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

Office of Pollution Prevention and Toxics
United States Environmental Protection Agency

AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS COMMENTS

Attention: EPA–HQ–OPPT–2018–0475

March 18, 2025
Sarah Au
Data Gathering, Management, and Policy Division (7406M)
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001

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

- Benzene is mostly used as a chemical intermediate and 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, exaggeratedly claims that benzene is used as an ingredient in consumers goods; and,
- Benzene was included as a high priority primarily 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 benzene 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 primary uses as ingredients in commercial or consumer products, that 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 benzene, a petrochemical building block, which is subject to TSCA and many other federal regulations. EPA comprehensively regulates benzene in industrial and mobile sources through interlocking Clean Air Act authorities. At the facility level, the 2015 refinery sector rule established fence line monitoring requirements for benzene emissions,[2] while the National Emissions Standards for Benzene Emissions from Coke By-Product Recovery Plants and Benzene Storage Vessels set benzene emissions standards for those operations.[3] Bulk terminals receiving liquids containing benzene are subject to a separate set of standards to

[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] 40 CFR § § 63.658 (Refinery sector fence line monitoring provisions for benzene).
[3] 40 CFR Part 61, subparts L and Y, respectively.

control benzene emissions.[4] Moreover, a facility's equipment in benzene service is subject to a separate set of emissions standards for leaks of benzene.[5] In addition, chemical manufacturing plants and refineries are subject to the benzene wastewater operations National Emission Standards for Hazardous Air Pollutants.[6] Benzene in gasoline is subject to limits through the mobile source air toxics standards on both the vehicle and fuel.[7] Moreover, OSHA has standards to mitigate occupational exposure to benzene.[8]

TSCA does not operate in a vacuum and does not have primacy over any other statutes, environmental or otherwise. In Section 9(b), Congress commanded EPA to "coordinate actions taken under this chapter with actions under other Federal laws administered in whole or in part by the Administrator." Congress further directed that EPA "shall use such authorities [in other laws] to protect against such risk" if EPA determines that a risk "could be eliminated or reduced to a sufficient extent."[9]

AFPM member companies are regulated under TSCA, and their products have been and will continue to be subject to TSCA risk evaluations. As seen above, uses of benzene are already heavily regulated under different statutes and regulations. The concentration of benzene as an ingredient in any product is very low due to these other regulations. In addition, as seen in the next section, the amount of benzene's total production that goes into these other uses is also very small. Given benzene is primarily a chemical intermediate 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 Benzene

A. Benzene 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."[9] 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."[10,11] Benzene 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 benzene is a known human carcinogen ***and*** has high acute ***and*** chronic toxicity.[12] It only lists benzene as a known human carcinogen and does

[4] 40 CFR Part 61, subparts BB.
[5] 40 CFR Part 61, subparts J.
[6] 40 CFR Part 61, subpart FF.
[7] E7-2667.pdf See e.g., 40 CFR Parts 80 and 86, et. Seq.
[8] 29 CFR § 1910.1028.
[9] See TSCA Sec. 6(b)(3)(C).
[10] See TSCA Sec. 6(b)(2)(D).
[11] See 2014 update of the TSCA Work Plan for Chemical Assessments.
[12] 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.

not explain the health rating EPA used nor benzene's low acute toxicity. The European Chemical Agency ("ECHA") dossier for benzene states it "does not pose an acute hazard following ingestion (oral LD50 > 2000 mg/kg), skin contact (dermal LD50 > 5000 mg/kg) or acute inhalation (4-hour LC50 > 20 mg/L) exposures." Such a toxicological profile indicates that benzene does not have high acute toxicity.[13]

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." [14] 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."[15] In the 2014 TSCA Work Plan, the Agency claims that benzene is "[w]idely used in consumer products," which is not supported by current knowledge of this product.[16] Some internet sources also claim that benzene is used in consumer products, but those sources are outdated and do not consider the modern regulatory landscape.

> "In the United States of America, the primary use of benzene is in the production of ethylbenzene, accounting for 52% of the total benzene demand in 2008. Most ethylbenzene is consumed in the manufacture of styrene, which is used in turn in polystyrene and various styrene copolymers, latexes and resins. The second-largest use of benzene in the United States of America (accounting for 22% of demand) is in the manufacture of cumene (isopropylbenzene), nearly all of which is consumed in phenol production. Benzene is also used to make chemical intermediates: cyclohexane, used in making certain nylon monomers (15%); nitrobenzene, an intermediate for aniline and other products (7%); alkylbenzene, used in detergents (2%); chlorobenzenes, used in engineering polymers (1%); and miscellaneous other uses (1%)."[17]

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

Benzene has a robust hazard dataset. In Unit III.A. of the Proposed Prioritization, 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 benzene just because it possesses a more full hazard dataset.[18] 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.

---

[13] See ECHA dossier for Benzene.
[14] See TSCA Sec. 6(b)(1)(A).
[15] See TSCA Sec. 6(b)(1)(B)(i).
[16] See 2014 update of the TSCA Work Plan for Chemical Assessments.
[17] Kirschner M. 2009 Chemical Profile: Benzene. ICIS Chemical Business available at http://www.icis.com/Articles/2009/02/16/9192064/Chemical-profile-Benzene.html. Also accessed through the Library of Medicine webpage for Benzene.
[18] 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.

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 benzene present a significant potential for exposure.

In Unit III.B., EPA generally notes that benzene 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 benzene could lead to a significant potential for exposure.[19] 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 designation. EPA should release the data to support the presence of a significant potential for exposure if it believes there is one, otherwise benzene should not be deemed a high priority.

Conclusion

AFPM has serious concerns about EPA selecting benzene for consideration as a high priority. The Agency has provided no information to support a finding of significant potential exposure. Further, benzene is a petrochemical intermediate used in closed systems to make a wide variety of polymers, active pharmaceutical ingredients, dyes, synthetic fibers, etc., 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. Benzene also does not have the required persistence, bioaccumulation, and acute toxicity levels that TSCA requires for consideration as a high-priority chemical. EPA must remove benzene 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
Senior Petrochemical Advisor

[19] *Id*. at 102907.