the objectives of the review.

- **Use of Test Order Authorities.** The agency is expanding the use of test order authorities under Section 4 of TSCA to gather additional information, including for endpoints of particular relevance to children's environmental health as appropriate, to support chemical assessments.
  A recent, specific example of exercising TSCA test order authority is demonstrated as a key action within EPA's *PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024.* OCSPP, in collaboration with the Office of Research and Development developed a National PFAS Testing Strategy that will inform requirements for PFAS manufacturers to provide the agency with toxicity data, including for endpoints relevant to children's environmental health (*e.g.*, reproductive and developmental), as applicable, on categories of PFAS chemicals to inform future regulatory efforts. EPA's initial set of test orders for PFAS will be strategically selected from more than 20 different categories of PFAS and will provide the Agency with information that may be extrapolated to more than 2,000 PFAS that fall within those categories.

EPA has also announced key changes to update Toxics Release Inventory (TRI) to advance environmental justice under the Emergency Planning and Community Right-to-Know Act (EPCRA). As the Committee recognizes in its letter, TRI is a key data source for learning about toxic chemical releases and pollution prevention activities reported by industrial and federal facilities. TRI data are used extensively in TSCA risk evaluations.

- EPA has proposed to add 12 chemicals included in a 2014 petition received from the Toxics Use Reduction Institute to TRI. Nine of these substances have hazards of particular relevance to children's environmental health.

- Under EPCRA, the EPA Administrator has discretionary authority to extend TRI reporting requirements to specific facilities and EPA is using this authority to include certain contract sterilization facilities that are not currently reporting on releases of ethylene oxide (EtO), a mutagen and carcinogen – endpoints with particular relevance to children's environmental health. EPA has identified and notified 31 contract sterilization facilities which EPA believes use the highest amounts of EtO in the contract sterilization facilities sector of our intent to require them to report to TRI (see response to Charge #2 for additional details).

- EPA is adding PFAS to TRI. The provisions included in the 2020 National Defense Authorization Act (NDAA) automatically added certain PFAS to the TRI chemical list when certain conditions are met (see NDAA Section 7321(c)). In addition to the three PFAS added in Reporting Year 2021, EPA anticipates the automatic addition of more PFAS, including perfluorobutane sulfonic acid (PFBS) and Gen X chemicals, following EPA's recent publication of toxicity assessment for these PFAS – both of which include review of toxicity endpoints relevant to children's environmental health.

Response to CHPAC Recommendations

The EPA requested input from the CHPAC on TSCA topics that focus on chemical prioritization and data needs to protect children's health. In response, rather than providing chemical specific information to aid EPA in prioritizing chemicals with potential for children's environmental health concerns, the CHPAC instead offered EPA recommendations focused on frameworks, principles, data sources and methodological approaches that could be applied in prioritizing chemicals of concern for children's health. EPA appreciates the CHPAC's inputs and has responded to each of the recommendations, providing examples, when available, of how it has incorporated frameworks, principles, data sources and methods consistent with CHPAC recommendations into the processes and procedures used to prioritize and/or evaluate chemicals under TSCA.

EPA Charge 1: Provide children's environmental health information relevant for prioritization and risk evaluation of the chemicals remaining on the TSCA Workplan.

- **CHPAC Recommendation: Include consideration of social vulnerability and environmental co-exposures as part of 'potentially exposed or susceptible sub-populations' and/or 'other risk-based criteria' in the prioritization process to select high-priority chemicals.**

In its letter, CHPAC advocates for prioritization based on aggregate and cumulative risks to chemicals considering the backdrop of social vulnerability. As noted above, President Biden and Administrator Regan have both made clear their commitment to supporting underserved communities. Under TSCA, EPA is actively looking for ways to incorporate environmental justice considerations into our work, including assessing impacts to pollution-burdened, underserved, and Tribal communities and to consider regulatory options to maximize benefits to these communities. EPA recognizes that unique characteristics and sociodemographic factors can increase exposure or predispose an individual, lifestage, specific group or population to greater health risk.

These are important considerations that require additional research and discussion with our cross-program partners. EPA's Risk Assessment Forum is developing additional guidelines for cumulative risk assessment (CRA) as defined and characterized in the EPA 2003 publication

Framework for Cumulative Risk Assessment. Furthermore, EPA's Office of Research and Development is proposing a cross-cutting research effort related to cumulative impacts in 2023 – 2026 Strategic Research Action Plans. Our office will stay abreast of these developments and consider their application to the TSCA program when they are developed.

- **CHPAC Recommendation: Prioritize chemicals potentially impacting burdened communities by employing data analysis and visualization to integrate information on chemical and non-chemical stressors.**

The Committee presented a set of example maps that co-locate TRI facilities and ESRI's social vulnerability index. Consistent with the CHPAC example, OCSPP is increasingly applying tools such as EPA's EJSCREEN, to consider comparative risk from chemical releases and uses. EJSCREEN is an environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators, using publicly available data to present EJ indexes. EJSCREEN includes an indicator for children (percent of people under age 5). And thus, EPA's EJSCREEN provides context regarding children and co-exposures. EPA expects that overlaying this kind of available data could provide another insight into exposure potential to burdened communities thereby providing insights regarding potentially exposed or susceptible subpopulations which is a required element to be considered for prioritization. Recently, our office used the EJSCREEN to identify facilities to that could be subject to TRI reporting of ethylene oxide releases. Because ethylene oxide, categorized as carcinogenic with clear evidence of genotoxicity, exposures are expected via the inhalation route EPA focused its EJSCREEN screening of facilities to certain air-related environmental indicators. These environmental indicators produced EJSCREEN environmental justice indices for a five-mile radius surrounding each facility, when compared to all groups across the state, EPA region, or U.S. In addition, EPA selected facilities based on factors, including their proximity to a population center (*e.g.,* the density of the population, including children, living near the facilities), their history of releases of ethylene oxide and ethylene glycol (*e.g.,* past receipt of TRI reporting forms on ethylene oxide and ethylene glycol from these facilities), and other factors the Administrator determines are appropriate (*e.g.,* proximity of the facilities to nearby schools and communities, especially those with potential environmental justice concerns). This is just one example of our office employing data analysis (*i.e*., TRI) and tools (*i.e.,* EJSCREEN) to include potentially impacted burdened communities, which could be extended to inform prioritization.

EPA Charge 2: Provide children's environmental health information relevant for prioritization of chemicals not on the TSCA Workplan.

- **CHPAC Recommendation: Evaluate newly available hazard and exposure information periodically during the prioritization process, using the TSCA Workplan method to identify non-Workplan chemicals for prioritization.**

As EPA embarks on prioritization for any TSCA chemical – whether on the Work Plan or not – an early step in the process is to conduct an initial screen of available hazard and exposure information for any chemicals under consideration for prioritization. This is followed by a comprehensive search for information as the chemical moves into scoping phase of the TSCA risk evaluation. Furthermore, EPA conducts additional searches as the evaluation continues, as necessary or appropriate. Hence, all the available hazard and exposure information is expected to be identified including any "newly available" information. Because EPA conducts information searches to support the prioritization and scoping process at least one year prior to initiation of risk evaluation, the TSCA systematic review process envisions conducting updates to the information search at several times during the lifecycle of the TSCA prioritization-risk evaluation-risk management process.

EPA appreciates CHPAC's endorsement of EPA's established approaches outlined in the 2012 *TSCA Work Plan Chemicals: Methods Document* for prioritizing and evaluating workplan chemicals. Certainly, to the extent that the 2012 *TSCA Work Plan Chemicals: Methods Document* includes criteria for prioritization that are consistent with the requirements of TSCA as amended in 2016 (*e.g.,* hazard, exposure, persistence, bioaccumulation), those types of information will be considered. Additional TSCA requirements necessitate that EPA consider additional information beyond that in the 2012 *TSCA Work Plan Chemicals: Methods Document* be included in the prioritization process (*e.g.*, storage near drinking water), such that EPA does not envision strictly adhering to the 2012 *TSCA Work Plan Chemicals: Methods Document*.

CHPAC has consistently recommended the use of biomonitoring and environmental monitoring in prioritization. EPA agrees these are useful considerations for all stages of prioritization, scoping, risk evaluation, and risk management. The literature searches conducted as part of the TSCA Systematic Review Protocol are expected to identify available monitoring and biomonitoring data.

EPA Charge 3: Provide information on data needs relevant to children's environmental health concerns for prioritization and risk evaluation of the remaining Workplan chemicals.

- **CHPAC Recommendation: Evaluate the completeness of a chemical's database to determine data needs for hazard and exposure data critical for assessing children's health risks, as described below.**

As mentioned previously, when EPA embarks on prioritization for any chemical an early step in the process is to conduct a comprehensive search for information (a step in the TSCA systematic review process), including available hazard and exposure information for any chemicals under consideration for prioritization. This was the first step taken in prioritizing the 20 High Priority Substances in 2019 and will be the first step taken to identify high priority substances which will occur in future prioritization efforts.

In 2018, EPA developed an approach, *Application of Systematic Review in TSCA Risk Evaluations*, to support the first 10 risk evaluations under TSCA. As EPA acknowledged in the 2018 document, the EPA's intent was to update the document based on the experience gained from the first 10 risk evaluations and stakeholder input. Hence, EPA has continuously improved the systematic review approach and has not used the 2018 protocol for some time. In 2020, NASEM peer reviewed the 2018 systematic review document. The NASEM reviewed and critiqued this systematic review document and enhancements EPA made when implementing this approach for the first 10 chemicals to undergo risk evaluation under TSCA as well as many of the tools EPA is using to identify and extract relevant information from the scientific literature. The agency has received the report from NASEM and is committed to addressing their recommendations and ensuring strong science is the basis for all chemical risk evaluations.

EPA is currently in the process of developing a TSCA systematic review protocol in collaboration with the agency's Office of Research and Development to incorporate approaches from the Integrated Risk Information System (IRIS) Program, which the NASEM report strongly recommends. EPA expects to publish and take public comment on a TSCA systematic review protocol that will adopt many of the recommendations in the NASEM's report later this year. Specific improvements to the TSCA systematic review approach include use of the Health Assessment Workplace Collaborative (HAWC) to develop web-based literature inventory trees. These literature inventory trees enhance assessment of a chemical's database to determine data needs and the transparency of the decisions resulting from the screening process.

- **CHPAC Recommendation: Employ multiple approaches to address gaps in hazard and exposure data needed to ensure robust evaluations that do not underestimate children's health risks.**

While EPA appreciates that the committee listed the seven hazards of most significant concern from children's health and nine types of exposure information relevant to children's health, TSCA does not include *a priori* data/testing requirements. TSCA envisions assessments that are chemical-specific (*i.e.*, are focused on assessing hazards and exposures specific to the chemical's conditions of use) and embraces the long-standing risk assessment paradigm step of problem formulation, exemplified by inclusion of Scoping as a required, discrete step specific to each chemical assessment.

The endpoints and exposure routes noted by the CHPAC are expected to be identified in the comprehensive literature searches conducted as part of the TSCA systematic review process when the Scoping and Systematic Review process (*e.g,.* PECO) identify them as relevant to the risk evaluation. The EPA will use CHPAC's lists to consider data gaps and in guiding chemical-specific requests for data to inform these indices.

The 2016 statutory amendments to TSCA also provided EPA with new capacity to require data generation from manufacturers (including importers) and processers. In January 2021, OCSPP issued TSCA section 4 Test Orders to 81 companies requiring toxicity and worker exposure

testing. EPA is currently developing additional test orders to require testing of consumer products, to inform exposure assessments to both workers who make them and all persons, including children, who may use them.

In considering the prioritization of chemicals from among tens of thousands of existing chemicals active in commerce for risk evaluation, EPA is interested in ensuring that exposure-related information collected through TSCA Chemical Data Reporting (CDR) provides sufficient basic data to inform the potential candidate selection process. Once a chemical substance is identified as a potential candidate, EPA seeks additional information to inform which of the potential candidates should be selected to enter the prioritization stage. For prioritization, EPA needs sufficient information to understand the use and other exposure-related scenarios to inform the decision of whether the chemical should be designated as high-priority substance and, therefore, enter the risk evaluation process.

To better align data collection with the TSCA process, in July 2021 EPA began engaging interested stakeholders with EPA's early thinking on the development of a proposed rule for implementing a tiered data collection strategy to help inform the Agency's prioritization, risk evaluation, and risk management activities for chemical substances or mixtures under the TSCA. To this end, EPA is exploring a data reporting rule that is tiered to specific stages of the TSCA existing chemicals program: identifying a pool of substances as potential candidates for prioritization, selecting candidate chemicals for and completing the prioritization process, and assessing high-priority substances through a robust risk evaluation, which may be followed by risk management actions (depending on the outcome of the risk evaluation).

The Committee also provided a series of brainstorms for grouping chemicals and lists of key data needs related specifically to children's health for both hazard and exposure considerations. Among other considerations, the Committee suggests groupings based on common co-exposures, human health endpoints, physical-chemical properties, substitutions in use, and/or data needs. OCSPP has considerable past experience in grouping chemicals for prioritization and assessment purposes. For example, of the 20 chemicals prioritized in 2019 and currently undergoing risk evaluation, a number of phthalates were prioritized based on expectations of common or co-exposures, substitutions in use, and some common human health endpoints. This is also the rationale behind the inclusion of the several of the solvents among the 20 chemicals currently be evaluated. Previously, EPA grouped and evaluated flame retardants with similar physical-chemical properties, use or substitution in use characteristics together, rather than individually, to more efficiently evaluate existing data and support more informed decisions about data gaps and needs under a flame retardant strategy. OCSPP also used category approach to conduct to ensure basic health effects data are available to the public for more than 2,500 High Production Volume chemicals using a category approach based on similarities in structure, physical-chemical properties, common uses and similar human health and ecological toxicity endpoints.

OCSPP's extensive experience in conducting assessments based on exposure and/or hazard groupings or categories is expected to continue as large groups of compounds on the TSCA Work Plan are prioritized for evaluation and furthermore, to address the thousands of remaining chemicals on the TSCA Inventory.

EPA Charge 4: Provide information relevant to evaluating children's environmental health concerns with New Approach Methods (NAMs) on EPA's list or in development.

- **CHPAC Recommendation: Limit use of data from New Approach Methods (NAMs) for: screening purposes; indicating hazard; upgrading hazard concern; and adding or increasing adjustment factor(s).**

EPA is cognizant of the limitations associated with NAMs that the CHPAC has articulated. However, EPA also recognizes the substantial and rapid development, peer review, and implementation of alternative test methods or NAMs that are fully protective of human health and the environment. EPA is therefore committed to their use together with other data sources in conducting assessments under TSCA. We anticipate releasing a new version of the New Approach Methods Work Plan in partnership with our colleagues in EPA's Office of Research and Development soon.

TSCA specifically mandates, to the extent practicable and scientifically justifiable, that prior to making a request or adopting a requirement for testing using vertebrate animals, EPA must take into consideration reasonably available existing information. This includes toxicity information, computational toxicology, and bioinformatics and high-throughput screening methods as well as the predictions models of those methods; many of these examples would be considered NAMs[1]. To promote the development and implementation of alternative test methods and strategies to reduce, refine, or replace vertebrate animal testing, EPA published the *Strategic Plan to Promote the Development and Implementation of Alternative Test Methods Within the TSCA Program* (TSCA Strategic Plan). This TSCA Strategic Plan describes a multi-year process with incremental steps for adoption and integration of NAMs that are appropriate and fit-for-purpose for making TSCA decisions (*e.g.*, identifying candidates for prioritization, prioritization, risk evaluations for new and existing chemicals and other risk-based decisions). TSCA also mandated that EPA develop a *List of Alternative Test Methods and Strategies (or New Approach Methodologies [NAMs]* (TSCA NAMs List). This list was first published in 2018 and has been updated twice. Many of the NAMs on the TSCA NAMs List have been reviewed and established by different organizations (*i.e.,* OECD, EURL-ECVAM, and ICCVAM) that include extensive expert evaluation and public review. Other NAMs on the TSCA NAMs List represent existing practices or policies within EPA that typically receive expert peer review and/or public review.

EPA has also published the *New Approach Methods Work Plan* (EPA, 2020), which identifies tangible steps to pursuing and achieving animal testing reduction goals while ensuring that the Agency's regulatory, compliance, and enforcement activities, including chemical and pesticide approvals and Agency research, remain fully protective of human health and the environment.

[1] NAMs are defined in the *Strategic Plan to Promote the Development and Implementation of Alternative Test Methods Within the TSCA Program* (EPA 2018) and the *New Approach Methods Work Plan* (EPA, 2020) as any technology, methodology, approach, or combination thereof that can be used to provide information on chemical hazard and risk assessment that avoids the use of intact animals.

While the Work Plan acknowledges there are still scientific challenges and information gaps that limit a complete reliance on NAMs for Agency decisions related to the assessment of a chemical's potential risk to human health (*e.g.,* development and reproductive toxicity), it also envisions the use of NAMs in a wide range of decision contexts, including prioritization, classification and labeling, alternatives assessment, and risk assessment.

Finally, the Organization for Economic Cooperation and Development (OECD)'s guidance on Integrated Approaches to Testing and Assessment (IATA[2]) also recognizes that NAMs, as component parts of an IATA, "can be used in different regulatory decision-making contexts, including hazard identification, hazard characterisation, and risk assessment. IATA can be designed to provide definitive conclusions on which risk management decisions, including emergency responses, are based, or can be screening level assessments that serve the purpose of prioritising (chemicals and/or methods) for further testing."

Hence, EPA does not envision that the use of NAMs should be limited only to activities recommended by the CHPAC; rather, that to the extent practicable and scientifically justified NAMs may be used when they provide information of equivalent or better scientific quality and relevance to any regulatory decision under TSCA.

- **CHPAC Recommendation: Use data from NAMs in conjunction with data considering susceptible and vulnerable subpopulations.**

The rate at which NAMs are being developed to address specific susceptibilities is promising. A number of NAMs on the TSCA List of NAMs may have relevance to considering susceptible and vulnerable subpopulations, including, for example, a variety of assays that measure genotoxic and endocrine activity, and developmental neurotoxicity particularly when they are used within the context of an adverse outcome pathway or an IATA. Furthermore, EPA and others are actively developing additional NAMs such as high-throughput screening, virtual tissue models and alternative animal models within an AOP context for use in assessing endpoints directly relevant to children's environmental health, such as developmental neurotoxicity (EPA, 2018[3]; Sachana et al., 2018[4], 2021[5]).

As evidenced by these publications, EPA recognizes and is a leader in considering NAMs data in conjunction with other data considering susceptible and vulnerable subpopulations. In particular,

[2] According to OECD (2016a), an Integrated Approach to Testing and Assessment (IATA) is an "approach based on multiple information sources used for the hazard identification, hazard characterisation and/or safety assessment of chemicals.

[3] U.S. Environmental Protection Agency. 2018 Science Brief: Evaluating Developmental Neurotoxicity. Office of Research and Development. July 2018. https://www.epa.gov/sites/default/files/2018-07/documents/dnt_factsheet_07_23_18_final.pdf

[4] Sachana, M., Shafer, T.J., Terron, A., Toward a Better Testing Paradigm for Developmental Neurotoxicity: OECD Efforts and Regulatory Considerations. Biology (Basel), 10(2):86. DOI: 10.3390/biology10020086

[5] Sachana, M., Price, A., Crofton, K., Bennekou, S., Shafer, T., Behl, M. and Terron, A., International Regulatory and Scientific Effort for Improved Developmental Neurotoxicity Testing, Toxicological Sciences, ISSN 1096-6080, 167 (1), 2018, JRC112717. DOI: 10.1093/toxsci/kfy211

EPA has been involved in the OECD efforts to develop the concept and guidance on using IATA's "to obtain and combine sufficient information to allow a decision to be made in the most efficient way, taking into account the context of use (problem formulation, regulatory possibilities and practical constraints)." (OECD, 2020). OECD's IATA guidance further indicates, "Within an IATA, data from various information sources (*i.e.,* physicochemical properties, *in silico* models, grouping and read-across approaches, *in vitro* methods, *in vivo* tests and human data) are evaluated and integrated to draw conclusions on the hazard and/or risk of chemicals" and "An IATA integrates and weights all relevant existing evidence and guides the targeted generation of new data, where required, to inform regulatory decision-making regarding potential hazard and/or risk."

- **CHPAC Recommendation: Support independent scientists, public health practitioners and physicians in the collaborative development and review of NAMs specific to children's environmental health.**

TSCA mandates that EPA encourage and facilitate the use of scientifically valid test methods and strategies that reduce or replace the use of vertebrate animals (*e.g.,* NAMs).

EPA has a long history of engaging with a wide variety of stakeholders in the collaborative development and review of NAMs. For example, EPA has been a member of and/or chair of various bodies within the OECD (*e.g.,* Working Party on Hazard Assessment, Extended Advisory Group on Molecular Screening and Toxicogenomics, National Coordinators of the Test Guidelines Program), which includes engagement with a wide variety of scientists from dozens of member countries worldwide to lead the way in developing and reviewing NAMs, Defined Approaches, IATAs and other methods and approaches used to assess chemicals for all adverse outcomes including those specific to children's environmental health.

Additionally, EPA started the APCRA (Accelerating the Pace of Chemical Risk Assessment) initiative, an international government-to-government initiative, to promote collaboration and dialog on the scientific and regulatory needs for the application and acceptance of NAMs in regulatory decision-making. The technical workshops and case studies undertaken for the purpose of sharing data, knowledge, experience and expertise among a broach coalition of scientists.

In conclusion, in implementing TSCA EPA is uniquely positioned with the mandate to consider "potentially exposed and susceptible subpopulations" which by definition and application includes children's environmental health as CHPAC defines it. Under charge 1, EPA appreciates the interest in considering social vulnerability and environmental co-exposures in PESS and have already explored application of existing tools such as TRI and EJSCREEN to expand consideration of these issues. EPA will continue to work on integrating these considerations and developing approaches into our TSCA and other programmatic work. Regarding the recommendations regarding collection of data (Charges 2 and 3), EPA appreciates the data sources the CHPAC has recommended and the TSCA Systematic Review Protocol. The TSCA Systematic Review Protocol, developed based on extensive public and peer review and specific

recommendations by the NASEM, ensures robust identification and review of the key hazard and exposure data for evaluating children's health risks are identified and reviewed. Furthermore, the TSCA systematic review process will facilitate comprehensive identification of data gaps and needs early in the TSCA process, such that TSCA authorities can be used early in the process to collect data needed for prioritization as well as risk evaluation. To this end, EPA is already developing comprehensive, tiered data collection strategy to collect the right data at the right time in the TSCA prioritization-scoping-risk evaluation-risk management process. With regard to NAMs (Charge 4), EPA will continue to encourage and facilitate their use, in a fit-for-purpose way, for any or all aspects of the TSCA process while remaining fully protective of human health and the environment.

EPA appreciates the CHPAC's efforts and inputs and look forward to a continued dialogue on how to evaluate and apply the recommended frameworks, principles, data sources, and methodological approaches as EPA initiates the next round of prioritization under TSCA.

Sincerely,

MICHAL FREEDHOFF

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Michal Freedhoff, Ph.D.

Assistant Administrator