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

Office of Pollution Prevention and Toxics
United States Environmental Protection Agency

AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS COMMENTS

Attention: EPA–HQ–OPPT–2018–0487

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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 ethylbenzene 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 ethylbenzene as a candidate for high-priority designation. AFPM's comments highlight our concerns about the Proposed Prioritization. AFPM urges EPA to consider that:

- Ethylbenzene is a chemical intermediate that is consumed in closed processes through chemical reactions, with extremely low potential for exposure,
- The TSCA Work Plan for Chemical Assessments ("2014 TSCA Work Plan") used as a basis for prioritization incorrectly claims ethylbenzene is used as an ingredient in consumers goods; and,
- Ethylbenzene was only included as a high priority because it has a robust hazard dataset, and EPA largely ignored the potential for exposure.

Based on the concerns raised in these comments, EPA should categorize ethylbenzene as a low priority for risk evaluation at this time. EPA is only obligated to designate and conduct risk evaluations only on half the substances at any given time. There are many substances on the TSCA Work Plan that have a greater potential for exposure, due to their use 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 ethylbenzene, a petrochemical building block (i.e., intermediate) "mainly used in the manufacture of styrene," which is a monomer used to make polystyrene.[2] According to the *Ullmann's Encyclopedia of Chemical Technology*, ethylbenzene "is almost exclusively (> 99%) used as an intermediate for the manufacture of styrene monomer."[3] Expandable polystyrene ("EPS") is one of the most widely used insulation materials in modern

[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 EPA Fact Sheet on Ethylbenzene.
[3] Coty, R.R., Welch, V.A., Ram, S. & Singh, J. (1987) Ethylbenzene. In: Gerhartz, W., Yamamoto, Y.S., Kaudy, L., Rounsaville, J.F. & Schulz, G., eds, *Ullmann's Encyclopedia of Chemical Technology*, 5th rev. Ed., Vol. A10, New York, VCH Publishers, pp. 35–43. Also accessed through the National Library of Medicine webpage for Ethylbenzene.

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 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.

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, nor are they ethylbenzene. The ethylbenzene is consumed in the process to make styrene, and the styrene is consumed in the process to make polystyrene and styrene copolymers.

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

III. Comments on the Prioritization Proposal for Ethylbenzene

A. Ethylbenzene 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] Ethylbenzene has a persistence and bioaccumulation score of only 1. 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 ethylbenzene is a known human carcinogen ***and*** has high acute ***and*** chronic toxicity.[7] EPA incorrectly states that ethylbenzene is a "probable human carcinogen."[8] On the contrary, IARC classifies ethylbenzene as a "possible human carcinogen (Group 2B)."[9] The Agency for Toxic Substances and Disease Registry (ATSDR) toxicological profile for ethylbenzene states the LD50 for inhalation is "13,367 ppm following a 2-hour exposure…and 4,000 ppm following a 4-hour exposure." Such a toxicological profile

[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] 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.
[8] *Id. @* 102907.
[9] See List of IARC Monographs.

indicates that ethylbenzene does not have high acute toxicity, which is required under the statute.[10]

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." [11] 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."[12] In the 2014 TSCA Work Plan, the Agency claims that ethylbenzene is used as an ingredient in consumer products, which is not supported by current knowledge of this product.[13] EPA acknowledges that ethylbenzene is "mainly used in the manufacture of styrene" on its own fact sheet.[14] Ethylbenzene, 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 and appears to be moving toward a hazard-based approach to prioritization, which runs counter to Congressional intent.

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

Ethylbenzene 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 inflates ethylbenzene's risk prioritization just because it possesses a fuller hazard dataset.[15] 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 fails to evaluate the potential for exposure, a foundational variable in risk determinations. In short, a chemical should not be penalized simply because there is a data rich environment for that chemical. EPA does not demonstrate that the conditions of use for ethylbenzene present a significant potential for exposure.

In Unit III.B., EPA generally notes that ethylbenzene 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 ethylbenzene could lead to a significant potential for exposure.[16] 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 rule. EPA should release the data to support the presence of significant

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[10] See ATSDR Tox Profile for Ethylbenzene. p. 34. See the International Labour Organization for toxicity classifications.
[11] See TSCA Sec. 6(b)(1)(A).
[12] See TSCA Sec. 6(b)(1)(B)(i).
[13] See 2014 update of the TSCA Work Plan for Chemical Assessments.
[14] See EPA fact sheet for ethylbenzene.
[15] 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.
[16] *Id*. at 102907.

potential for exposure if the Agency believes there is one, otherwise it should not be deemed high-priority.

IV. Conclusion

AFPM has serious concerns about EPA selecting ethylbenzene for consideration as a high priority. The Agency has provided no information to support a finding of significant potential exposure. Further, ethylbenzene is a petrochemical intermediate used in closed systems to make styrene 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. Ethylbenzene also does not have the required persistence, bioaccumulation, and toxicity levels that TSCA requires for consideration as a high-priority chemical. EPA must remove ethylbenzene 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,

James Cooper
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