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Submitted via the Federal eRulemaking Portal, https://www.regulations.gov/commenton/EPA-HQ-OPPT-2023-0245-0001

Docket Office
Office of Pollution Prevention and Toxics
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460-0001

Re: Comments of the American Chemistry Council Plastics Division on Significant New Use Rules on Certain Chemical Substances (23-2.5e); Proposed Rule; Docket No. EPA-HQ-OPPT-2023-0245

Dear Sir or Madam:

The Plastics Division of the American Chemistry Council (ACC) appreciates the opportunity to comment on 18 proposed significant new use rules (SNURs) published at 88 Fed. Reg. 39804 (June 20, 2023). These comments focus primarily on the following statement in each of the 18 proposed SNURs:

> It is a significant new use to manufacture the substance using feedstocks containing any amount of heavy metals (arsenic, cadmium, chromium VI, lead, mercury), dioxins, phthalates, per- and polyfluoroalkyl substances (PFAS), polybrominated diphenyl ethers (PBDEs), alkylphenols, perchlorates, benzophenone, bisphenol A (BPA), organochlorine pesticides (OCPs), ethyl glycol, methyl glycol, or N-methyl-2-pyrrolidone (NMP).

These comments make the following points:

- EPA has not addressed the statutory factors identified in TSCA section 5(a)(2) or, to the extent applicable, the factors in 40 C.F.R. § 721.170(d)(1)-(4).

- EPA has identified the presence of the listed impurities in post-use plastics as a potential problem, but it has not connected their presence to any problem in the proposed SNUR substances. Neither the preamble nor most of the literature cited discuss the fact that the post-use plastics used to make the feedstocks for the 18 proposed SNUR substances are pyrolyzed (heated to hundreds of degrees Fahrenheit in the absence of oxygen) and then, after processing, are to be burned as fuels. EPA should not finalize the SNURs until it provides a scientific basis for restricting any amount of the identified impurities in the proposed SNUR substances. That scientific basis must meet the requirements of TSCA

section 26(h), (i), and (j). The information provided in the preamble and the docket fails to meet those requirements.

- EPA has authority to regulate uses of the proposed SNUR substances that are both new and significant, but the proposed SNURs would not do so. Instead, the proposal would regulate the use of "feedstocks" for those proposed SNUR substances. EPA should clarify what it means by "feedstocks." Post-use plastics are pyrolyzed to make pyrolysis oils. Those pyrolysis oils are used to manufacture the proposed SNUR substances. When EPA refers to "feedstocks" for the proposed SNUR substances, does it mean the post-use plastics or the pyrolysis oils? It is clear that post-use plastics may contain phthalates and other impurities identified by EPA. It is far from clear that pyrolysis oils do, since most or all impurities would have been destroyed during the pyrolysis process. If EPA means the pyrolysis oils, all of which are covered by SNURs already, EPA should modify the pyrolysis oil SNURs rather than adopt new SNURs for the proposed SNUR substances made from the pyrolysis oils.

- EPA should adopt a risk-based *de minimis* exemption for the presence of impurities listed by CAS #, whether in SNURs for the proposed SNUR substances or in the SNURs for the pyrolysis products. The regulated community could never confirm the complete absence of a listed contaminant. Moreover, the health and environmental risk of listed impurities below a *de minimis* level is vanishingly small.

- EPA should not waive the SNUR exemption for persons subject to section 5(e) orders, as it proposes to do in these proposed SNURs.

- The proposed requirements would hinder development of advanced recycling projects and progress towards a more circular plastics economy.

DISCUSSION

1. Background

Although not clear from the preamble, these 18 proposed SNURs relate to the use of pyrolysis products to produce the proposed SNUR substances where those pyrolysis products resulted from the pyrolysis of post-use plastics. The EPA risk assessment for the proposed SNUR chemicals when they were under review as new chemical substances described them as "waste plastic fuel streams." More specifically, it said:

> Chevron Corporation submitted premanufacture notices (PMN) for eighteen waste plastic fuel streams, P-21-0144 through 0150, P-21-0152 through, and P-21-0160 through 0163) [sic – the full list of PMNs appears in footnote 1]. These new chemical substances (NCSs) are complex mixtures. They are manufactured concurrently with petroleum streams and have identical composition; the only difference is that the feedstocks are

> waste plastic-based sources rather than petroleum-based sources. The intended uses are as fuels, fuel components, and chemical intermediates or refinery feedstocks.[1]

Their composition consists of various hydrocarbons:

> Fuel streams such as these NCSs [new chemical substances] are comprised of dozens of different paraffinic (isoparaffinic), naphthenic, olefinic, and aromatic molecules (P[I]ONA), which makes determining their chemical makeup challenging.[2]

The proposed SNURs would not apply once the proposed SNUR substances have been made into fuels. Each proposed SNUR says in paragraph (a):

> The requirements of this section do not apply to quantities of the substance after they have been incorporated into a fuel, fuel additive, fuel blending stock, or use as a refinery feedstock (including, but not limited to cracking, coking, hydroprocessing, distillation, or deasphalting).

Notably, the sanitized version of the risk assessment nowhere discussed any of the impurities listed in the proposed SNURs. Instead, it analyzed the health and environmental hazards of the P[I]ONA constituents of the fuels. The preamble to the proposed SNURs explains that EPA became aware that "the precursor chemicals for the PMN substances may contain chemicals of concern" only after it issued section 5(e) orders for the proposed SNUR substances.[3]

In 2021, EPA described pyrolysis as follows:

> Pyrolysis is a process where materials are thermally decomposed or rearranged under process conditions where extremely little to no oxygen is present. Pyrolysis, which is also known as devolatilization, is an endothermic process that produces 75-90 percent volatile materials in the form of gaseous and liquid hydrocarbons. Remaining non-volatile materials with high carbon content form a product called char ….
>
> In varying quantities and compositions, the products of pyrolysis and gasification are a mixture of: Syngas (primarily in gasification, which produces a gaseous mixture of carbon monoxide and hydrogen, with smaller quantities of methane, carbon dioxide, water, and other low-molecular-weight volatile organics); liquids (typically oils or waxes of various kinds); char (a solid residue also sometimes called biochar or coke containing fixed carbon and ash); and any metals or minerals that might have been components of the feedstock. In general, these products are used to create other products or are burned to generate energy (e.g., syngas can be converted into heat, power, fuels, or chemical products, or used in fuel cells).[4]

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[1] EPA, Integrated Risk Assessment for Chevron Waste Plastic Fuels (P-21-0144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 156, 157, 158, 160, 161, 162, and 163) (June 9, 2023), https://downloads.regulations.gov/EPA-HQ-OPPT-2023-0245-0003/attachment_1.pdf, at 5.

[2] Id. at 6.

[3] 88 Fed. Reg. at 39806.

[4] EPA, Potential Future Regulation Addressing Pyrolysis and Gasification Units; Advance Notice of Proposed Rulemaking, 86 Fed. Reg. 50296, 50299-600 (Sept. 8, 2021).

A recent article co-authored by EPA personnel and cited in the preamble to the proposed SNURs also described pyrolysis for the treatment of biosolids:

> One biosolids treatment technology is pyrolysis, a non-incineration thermal process that decomposes materials in an oxygen-free environment at elevated temperatures (typically 500°C to 800°C). Compared to SSI [sewage sludge incineration], pyrolysis features lower production of oxides of carbon, nitrogen, and sulfur and reduced release of metals, however the potential for PFAS air emissions for both processes are uncertain (Kundu et al. 2020; Winchell et al. 2021) …. Pyrolysis produces a hydrogen-rich synthesis gas (syngas) stream that can be combusted, with heat energy recovered.[5]

2. EPA Has Not Considered the Relevant Factors

Under TSCA section 5(a)(2), any SNUR must reflect "consideration of all relevant factors, including" four specified factors. The preamble asserts that EPA has considered those factors, citing the record and the seven data sources listed in the preamble:

> The clarity and completeness of the data, assumptions, methods, quality assurance, and analyses employed in EPA's decision are documented, as applicable and to the extent necessary for purposes of the proposed SNURs, in the references cited throughout the preamble of this proposed rule. The extent to which the various information, procedures, measures, methods, protocols, methodologies or models used in EPA's decision have been subject to independent verification or peer review is adequate to justify their use, collectively, in the record for a significant new use rule ….
>
> In determining what would constitute a significant new use for the chemical substances that are the subject of these proposed SNURs, EPA considered relevant information about the toxicity of the chemical substances and potential human exposures and environmental releases that may be associated with possible uses of these chemical substances, in the context of the four TSCA section 5(a)(2) factors listed in Unit II.A.1.[6]

The references cited in the preamble (discussed in section 3 of these comments) do not reflect EPA's consideration of relevant factors. They do not show how EPA reached its decision to propose these SNURs. Some are not even prepared by EPA. The record, i.e., the docket for this rulemaking, has no additional information. Other than those citations and a bare assertion that it has considered all relevant factors, including the four statutory factors, EPA has not established that it has met its obligations under section 5(a)(2).

Further, 40 C.F.R. § 721.170(d)(1)-(4) identifies several factors that EPA must consider when it proposes a SNUR with provisions that go beyond the section 5(e) orders for the SNUR substances, which is the case here. To the extent that that rule applies to this rulemaking, EPA has not shown that it has considered any of those factors.

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[5] Thoma, Eben et al. (2022). "Pyrolysis processing of PFAS-impacted biosolids, a pilot study." Journal of the Air and Waste Management Association. February 2022. See https://doi.org/10.1080/10962247.2021.2009935.
[6] 88 Fed. Reg. at 39805.

Without adequate consideration of all relevant factors, EPA should withdraw these proposed SNURs.

3. EPA Has Not Established Any Linkage Between Impurities in Post-Use Plastics and the Proposed SNUR Substances

In April 2023, EPA reported that it has "concerns" about impurities that may be present in the products of pyrolysis of post-use plastics:

> Additionally, EPA is aware of concerns about the potential health and environmental risks posed by impurities that may be present in pyrolysis oils generated from plastic waste. Accordingly, EPA intends to require companies submitting new pyrolysis oil chemicals to the Agency for review under TSCA to conduct testing for impurities that could be present in the new chemical substance prior to approval, and ongoing testing to ensure there is no variability in the plastic waste stream that is used to generate the pyrolysis oil.[7]

The concerns relate to potential impurities in pyrolysis oils that are mostly or entirely derived from impurities in the post-use plastics feedstock. The pyrolysis oils are different from the proposed SNUR substances. The preamble to the proposed SNURs is remarkable for its focus on feedstocks used to make the proposed SNUR substances and not on the SNUR substances themselves. Presumably, EPA expects that impurities in the pyrolysis oils may also appear in the proposed SNUR substances, and that those impurities may pose health or environmental risks. It does not actually make either point explicitly. It does not provide a basis for those points either. The most that the preamble does is to state:

> This preamble also identifies the sources of data documenting the presence or absence of such contaminants in pyrolysis products derived from plastic waste.[8]

Review of the seven sources of data listed in the preamble shows no substantial basis for concern about pyrolysis products made from post-use plastics due to the presence of listed impurities in the feedstock plastics, only that the impurities may be present in the original plastics.

The first listed source is:

> US EPA (2016). "State of the Science White Paper: A Summary of Literature on the Chemical Toxicity of Plastics Pollution to Aquatic Life and Aquatic-Dependent Wildlife." Document ID No. EPA–822–R–16–009 (2016). See https://www.epa.gov/sites/default/files/2016-12/documents/plastics-aquatic-life-report.pdf.

[7] EPA, Draft National Strategy to Prevent Plastic Pollution (Apr. 2023) at 15, https://www.epa.gov/system/files/documents/2023-04/Draft_National_Strategy_to_Prevent_Plastic_Pollution.pdf.
[8] 88 Fed. Reg. at 39805-06.

This 2016 publication describes various additives used in some plastics, including some of those listed in the proposed SNURs. It explains that post-use plastics can pose various risks when released into the environment. It does not consider whether the additives it mentions would be destroyed by pyrolysis. In fact, it nowhere even mentions pyrolysis or other forms of advanced recycling, such as gasification.
The second cited source of data is:

> European Chemicals Agency (August 2021), entitled "Chemical Recycling of Polymeric Materials from Waste in the Circular Economy Final Report." See https://echa.europa.eu/documents/10162/1459379/chem_recycling_final_report_en.pdf/887c4182-8327-e197-0bc4-17a5d608de6e.

It cites some studies suggesting that substances of concern may be formed in the course of pyrolysis of post- plastics (mainly from post-use electrical and electronic equipment), but it also mentions technologies for reducing the formation of such substances. Its primary conclusion (as stated in the abstract) is the following:

> There is a fragmented knowledge about the fate of substances of concern in various chemical recycling processes, and a paucity of scientific papers discussing regulatory issues in chemical recycling.

The third cited source of data is:

> Environmental Defense Fund Supply Chain Solutions Center (2022). Understanding Packaging Scorecard as referenced by the Environmental Defense Fund entitled "Key chemicals of concern in food packaging and food handling equipment." See https://supplychain.edf.org/files/downloadable-TABLE-CoCs-in-Food-Packaging.pdf.

This document reports:

> EDF has identified chemicals in food packaging and food handling equipment where the potential health impacts from their migration into food raises serious concerns. These chemicals in virgin materials may also contaminate the recycling stream and undermine their recyclability or biodegradability.

Thus, like the first cited document, this source of data focuses on additives in plastics prior to pyrolysis. It, too, does not address the potential for pyrolysis and subsequent combustion of fuel to destroy those additives.

The fourth cited source of data is:

> Whitehead, Heather et al. (2023). "Directly Fluorinated Containers as a Source of Perfluoroalkyl Carboxylic Acids." Environ. Sci. Technol. Lett. 2023, 10, 4, 350–355, Publication Date: March 6, 2023. See https://doi.org/10.1021/acs.estlett.3c00083.

This source reports that certain PFAS may be present in fluorinated plastic containers. It does not mention advanced recycling. It does not acknowledge that any PFAS present in fluorinated plastic containers would likely be destroyed by pyrolysis, as indicated by the next data source, and by subsequent refining into fuel products or combustion of the proposed SNUR substances or fuels made from them.

The fifth cited source of data is:

> US EPA (2021). Research BRIEF: "Potential PFAS Destruction Technology: Pyrolysis and Gasification." January 2021. See https://www.epa.gov/sites/default/files/2021-01/documents/pitt_research_brief_pyrolysis_final_jan_27_2021_508.pdf.

This document actually supports the absence of concerns about PFAS in the pyrolysis products. For example, it states:

> New options for the treatment of PFAS-impacted WWTP solids may be found in non-incineration thermal processes, such as pyrolysis and gasification ….
>
> The high temperatures and residence times achieved by pyrolysis or gasification followed directly by combustion of the hydrogen-rich syngas stream in a thermal oxidizer (or afterburner) could potentially destroy PFAS by breaking apart the chemicals into inert or less recalcitrant constituents. However, this mechanism, as well as evaluation of potential products of incomplete destruction, remain a subject for further investigation and research. It is possible that this combination of processes may be more effective at PFAS destruction than some lower temperature sewage sludge incineration processes.
>
> The end products of both gasification and pyrolysis result in material volume reductions of over 90% compared to the input solids, making transport and use or disposal more energy efficient and lessening the environmental impacts (e.g., lower landfill leachate PFAS loadings compared to biosolids disposal).

In addition to this general discussion, this data source highlighted that EPA planned to study the potential for pyrolysis to destroy PFAS:

> In August 2020, EPA researchers conducted a field test at a WWTP employing pyrolysis. The purpose of this limited-scope field test was to improve understanding of target PFAS levels in the pyrolysis-produced biochar compared to the input material. EPA researchers are currently analyzing samples collected during the field test and expect to publish the results in a peer-reviewed scientific journal in 2021.

The subsequent peer-reviewed article is apparently the sixth cited data source:

> Thoma, Eben et al. (2022). "Pyrolysis processing of PFAS-impacted biosolids, a pilot study." Journal of the Air and Waste Management Association. February 2022. See https://doi.org/10.1080/10962247.2021.2009935.

While calling for additional research, this article reports that pyrolysis proved very effective in destroying PFAS:

> In August 2020, a limited-scope test of a commercial-scale biosolid pyrolysis operation at the SVCW WWTP found that target PFAS compounds present in the input biosolids were removed from the produced biochar and were also largely absent from the emission control scrubber water ….
>
> As with any thermal system, pyrolysis offers mass reduction and energy recovery potential. The emission characteristics, regulatory position (compared to SSI), and scalability of pyrolysis and certain forms of gasification may make these technologies relatively attractive for consideration for certain categories of USWWTPs [United States wastewater treatment plants].

The seventh and final data source cited is:

> Turner et al. (2021). "Hazardous metal additives in plastics and their environmental impacts." Environment International, Volume 156, November 2021, 106622. See https://www.sciencedirect.com/science/article/pii/S0160412021002476.

This article explains that some plastics contain metal-based additives or catalyst residues, and that these may leach into the environment when disposed of in landfills or otherwise. It nowhere refers to advanced recycling or discusses the relative risks from conventional disposal of plastics containing these metal additives as compared with use of pyrolysis oils to make the proposed SNUR substances.

In sum, the sources cited by EPA do not justify the proposed SNURs restricting the use of feedstocks containing any amounts of any of the listed impurities in producing the proposed SNUR substances. Some cited sources actually support the benefits of advanced recycling as compared with conventional disposal of post-use plastics in landfills. EPA has not adequately explained its concerns underlying the proposed SNURs or provided risk-based evidence that they are needed.

Under TSCA section 26(h), in carrying out section 5, EPA must make its decisions consistent with the best available science. It must consider a variety of factors. EPA has cited no science other than the seven data sources discussed above. The docket contains only materials related to the PMN reviews (but EPA has said that its current concerns were not raised in those reviews), the proposed rule and its economic analysis, and the notice extending the comment deadline. EPA has not explained how it considered the statutory factors in section 26(h). Even the data sources that it cites are not included in the docket.

Under TSCA section 26(i), EPA must make decisions under section 5 based on the weight of the scientific evidence. The weight of the scientific evidence is that most of the impurities of concern to EPA could not exist in the proposed SNUR substances due to the heat of pyrolysis destroying them – but EPA has not addressed that evidence, other than to cite two articles which support the idea that pyrolysis does destroy PFAS.

Under TSCA section 26(k), in carrying out section 5, EPA must take into consideration all reasonably available relevant information. There is no evidence that EPA has made an adequate effort to obtain, much less consider, all reasonably available relevant information, such as information on pyrolysis temperatures and their effects on the of concern.

EPA has not met these statutory obligations with respect to these SNURs.

4. EPA Has Proposed to Restrict the Wrong Substances

EPA's significant new use rule authority is for "use" of a chemical substance that is both "significant" and "new."" The key word here is "use." Use of a "contaminated" feedstock to make a SNUR substance is not a "use" of the SNUR substance – it is a restriction on use of the feedstock. The term "use" should not apply to a substance before it exists. If EPA has legitimate concerns about impurities in feedstocks, it should address use of the feedstocks through SNURs on those feedstock substances.

The proposed SNURs would designate as a significant new use manufacturing the SNUR substances using feedstocks containing any amount of listed impurities. This is the first time that EPA has proposed to use the term "feedstocks" in a SNUR, which should necessitate further clarification and guidance from EPA. In some cases, EPA has adopted SNURs setting restrictions on particular byproducts or impurities in the SNUR substances (e.g., levels of isocyanate groups in isocyanate-based polymers). EPA has not chosen to restrict the presence of any listed contaminant in the proposed SNUR substances themselves, however. EPA should explain why it is taking this approach.

EPA should also clarify what it means by "feedstocks." The proposed SNUR substances are made from pyrolyzed post-use plastics. By "feedstocks," does EPA mean the post-use plastics used to make the pyrolysis products? Or, does EPA mean the pyrolysis products themselves? The difference is significant, because evidence suggests the pyrolysis process is almost certain to have destroyed any PFAS, phthalate, PBDE, alkylphenol, etc., that may have been present in the post-use plastics that were pyrolyzed.

It may be helpful to trace the different steps potentially involved in the reference to "feedstocks." The proposed SNUN substances are made from pyrolysis products. The pyrolysis products are made by the pyrolysis of post-use plastics.

The sanitized consolidated PMNs for the proposed SNUR substances, PMNs P-21-0144-0147, 0148-0150, 0152-0154, 055,058, 060-0163,[9] report the following as the immediate precursor substances ("feedstocks"?) for the proposed SNUR substances:

- Waste plastics, pyrolyzed, depolymd., C_{11-33}-branched, cyclic and linear fraction – CAS No. 2052271-50-6
- Waste plastics, pyrolyzed, C_{9-20} fraction – CAS No. 2055370-08-4

[9] Available at https://downloads.regulations.gov/EPA-HQ-OPPT-2023-0245-0002/content.pdf.

- Waste plastics, pyrolyzed, depolymd., C_{7-26}-branched, cyclic and linear fraction – CAS No. 2068009-57-2

The full names of these UVCB reactants for the proposed SNUR substances are as follows:

- CAS No. 2052271-50-6, Waste plastics, pyrolyzed, depolymd., C_{11-33}-branched, cyclic and linear fraction. DEF: A complex combination of hydrocarbons obtained from the fractional condensation of polyolefins and vinyl polymers waste plastics. It consists predominantly of C_{11} to C_{33} branched, cyclic and linear hydrocarbons and boils in the range of 350°C to 450°C (622°F to 842°F).
    - This is PMN P-17-0398.
    - It is the subject of a SNUR, 40 C.F.R. § 721.11390, Branched cyclic and linear hydrocarbons from plastic depolymerization (generic).
- CAS No. 2055370-08-4, Waste plastics, pyrolyzed, C_{9-20} fraction. DEF: The oil obtained from the pyrolysis of polymer wastes at 300°C to 650°C (572°F to 1202°F). It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20}, heteroaromatics and other organic compounds boiling in the range of approximately 150°C to 370° (302°F to 698°F).
    - This is PMN P-14-0714.
    - It is the subject of a SNUR, 40 C.F.R. § 721.10939, Plastics, wastes, pyrolyzed, middle distillate (generic).
- CAS No. 2068009-57-2, Waste plastics, pyrolyzed, depolymd., C_{7-26}-branched, cyclic and linear fraction. DEF: A complex combination of hydrocarbons obtained from the fractional condensation of polyolefins and vinyl polymers waste plastics. It consists predominantly of C_7 to C_{26} branched, cyclic and linear hydrocarbons and boils in the range of 0°C to 350°C (32°F to 662°F).
    - This is PMN P-17-0399.
    - It is the subject of a SNUR, 40 C.F.R. § 721.11391, Alkane, alkene, styrenic compounds derived from plastic depolymerization (generic).[10]

If "feedstocks" as used in the proposed SNURs refers to the immediate precursors (i.e., reactants) for the proposed SNUR substances, i.e., the pyrolysis oils, EPA should have proposed to amend its existing SNURs for those pyrolysis oils precursors to add a significant new use, rather than proposing new SNURs on the proposed SNUR substances made from those pyrolysis oils.

If "feedstocks" refers to post-use plastics, those are existing chemicals and mixtures that have long contained one or more of the listed impurities. It is not clear that post-use plastics themselves can be regulated through SNURs. Use of post-use plastics containing impurities in the manufacture of pyrolysis oils is surely ongoing.

[10] As is evident, each of these reactants for the proposed SNUR substances is on the public Inventory, but their respective SNURs only use generic names. EPA should assist stakeholders by promptly revising any SNUR using a generic name once the PMN submitter relinquishes its confidentiality claim for the chemical identity of the substance or the chemical identity otherwise becomes public.

5. EPA Should Adopt a Risk-Based *De Minimis* Threshold for Whatever Listed Impurities Might Be in the SNUR Substances or in Their Feedstocks

Whether EPA is concerned about listed impurities in the proposed SNUR substances or in their feedstocks (or both), it must not set a zero threshold (i.e., prohibit "any amount") for those impurities. Instead, it should adopt a *de minimis* exemption, supported by substantial evidence, based on the risk presented by those impurities listed by CAS # remaining in the proposed SNUR substances, below which the listed impurities could be present.

The proposed SNURs would require manufacturers and processors of the proposed SNUR substances to keep records demonstrating compliance with the effective prohibition (in the absence of a significant new use notice reviewed by EPA) of "any amount" of any listed component in the feedstock used to produce the fuels. However, the proposed SNURs would be essentially impossible to comply with in the absence of any *de minimis* threshold, given:

(1) the fact that post-waste plastics may contain one or more of the listed impurities, which may be present as processing aids or catalyst residues or for other reasons,
(2) the absence of any practical or technical means of excluding "any amount" of all of the listed impurities from post-use plastic feedstocks,
(3) the heterogeneous nature of post-use plastic feedstocks,
(4) the lack of analytical methods for identifying some of the impurities (some listed impurities are categories with thousands of members),[11] and
(5) the inability of a manufacturer or processor of a proposed SNUR substance to be able to determine whether residues of any of the impurities were present in a feedstock.

EPA should not impose a strict liability requirement where compliance is unverifiable.

To avoid this situation, EPA should adopt a risk-based *de minimis* exemption, just as it recently proposed to do in the proposed perchloroethylene risk management rule.[12] There, EPA explained:

> To aid the regulated community with implementing the prohibitions, and to account for de minimis levels of PCE as an impurity in products, EPA is proposing that products containing PCE at concentrations less than 0.1% by weight are not subject to the prohibitions described in this unit. EPA has determined that the prohibitions are only necessary for products containing PCE at levels equal to or greater than 0.1% by weight in order to eliminate the unreasonable risk of injury resulting from inhalation and dermal

[11] For example, the proposed definition of "PFAS" in each of the proposed SNURs is the only definition of any of the chemical categories listed in those proposed SNURs. Even the definition of "PFAS" is overly broad, as it includes thousands of compounds, including fluoropolymers, without any individualized assessment. Current analytical techniques can only measure a limited number of PFAS. Use of this definition would make the proposed requirement to maintain records demonstrating compliance virtually impossible to meet. There are no analytical methods to detect many members of the listed categories, so the problem is not limited to PFAS.

[12] 88 Fed. Reg. 39652 (June 16, 2023). See proposed 40 C.F.R. § 751.605(c), 88 Fed. Reg. at 39717 ("(c) De minimis level. Products containing perchloroethylene at levels less than 0.1 percent by weight are not subject to the prohibitions described in paragraph (b) of this section.").

> exposures from PCE-containing products during occupational and consumer conditions of use.[13]

EPA has not articulated what risks of injury it expects from the use of feedstocks containing listed impurities. EPA should examine the magnitude of those risks in light of the use of the feedstocks in the production of these proposed SNUR substances and adopt a risk-based *de minimis* level. It should identify the reasonably likely points of exposure or environmental release for the impurities, the anticipated extent of exposure to them, and the reasonably likely resulting risks under the conditions of use (if any). It should set threshold applicability levels for the individual impurities for each of the individual proposed SNUR substances, which will have their own use profiles. That level must be at least at the level of quantitation for available analytical methods, as any level below that would be impractical. EPA should also clarify whether the *de minimis* level relates to the feedstocks or to the proposed SNUR substances.

6. EPA Should Not Waive the SNUR Exemption for Persons Subject to Section 5(e) Orders

Each of the proposed SNURs would waive the exemption of 40 C.F.R. § 721.45(i). For most SNURs, that provision does apply. It provides an exemption for a manufacturer or processor of a SNUR substance if:

> The person is operating under the terms of a consent order issued under section 5(e) of the Act applicable to that person. If a provision of such section 5(e) order is inconsistent with a specific significant new use identified in subpart E of this part, abiding by the provision of the section 5(e) order exempts the person from submitting a significant new use notice for that specific significant new use.

This rulemaking proposal marks only the second time in the 34 years since EPA adopted that exemption[14] that EPA has proposed to waive it. The first time was just a few months ago.[15] EPA's decision once again to waive that exemption is disturbing.

EPA should better justify its proposal to adopt SNUR provisions that go beyond the corresponding section 5(e) orders, contrary to its long-standing practice. Its standard procedure for proposing SNURs for chemical substances already subject to a section 5(e) order specifies that EPA must follow certain criteria and procedures to go beyond the requirements in corresponding section 5(e) orders:

> The significant new use notification and other specific requirements will be based on and be consistent with the provisions included in the final order issued for the substance under section 5(e) of the Act. EPA may also designate additional activities as significant new uses which will be subject to notification. Designation of additional activities as

[13] 88 Fed. Reg. at 39671.
[14] EPA adopted that exemption in amendments to 40 C.F.R. Part 721, Subpart A, 53 Fed. Reg. 28354, 28361 (July 27, 1988).
[15] See 87 Fed. Reg. 74072 (Dec. 2, 2022).

significant new uses will be done in accordance with the criteria and procedures under § 721.170, or through a separate rulemaking proceeding.[16]

EPA should clarify how the additional requirements in these proposed SNURs meet the § 721.170 criteria, to the extent they apply. It should also explain why it is important that the PMN submitter comply with those additional requirements.

While these SNURs are for substances that are not yet on the TSCA Inventory, EPA's proposed waivers of this exemption raise the prospect that in other cases EPA would be regulating an ongoing use, which is not within EPA's SNUR authority. A PMN submitter who is subject to a section 5(e) order must comply with the order, but is free to engage in uses of the PMN substance not restricted by the order. If a proposed SNUR later, perhaps much later, deems one or more of those ongoing unrestricted uses to be "new," the PMN submitter and any other manufacturer or processor of the substance must determine whether it is engaging in those "new" uses. This is burdensome for PMN submitters and others, and contrary to the procedures EPA established in 1988 and has followed since then.

7. The Proposed Requirements Would Hinder Development of Advanced Recycling Projects and Progress Towards a More Circular Plastics Economy

In addition to the preceding comments addressing specific aspects of the proposal, ACC is concerned that, despite its focus on fuels, the proposed approach could set a misguided precedent which hinders development of advanced recycling projects critical to the increased use of recycled plastics and progress towards a more circular economy. Although ACC has taken the position that products derived from advanced recycling which are sold as fuel should not be considered "recycled material," we support advanced recycling as an important solution to reduce the amounts of post-use plastics going to landfills, being incinerated, or released into the environment through improper management. Many states have aligned with this position through enactment of supportive legislation recognizing advanced recycling as a manufacturing process.

Despite clear benefits made available through advanced recycling and supporting legislative momentum among the U.S. states, the proposed SNURs seems to reflect a lack of strategic coordination and alignment within EPA on advanced recycling. At times, EPA reaffirms that its risk management approach for advanced recycling has ensured public health and safety,[17] yet the Office of Pollution Prevention and Toxics (OPPT) is exploring new requirements under TSCA while the Office of Air and Radiation (OAR) considers application of rules intended for solid waste incineration units despite extensive information showing that advanced recycling is a manufacturing process very much different from waste combustion.[18]

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[16] 40 C.F.R. § 721.160(b)(1) (emphasis added).
[17] See, e.g., Letter from Assistant Administrator Michal Freedhoff to Senator Merkley (Apr. 28, 2023).
[18] See ACC comments in response to EPA's advance notice of proposed rulemaking, Docket No. EPA-HQ-OAR-2021-0382 on "Potential Future Regulation Addressing Pyrolysis and Gasification Units," https://downloads.regulations.gov/EPA-HQ-OAR-2021-0382-0082/attachment_1.pdf.

ACC would welcome the opportunity to meet with EPA leadership to clarify misconceptions about advanced recycling, provide further information about the technologies to support an aligned and coordinated approach by the Agency, and invite Agency officials to an advanced recycling facility for a first-hand sense of their operations. ACC stands ready to be a constructive, solutions-oriented partner on these issues.

Thank you for consideration of these comments.

Sincerely,

Lee Salamone

Senior Director
ACC Plastics Division