



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Chapter I

[EPA-HQ-OPPT-2025-0102; FRL-12651-01-OCSPP]

Hydrogen Fluoride; TSCA Section 21 Petition for Rulemaking under TSCA Section 6;

Reasons for Agency Response; Denial of Requested Rulemaking

AGENCY: Environmental Protection Agency (EPA).

ACTION: Petition; reasons for Agency response.

SUMMARY: This action announces the availability of the EPA's response to a petition received on February 11, 2025, from the Clean Air Council, Communities for a Better Environment, and Natural Resources Defense Council (petitioners). The petition requests that EPA establish a TSCA rule prohibiting the use of hydrogen fluoride (HF) in domestic oil refining to eliminate unreasonable risks to public health and the environment. After careful consideration, EPA has denied the TSCA petition for the reasons set forth in this notice.

DATES: EPA's response to this TSCA section 21 petition was signed May 9, 2025.

ADDRESSES: The docket for this TSCA section 21 petition, identified by docket identification (ID) number EPA-HQ-OPPT-2025-0102, is available online at <https://www.regulations.gov>. Additional instructions on visiting the docket, along with more information about dockets generally, is available at <https://www.epa.gov/dockets>.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

This action is directed to the public in general. This action may, however, be of interest to those persons who manufacture (including import), process, distribute in commerce, use, or dispose of hydrogen fluoride (Chemical Abstracts Service Registry Number (CASRN) 7664-39-3). Since other entities may also be interested, the Agency has not attempted to describe all the specific entities that may be affected by this action.

B. What is EPA's authority for taking this action?

Under TSCA section 21 (15 U.S.C. 2620), any person can petition EPA to initiate a proceeding for the issuance, amendment, or repeal of a rule under TSCA section 4, 6, or 8, or to issue an order under TSCA section 4, 5(e), or 5(f). A TSCA section 21 petition must set forth the facts which it is claimed establish that it is necessary to initiate the action requested. EPA is required to grant or deny the petition within 90 days of its filing. If EPA grants the petition, the Agency must promptly commence an appropriate proceeding. If EPA denies the petition, the Agency must publish its reasons for the denial in the ***Federal Register***. A petitioner may commence a civil action in a U.S. district court seeking to compel initiation of the requested proceeding within 60 days of a denial or, if EPA does not issue a decision, within 60 days of the expiration of the 90-day period.

C. What criteria apply to a decision on this TSCA section 21 petition?

1. Legal standard regarding TSCA section 21 petitions.

TSCA section 21(b)(1) requires that the petition “set forth the facts which it is claimed establish that it is necessary” to initiate the proceeding requested (15 U.S.C. 2620(b)(1)). Thus, in addition to petitioners’ burden under TSCA section 21 itself, TSCA section 21 implicitly incorporates the statutory standards that apply to the requested actions. Accordingly, EPA has

reviewed this section 21 petition by considering the standards in TSCA section 21 and in the provisions under which actions have been requested.

2. Legal standard regarding TSCA section 6(a).

Under TSCA section 6(a), if EPA determines after conducting a risk evaluation that the manufacture, processing, distribution in commerce, use, or disposal of a chemical substance or mixture, or that any combination of such activities, presents an unreasonable risk of injury to health or the environment, EPA will issue a rulemaking to apply one or more of TSCA section 6(a) requirements to the extent necessary so that the chemical substance or mixture no longer presents such risk. In proposing and promulgating rules under TSCA section 6(a), EPA considers, among other things, the provisions of TSCA sections 6(c)(2), 6(d), 6(g), and 9. In addition, TSCA section 26(h) requires EPA, in carrying out TSCA sections 4, 5, and 6, to use “scientific information, technical procedures, measures, methods, protocols, methodologies, or models, employed in a manner consistent with the best available science,” while also taking into account other considerations, including the relevance of information and any uncertainties (15 U.S.C. 2625(h)). TSCA section 26(i) requires that decisions under TSCA sections 4, 5, and 6 be “based on the weight of scientific evidence” (15 U.S.C. 2625(i)). TSCA section 26(k) requires that EPA consider information that is reasonably available in carrying out TSCA sections 4, 5, and 6 (15 U.S.C. 2625(k)).

II. Summary of the TSCA Section 21 Petition

A. What action was requested?

On February 11, 2025, EPA received a TSCA section 21 petition (Ref. 1) from the Clean Air Council, Communities for a Better Environment, and Natural Resources Defense Council. The petition requests EPA “establish a Section 6(a) rule prohibiting the use of HF in domestic oil refining to eliminate unreasonable risks to public health and the environment” (Ref. 1, p. 3). The petition explains that “TSCA requires EPA to issue such a rule because this petition identifies (1) a [‘]chemical substance[’] (HF) that presents, (2) under one or more [‘]conditions of use[’] (the

use of HF for alkylation at U.S. refineries, and the rail and truck transportation needed to supply HF to those refineries), (3) an unreasonable risk to health or the environment” (Ref. 1, p. 3).

B. What support did the petitioners offer?

To support the request for issuance of a rule under TSCA section 6(a), the petitioners provided several appendices to the petition that contain data and literature on HF-using refineries (Ref. 2), releases at HF-using refineries since 1987 (Ref. 3), and transportation-related releases of HF (Ref. 4). Supporting information included discussions of the human health hazards associated with exposure to HF (Ref. 1, pp. 4-10), and the potential for exposure to HF for various human populations, including scenarios for hypothetical catastrophic releases that occur on-site, that disperse to off-site, and that occur along rail and road transportation routes for HF-using refineries (Ref. 1, pp. 11-37). In general, the petition and appendices included three categories of information related to releases at HF-using refineries: (1) documented, historical releases; (2) controlled, experimental releases; and (3) modeled, hypothetical releases (Refs. 1, 3, and 4). The petitioners also described challenges and particularly vulnerable populations associated with hypothetical catastrophic releases from HF-using refineries (Ref. 1, pp. 38-41), and assertions related to the likelihood of such releases (Ref. 1, pp. 41-48). The petitioners also described how hypothetical catastrophic releases of HF from refineries or in transit could affect the environment (e.g., crops, livestock, and pets) and critical infrastructure (Ref. 1, pp. 48-53). The petitioners also described that existing federal regulations and industry recommended practices are not adequate to eliminate risks associated with hypothetical catastrophic releases from HF-using refineries (Ref. 1, pp. 53-55), and that currently there are alternatives to HF for use for alkylation and refineries that have converted to the use of such chemical substances (Ref. 1, pp. 55-56). The petitioners also provided a list of endnotes and of references cited (Ref. 1, pp. 58-75).

EPA also has received public comments on the petition, which can be viewed via docket ID number EPA-HQ-OPPT-2025-0102, through the Federal eRulemaking Portal at

<https://www.regulations.gov>.

III. Disposition of TSCA Section 21 Petition

A. What is EPA's response?

After careful consideration, EPA has denied this TSCA section 21 petition. A copy of the Agency's response, which consists of the letter to the petitioners and this document, is posted on the EPA TSCA petition website at <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/tsca-section-21#hydrogen-fluoride-domestic-oil-refining>. The response, the petition (Ref. 1), and other information is available in the docket for this TSCA section 21 petition (see **ADDRESSES**).

B. What was EPA's reason for this response?

TSCA section 21 provides for the submission of a petition seeking the initiation of a proceeding for the issuance, amendment, or repeal of a rule under TSCA section 6. The petition must set forth the facts which it is claimed establish that it is necessary to issue the requested rule (15 U.S.C. 2620(b)(1)). When determining whether the petition meets that burden here, EPA considered whether the petition established that it is necessary to issue a TSCA section 6(a) rule to address the manufacture, processing, distribution in commerce, use, or disposal of the petitioned substances, or any combination of such activities, that the petitioners claim present an unreasonable risk of injury to health or the environment within the meaning of TSCA section 6(a) (15 U.S.C. 2605(a)). For EPA to be able to conclude within the statutorily-mandated 90 days of receiving the petition that the initiation of a proceeding for the issuance of a TSCA section 6(a) rule is necessary, the petition would need to be sufficiently clear and robust.

EPA evaluated the information presented in the petition and considered that information in the context of the applicable authorities and requirements of TSCA sections 6, 9, 21, and 26. Notwithstanding that the burden is on the petitioners to set forth the facts which it is claimed establish that it is necessary for EPA to issue the rule sought, EPA nonetheless also considered relevant information that was reasonably available to the Agency during the 90-day petition

review period. As detailed further in Unit III.B.1., EPA finds that the petitioners did not meet their burden under TSCA section 21(b)(1) of establishing that it is necessary to issue a rule under TSCA section 6(a). These deficiencies, among other findings, are detailed in this notice.

1. Catastrophic releases are not appropriate circumstances for consideration in the manner petitioners suggest.

The petitioners' request for a rule is insufficient because it is predicated on releases that are inappropriate for consideration as part of the determination of unreasonable risk under TSCA section 6. Throughout the petition, the petitioners describe incidents of concern related to the use of HF for alkylation as "catastrophic releases," cite authorities germane to "accidental" releases, and mention "extreme weather" and "natural disaster" as factors that could affect the likelihood of the occurrence of or complicate responses to a release of HF (Ref. 1). EPA has publicly stated that it does not consider exposures from such circumstances to be reasonably foreseen and, therefore, generally would not assess them as part of a risk evaluation ((89 FR 37028, May 4, 2024) (FRL-8529-02-OCSPP); Refs. 5 and 6).

As described in Unit I.C.2., a request under TSCA section 21 for rulemaking under TSCA section 6(a) requires that the petition "set forth the facts which it is claimed establish" (15 U.S.C.2620(b)(1)) "that the manufacture, processing, distribution in commerce, use, or disposal of a chemical substance or mixture, or that any combination of such activities, presents an unreasonable risk of injury to health or the environment" (15 U.S.C. 2605(a)). Under TSCA section 6(a), the determination of unreasonable risk must be made "in accordance with [TSCA section] 6(b)(4)(A)" (15 U.S.C. 2605(a)), which establishes the general processes for conducting TSCA risk evaluations. More specifically, the Agency "shall conduct risk evaluations . . . to determine whether a chemical substance presents an unreasonable risk of injury to health or the environment, without consideration of costs or other nonrisk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant to the risk evaluation . . . under the conditions of use" (15 U.S.C. 2605(b)(4)(A)). "Conditions of

use” are defined as “circumstances, as determined by the Administrator, under which a chemical substance is intended, known, or reasonably foreseen to be manufactured, processed, distributed in commerce, used, or disposed of” (15 U.S.C. 2602(4)). Among several additional requirements applicable to “conditions of use of the chemical substance,” the Agency “shall . . . take into account, where relevant, the likely duration, intensity, frequency, and number of exposures” (15 U.S.C. 2605(b)(4)(F)(iv)).

The petition explains the “storage, use, recycling, and any mixing or blending of HF for alkylation at U.S. oil refineries are [‘]conditions of use[’] of HF because they are among the [‘]circumstances . . . under which [HF] is . . . known . . . to be . . . used[’]” (Ref. 1, p. 3). The petition in two endnotes discusses how CASRN 7664-39-3 refers to both hydrogen fluoride and hydrofluoric acid, the relationship between “anhydrous HF” and the former substances, and that certain refineries use “modified HF” that is “chemically similar to pure anhydrous HF” to clarify the request that the requested action apply to the used of “modified HF, as well pure anhydrous HF” (Ref. 1, pp. 3 and 58, Endnotes 1 and 2). The petition then argues “[t]he chances of a catastrophic refinery-related HF release in this country are substantial and growing by the day . . . [and t]he risk of a further and catastrophic refinery-related HF release is mounting as our refineries, railways, and highways age and become ever more vulnerable to extreme weather” (Ref. 1, p. 2). To support this claim, the petition states “[s]ince the late 1980s, HF has been released from alkylation units at U.S. oil refineries at least 79 times . . . [and] refineries have experienced fires, explosions, and other failures that nearly led to large HF releases” (Ref. 1, p. 41). The petition then describes three incidents where HF was released at U.S. refineries (Ref. 1, pp. 41-43), and includes an appendix that lists releases at HF-using refineries since 1987 (Ref. 3). The petition also points to: (1) the relative age of U.S. refineries using HF for alkylation; (2) comparisons between the safety records for U.S. refineries, their international counterparts, and other U.S. industrial sectors; (3) concerns related to extreme weather events and effects on refinery infrastructure; and (4) incidents where HF and other chemicals were released during rail

and truck transportation (Ref. 1, pp. 44-48). The petition concludes “[e]ach of these factors increases the likelihood of further releases, including catastrophic ones” (Ref. 1, p. 41).

As explained in the preamble to the Agency’s final rule “Procedures for Chemical Risk Evaluation Under the Toxic Substances Control Act (TSCA)” (89 FR 37028, May 4, 2024) (FRL-8529-02-OCSP), EPA may exercise judgment in making its determination as to whether a particular circumstance is intended, known, or reasonably foreseen, and therefore falls within the definition of “condition of use” for a particular chemical. The Agency uses a fact-specific process involving professional judgment in “weighing whether exposures from spills, leaks, accidents and climate-related impacts would be regular or predictable, versus those that are unsubstantiated, speculative or otherwise not likely to occur. A future one-time accident caused by an atypical one-time set of circumstances, for example, would likely not be considered ‘reasonably foreseen.’ EPA believes that this approach is consistent with the statutory text and structure, as well as Congressional intent” (89 FR 37028 and 89 FR 37033, May 4, 2024) (FRL-8529-02-OCSP). In response to public comments that supported that final rule, the Agency also described the circumstances that would be included: “where EPA has reasonably available information demonstrating that certain exposures associated with a spill or leak are known or reasonably foreseen to occur (e.g., regular or predictable exposures from equipment leaks as part of the manufacturing process), EPA would expect to include that exposure within the scope of the risk evaluation” (Ref. 5; p. 14). More recently, EPA reiterated this interpretation in a scoping document for an ongoing risk evaluation: “EPA generally does not include in the scope of the risk evaluation catastrophic accidents, extreme weather events, and other natural disasters if such events do not lead to regular and predictable exposures associated with a given condition of use. However, such a determination requires a fact-specific, chemical-by-chemical analysis Thus, EPA would consider including such events (e.g., catastrophic accidents, extreme weather events, and other natural disasters) in the scope of the risk evaluation if the Agency receives information indicating regular and predictable changes in exposures associated with these

events” (Ref. 6; p. 17).

In sum, because TSCA section 21 incorporates the statutory standards that apply to the requested actions under TSCA section 6, the petitioners must meet the burdens established in TSCA section 21(b)(1) and TSCA section 6(a). In totality, TSCA section 6(a) requires that a determination of unreasonable risk must be made “in accordance with [TSCA section] 6(b)(4)(A)” and “under the conditions of use” defined to be “circumstances . . . under which a chemical substance is . . . reasonably foreseen to be manufactured, processed, distributed in commerce, used, or disposed of” (15 U.S.C. 2605(a), 2605(b)(4), and 2602(4)). As explained by EPA here and in several published documents related to its risk evaluation process, the Agency “shall . . . take into account, where relevant, the likely duration, intensity, frequency, and number of exposures” (15 U.S.C. 2605(b)(4)(F)(iv)) and that “EPA generally does not include in the scope of the risk evaluation catastrophic accidents, extreme weather events, and other natural disasters if such events do not lead to regular and predictable exposures associated with a given condition of use” (Ref. 6; p. 17).

While the petitioners can point to historical incidents at refineries in which several thousand pounds of HF were released, none of these releases even approach the “worst-case” scenario release numbers upon which the petition premises its quantitative risk analysis (Ref. 1). Thus, although the petition asserts some factors that “increase[] the likelihood of further releases, including catastrophic ones,” the petition did not establish the likely duration, intensity, frequency, and number of exposures of HF involving such releases, especially in light of the wildly varying circumstances of the incidents invoked by the petition and the petition’s approach of simply assuming large-scale releases (which the petition frequently characterizes as “worst-case” scenarios) (Ref. 1). Moreover, the Agency has been consistent in its position that it is not appropriate to consider catastrophic or accidental releases, extreme weather events, and natural disasters that do not lead to regular and predictable exposures. As such, the Agency concluded that the petitioners did not establish the likely duration, intensity, frequency, and number of

exposures resulting from catastrophic releases of HF used in or distributed for domestic refining. Therefore, notwithstanding the data and analyses provided in the petition, the petitioners' underlying rationale to support that that is necessary to initiate the proceeding requested is deficient.

2. Summary of applicable federal authorities and recommended practices.

The petitioners argue that a TSCA section 6(a) rule is necessary because “[e]xisting government and industry initiatives have fallen far short of eliminating the unreasonable risks that refinery use of HF present to public health and the environment” (Ref. 1, p. 53). The petition briefly describes the Risk Management Program (RMP) established via section 112(r) of the Clean Air Act (CAA) (42 U.S.C. 7412(r)) and the Process Safety Management of Highly Hazardous Chemicals regulations (29 CFR 1910.119) implemented by the Occupational Safety and Health Administration. In a discussion of how other federal statutes and regulations designate HF as a hazardous (or extremely hazardous) substance, the petition also cites relevant portions of the Emergency Planning and Community Right-to-Know Act (EPCRA), the Clean Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The petition also describes the American Petroleum Institute’s Recommended Practice 751 on “Safe Operation of HF Alkylation Units” (API RP-751), which the petitioners describe as “the most detailed national standards available” while also pointing to “limitations of relying on voluntary industry guidance to protect the public and environment” (Ref. 1, p. 54-55). As explained in Unit III.B.1., the petition fails to establish unreasonable risk because it is predicated on circumstances EPA does not generally consider as part of risk evaluation under TSCA section 6. Thus, the petitioners’ claims as to the efficacy of existing authorities and recommended practices to eliminate such risks is moot.

C. What were EPA’s conclusions?

The petitioners’ request to initiate a proceeding for the issuance of a rule under TSCA section 6(a) is deficient for the reasons explained in this notice. While the petitioners can point to

historical incidents of HF releases at refineries, the petition did not establish the likely duration, intensity, frequency, and number of exposures of HF involving such releases. In their own words, the petitioners describe the releases as catastrophic, accidental, and worst-case scenarios, as well as circumstances involving extreme weather and natural disaster events. The Agency has been consistent in its position that it is not appropriate for a risk evaluation in accordance with TSCA section 6(b) to consider catastrophic or accidental releases, extreme weather events, and natural disasters that do not lead to regular and predictable exposures. As a result, the facts presented in the petition did not establish unreasonable risk under the conditions of use of using and distributing in commerce HF for domestic refining. By extension, the petitioners' claim that governmental authorities and industry programs cannot eliminate such unreasonable risk is moot. Accordingly, EPA denied the request to initiate a proceeding for the issuance of a rule under TSCA section 6(a).

IV. References

The following is a listing of the documents that are specifically referenced in this document. The docket includes these documents and other information considered by EPA, including documents that are referenced within the documents that are included in the docket, even if the referenced document is not physically located in the docket. For assistance in locating these other documents, please consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

1. Clean Air Council, Communities for a Better Environment, and the Natural Resources Defense Council. 2025. Petition to Prohibit the Use of Hydrogen Fluoride in Domestic Oil Refining under Sections 21 and 6(a) of the Toxic Substances Control Act.

2. Clean Air Council, Communities for a Better Environment, and the Natural Resources Defense Council. 2025. Petition to Prohibit the Use of Hydrogen Fluoride in Domestic Oil Refining under Sections 21 and 6(a) of the Toxic Substances Control Act—Appendix A.

3. Clean Air Council, Communities for a Better Environment, and the Natural Resources

Defense Council. 2025. Petition to Prohibit the Use of Hydrogen Fluoride in Domestic Oil Refining under Sections 21 and 6(a) of the Toxic Substances Control Act—Appendix B.

4. Clean Air Council, Communities for a Better Environment, and the Natural Resources Defense Council. 2025. Petition to Prohibit the Use of Hydrogen Fluoride in Domestic Oil Refining under Sections 21 and 6(a) of the Toxic Substances Control Act—Appendix C.

5. EPA. April 2024. Procedures for Chemical Risk Evaluation Under the Toxic Substances Control Act (TSCA) [EPA–HQ–OPPT–2023–0496]; EPA Response to Public Comments.

6. EPA. January 2025. Draft Scope of the Risk Evaluation for Vinyl Chloride (Ethene, chloro-) [CASRN 75-01-4].

Authority: 15 U.S.C. 2601 *et seq.*

Dated: May 12, 2025.

Nancy B. Beck,

Principal Deputy Assistant Administrator, Office of Chemical Safety and Pollution Prevention.

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