INITIATION OF PRIORITIZATION UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA); NOTICE OF AVAILABILITY STYRENE

Office of Pollution Prevention and Toxics
United States Environmental Protection Agency

AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS COMMENTS

Attention: EPA–HQ–OPPT–2018–0461

March 18, 2025
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I. Introduction

The American Fuel & Petrochemical Manufacturers ("AFPM") respectfully submits these comments on the Environmental Protection Agency's ("EPA" or "the Agency") Federal Register notice titled, "Initiation of Prioritization Under the Toxic Substances Control Act (TSCA); Notice of Availability" ("Proposed Prioritization" or "Proposal"). EPA proposes to categorize styrene as a high priority for risk evaluation and potential risk management under Section 6 of the Toxic Substances Control Act ("TSCA").[1] These comments address the selection of styrene as a candidate for high-priority designation. AFPM urges EPA to consider that:

- Styrene is a chemical intermediate that is consumed in closed processes through chemical reactions and has an extremely low potential for exposure;
- The TSCA Work Plan for Chemical Assessments ("2014 TSCA Work Plan") used as a basis for prioritization incorrectly claims styrene is used as an ingredient in consumers goods - it is not; and,
- Styrene was included as a high priority because it has a robust hazard dataset; however, EPA largely ignored the potential for exposure.

Based on the concerns raised in these comments, EPA should re-categorize styrene as a low priority for risk evaluation at this time. Chemicals from the TSCA Work Plan are only required to make up half the substances subject to risk evaluation during any given time. There are many substances on the TSCA Work Plan that have a higher potential for exposure, due to their uses as ingredients in commercial or consumer products, which EPA could designate as a high priority.

II. AFPM Interest in the Proposed Framework

AFPM is the leading trade association representing the manufacturers of the fuels that keep America moving and petrochemicals that are the essential building blocks for organic chemistry, including plastic products that improve the health, safety, and living conditions of humankind and make modern life possible. AFPM members are committed to sustainably manufacturing safe, high-performing fuels and the petrochemicals and derivatives that growing global populations and economies need to thrive.

AFPM members produce styrene, a petrochemical building block (in this case a monomer) used to make polystyrene. "Low levels of styrene occur naturally in a variety of foods, such as fruits, vegetables, nuts, beverages, and meats."[2] Styrene can also be found in automobile exhaust and cigarette smoke.[3] Expandable polystyrene ("EPS"), made from styrene, is one of the most widely used insulation materials in modern construction. It is also used to make insulation panels for ovens, microwaves, and refrigerators. EPS is also used in food packaging that extends the life of fresh meat and produce. There is also a rigid form of

[1] See *89 Fed. Reg. 102907*, "Initiation of Prioritization Under the Toxic Substances Control Act (TSCA); Notice of Availability." EPA–HQ–OPPT–2023–0601; FRL–11581–06–OCSPP, published December 18, 2024.
[2] See Agency for Toxic Substances and Disease Registry ("ATSDR") Toxicological Profile for Styrene. p. 3.
[3] *Id.*

polystyrene that is used to make the housing for smoke detectors, shock-absorbing automotive door panels, and instrument panels in automobiles. Rigid polystyrene is also used to make test tubes and petri dishes found in the laboratory. Regardless of its final form, polystyrene does not contain styrene, except perhaps in trace amounts, and there is no appreciable risk of exposure to styrene when handling polystyrene.

In addition to its criticality to manufacturing supply chains that depend on polystyrene, styrene is also used with other monomers to make copolymers, such as the ABS (it is the "S" in ABS) plastic used for computer keyboards, lightweight car parts, and Lego® blocks. Styrene is also used to make styrene-butadiene rubber used in modern automobile tires, as well as styrene-butadiene latex used to make carpet backing. Polystyrene and styrene copolymers are not styrene. The styrene is consumed in the process to make polystyrene and styrene copolymers and there is no appreciable risk of exposure to styrene when handling ABS or any other styrene-based polymer.

AFPM member companies are regulated under TSCA, and their products have been and will continue to be subject to TSCA risk evaluations. Given styrene is a chemical intermediate that is consumed in closed processes through chemical reactions and has an extremely low potential for exposure, EPA should prioritize other substances with higher exposure potential for risk evaluation.

III. Comments on the Prioritization Proposal for Styrene

A. Styrene does not meet the statutory obligations for designation as a high-priority substance.

EPA is required under TSCA Sec. 6(b)(3)(C) to "designate at least one high-priority substance upon the completion of each risk evaluation."[4] TSCA Sec. 6(b)(2)(D) directs the Agency to give preference to chemicals "that are listed in the 2014 update of the TSCA Work Plan for Chemical Assessments ["2014 TSCA Work Plan"] as having a Persistence and Bioaccumulation Score of 3," and "are known human carcinogens and have high acute and chronic toxicity."[5,6]

Styrene's toxicological profile demonstrates that this chemical should not be a high priority. Specifically, Styrene has a persistence and bioaccumulation score of only 1.[7] EPA points to a general hazard category score of 3 in Unit III.B.2. of the Proposed Prioritization, but this general hazard score does not specify that styrene is a known human carcinogen ***and*** has high acute ***and*** chronic toxicity.[8] It only lists styrene as a probable carcinogen (Group 2A). The Agency for Toxic Substances and Disease Registry ("ATSDR") toxicological profile for styrene

[4] See TSCA Sec. 6(b)(3)(C).
[5] See TSCA Sec. 6(b)(2)(D).
[6] See 2014 update of the TSCA Work Plan for Chemical Assessments.
[7] *Id.*
[8] See *89 Fed. Reg. 102907*, "Initiation of Prioritization Under the Toxic Substances Control Act (TSCA); Notice of Availability." EPA–HQ–OPPT–2023–0601; FRL–11581–06–OCSPP, published December 18, 2024.

states an "LC50 of 2,770 ppm after 2 hours of exposure was reported in rats, and the LC50 for mice after exposure for 4 hours was 4,940 ppm." Such a toxicological profile indicates styrene does not have high acute toxicity such as required by the statute.[9]

TSCA Sec. 6(b)(1)(A) stipulates that the "process to designate the priority of chemical substances shall include a consideration of the hazard and exposure potential." [10] Sec. 6(b)(1)(B)(i) reiterates Congressional direction when it requires EPA to prioritize substances that "may present an unreasonable risk of injury to health or the environment because of a potential hazard and a potential route of exposure under the conditions of use."[11] In the 2014 TSCA Work Plan, the Agency claims that styrene is "[w]idely used in consumer products," which is inaccurate.[12] EPA acknowledges that styrene is "used predominately in the production of polystyrene plastics and resins" and "as an intermediate in the synthesis of materials used for ion exchange resins and to produce copolymers" on its own fact sheet.[13] Styrene, like other intermediates, is used in closed systems that consume the substance. In this Proposal, EPA is disregarding the exposure component of the risk equation, which runs counter to Congressional intent.

B. EPA focused mostly on hazard, not risk, as a determining factor for the previous prioritization.

Styrene has a robust hazard dataset. In Unit III.A., EPA notes that it "heavily weighted data availability in deciding which chemical substances to include" and that "chemicals ultimately designated as High-Priority Substances for risk evaluation should have a robust data landscape," which penalizes styrene just because it possesses a more full hazard dataset.[14] There are no provisions in TSCA Sec. 6 that direct or authorize EPA to use completeness of hazard data as a criterion for high-priority designation. Focusing on the availability of hazard data is not a risk-based approach to chemicals management because it artificially downplays the potential for exposure. In short, a chemical should not be penalized simply because there is a data rich environment for that chemical.

C. EPA does not demonstrate that the conditions of use for styrene present a significant potential for exposure.

In Unit III.B., EPA styrene was reported in 2020 under the Chemical Data Reporting ("CDR") rule, but the Agency does not provide any information on what it found in the CDR to support its claim that the conditions of use for styrene could lead to a significant potential for exposure.[15] Information reported under the CDR rule is general usage information and there is no legitimate reason that EPA cannot aggregate it to support its assertion in the Proposed

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[9] See ATSDR Tox Profile for Styrene. p. 24. See the International Labour Organization for toxicity classifications.
[10] See TSCA Sec. 6(b)(1)(A).
[11] See TSCA Sec. 6(b)(1)(B)(i).
[12] See 2014 update of the TSCA Work Plan for Chemical Assessments.
[13] See EPA fact sheet for styrene.
[14] See *89 Fed. Reg. 102907,* "Initiation of Prioritization Under the Toxic Substances Control Act (TSCA); Notice of Availability." EPA–HQ–OPPT–2023–0601; FRL–11581–06–OCSPP, published December 18, 2024. p. 102905.
[15] *Id*. at 102907.

Prioritization. EPA should release the data to support the presence of significant potential for styrene exposure if the Agency believes there is one, otherwise styrene should not be deemed high-priority.

IV. Conclusion

AFPM has serious concerns about EPA selecting styrene for consideration as a high priority. The Agency has provided no information to support a finding of significant potential exposure. Further, Styrene is a petrochemical intermediate used in closed systems to make polystyrene and styrene copolymers and is consumed in those chemical processes. The TSCA statutory language is very clear that EPA must demonstrate a potential for exposure that may lead to an unreasonable risk. Styrene also does not have the required persistence, bioaccumulation, and toxicity levels that TSCA requires for consideration as a high-priority chemical. EPA must remove styrene from further consideration so it can concentrate on substances on the TSCA Work Plan that have a higher potential for exposure, that may actually present an unreasonable risk.

Sincerely,

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