

Comments of the Semiconductor Industry Association (SIA)

On

“Long-Chain Perfluoroalkyl Carboxylate and Perfluoroalkyl Sulfonate Chemical Substances; Significant New Use Rule; Supplemental Proposal”
85 Fed. Reg. 12479 (March 3, 2020)

[EPA-HQ-OPPT-2013-0225; FRL-10003- 21]

Submitted April 17, 2020

The Semiconductor Industry Association (SIA)¹ submits these comments to the Environmental Protection Agency (EPA) on the proposal on “Long-Chain Perfluoroalkyl Carboxylate and Perfluoroalkyl Sulfonate Chemical Substances; Significant New Use Rule; Supplemental Proposal.” 85 Fed. Reg. 12479 (March 3, 2020).

In 2015 EPA proposed a Significant New Use Rule (SNUR) for long-chain perfluoroalkyl carboxylate (LCPFAC) and perfluoroalkyl sulfonate chemical substances. 80 Fed. Reg. 2885 (Jan. 21, 2015). In the original 2015 proposal EPA proposed to make the article exemption inapplicable for the import of LCPFAC substances as part of article. SIA provided extensive and timely comments at the time of the 2015 proposal which documents various uses of LCPFAC substances, which were ongoing at that time and are continuing at this time. In the current supplemental proposal, on the basis of new requirements imposed in the 2016 amendments to the Toxic Substances Control Act (TSCA), EPA has modified its proposal to make this exemption inapplicable to persons who import LCPFAC chemical substances present as a component of surface coatings on articles.

In these comments, SIA highlights and reiterates the ongoing uses of LCPFAC in the semiconductor industry supply chain and in manufacturing processes and in the manufacture and import of manufactured articles. Because these uses are critical to this industry, SIA continues to call upon EPA to specify in any final rule amending the LCPFAC SNUR that the notification requirements under the SNUR do not, and will not, affect these on-going uses, and will not require Notification to EPA prior to the importation of articles in the semiconductor industry. SIA further provides some additional comments in response to questions raised by EPA in its March 3 Supplemental Proposal.

¹ SIA is the trade association representing leading U.S. companies engaged in the design and manufacture of semiconductors. Semiconductors are the fundamental enabling technology of modern electronics that has transformed virtually all aspects of our economy, ranging from information technology, telecommunications, health care, transportation, energy, and national defense. The U.S. is the global leader in the semiconductor industry, and continued U.S. leadership in semiconductor technology is essential to America’s continued global economic leadership. More information about SIA and the semiconductor industry is available at www.semiconductors.org.

I. SIA has Documented Continuous and Ongoing Uses of LCPFAC Substances in its Processes and Articles

In 2015 SIA filed extensive comments to EPA that documented the ongoing uses of LCPFAC substances covered in the SNUR, and these uses continue to this day.² The comments included a covering letter and 4 important attachments, and these materials are incorporated by reference into this submission. SIA's 2015 comments documented the ongoing and continuing uses of LCPFAC substances that may be present in: (1) chemical substances and mixtures used in various semiconductor manufacturing processes, (2) finished semiconductor devices, and (3) components in semiconductor fabrication ("fab") equipment (e.g., gaskets, valves, hoses, storage containers, etc.) and infrastructure and ancillary equipment. Such mixtures and components are generally supplied by third parties to SIA members.³ Thus, the presence of specific chemicals substances (and their chemical identities), may not be known, or made available, to SIA members. These findings were substantiated at that time in SIA's comment letter, and are detailed in the 4 attachments provided (which were inclusive of information provided by SIA members, and gathered from their suppliers where possible).

These uses are ongoing and continue to this day. EPA notes in the supplemental proposal that it received public comments on the original proposal regarding ongoing uses and it "continues to review these claims of ongoing use to understand whether these uses remain ongoing." 85 Fed. Reg. at 12480. EPA further states: "In the final rule, EPA will recognize and exclude from the significant new uses any ongoing activities for these chemicals." Because the semiconductor industry continues to engage in such ongoing uses of these chemical substances in both its manufacturing processes and in articles its members import or produce, SIA restates its request that EPA expressly exclude these ongoing uses of the listed substances when promulgating the final rule.⁴

It would be impossible, as a practical matter, for companies in the semiconductor industry to identify the specific LCPFAC substances in imported articles and comply with notification requirements. As explained in our 2015 filing, fab equipment and infrastructure are highly

² SIA's 2015 comments can be located in the Agency's electronic Docket for this rulemaking at the link provided, and are incorporated by reference into this filing.

<https://www.regulations.gov/document?D=EPA-HQ-OPPT-2013-0225-0076>.

³ Such substances and mixtures often are imported by SIA members' suppliers, rather than by SIA members themselves, so the precise composition of those mixtures may be unknown, and not revealed to, SIA members.

⁴ It is noteworthy that the SNUR which is codified at 40 CFR 721.9582 acknowledges, and excludes form the notification requirements of that SNUR, such uses. Specifically, Section 721.9585(a)(3)(ii) exempts PFAS chemical substances when used "as a component of a photoresist substance, including a photo acid generator or surfactant, or as a component of an anti-reflective coating, used in a photomicrolithography process to produce semiconductors or similar components of electronic or other miniaturized devices". To avoid any ambiguity in the anticipated amendments, such an exemption should be incorporated in the terms of any final rule amending the LCPFAC SNUR which EPA is proposing to codify as amendments to 40 CFR §721.10536; including any amendments that would rescind the existing exemption for "articles," or apply to "surface coatings" on such articles.

complex engineered articles sourced through a global supply chain.⁵ Fab equipment may cost tens of millions of dollars and contain thousands of individual components, each consisting of thousands of precise parts designed for specific functionality. It would be highly burdensome to attempt to identify and provide notification to EPA 90-days prior to importing a component or a piece of complex equipment based on the potential presence of a LCPFAC constituent substances that might be present in a surface coating applied to a component or piece of equipment. Given the ongoing uses of these substances that may be present in numerous ongoing semiconductor manufacturing processes and the supporting fabrication equipment, ancillary equipment and infrastructure, EPA should expressly exclude these ongoing uses from the final rule.

II. EPA Has Not Made an Affirmative Finding of the Release of LCPFAC Substances from Semiconductor Fab Equipment and Infrastructure

Under the 2016 amendments to TSCA, EPA may require notification of the processing or importing of a chemical substance as part of an article if it makes an affirmative finding of the reasonable potential for exposure to the chemical substance through the article or category of articles subject to the rule justifies notification.⁶ The intent of Congress in the 2016 amendments was to require that any proposed TSCA Section 5 or section 6 regulations, including amendments to SNURs, that would limit or restrict the manufacture, import, distribution and use of an article on the basis of its chemical content should be risk-based and supported by data supporting the conclusion that a substance present in a specific article or category of articles will present significant opportunities for human exposures or environmental releases of the substance. EPA has not made such an affirmative finding as applied to the release of LCPFAC substances from fab equipment and infrastructure.

In support of its proposal to require Significant New Use reporting for articles containing LCPFAC substances in surface coatings on articles, EPA cites various publications concerning the degradation of coatings and potential releases of these substances from surface coatings. These publications generally address articles such as cookware, garments, and other products with LCPFAC substances used in coatings. None of the examples provided address uses in fab or ancillary equipment or their component parts, infrastructure such as tanks and piping, nor microprocessors. Unlike the short-lived consumer goods addressed in these papers, semiconductor fab equipment and infrastructure are long-lived durable goods that are not readily disposed, and releases from these durable articles are not addressed in the literature cited by EPA.

SIA considers it incumbent on EPA to consider the conditions of use when proposing a SNUR affecting articles. In the context of the Supplemental Proposal, SIA is not aware of any evidence offered by the Agency that supports the conclusion LCPFAC substances degrade from or are released from semiconductor fab and ancillary equipment and infrastructure used in fab operations. This equipment and infrastructure are designed for high precision manufacturing operations where contamination is unacceptable and would damage the functionality of the end product. Given these demanding conditions, we believe it is unlikely there is a reasonable

⁵ As with chemical substances and mixtures provided for use by SIA members, equipment (including components for use within fabrication equipment) might be imported by SIA members or by their overseas suppliers (rather than by SIA members themselves), so the precise composition of the components and the complex pieces of equipment are unknown, and are not routinely revealed to SIA members.

⁶ See amended TSCA section 5(a)(2) (15 U.S.C. 2604(a)(2)).

potential for exposure to LCPFAC chemical substances from fab and ancillary equipment and infrastructure.

Because EPA has not made an affirmative finding of the potential for releases of LCPFAC substances from fab equipment and infrastructure, the notification requirements set forth in the supplemental proposal should not apply to these articles

III. SIA Responses to EPA Questions and Other Comments

While SIA has timely documented continuous and critical uses of LCPFAC substances in processes and articles, and therefore such uses must reasonably be excluded from the notification requirement in the final SNUR,⁷ SIA submits the following comments in response to EPA questions.

A. EPA Should Establish a Threshold Level for the Chemical Substances in Articles

EPA requests comment on whether the Agency should establish a threshold for determining whether a significant new use exhibits a reasonable potential for exposure that justifies notification. SIA believes such a minimum threshold would be appropriate to provide an effective means for those subject to notification to determine how to comply.

As discussed above, SIA members rely on numerous suppliers who provide component parts and complex equipment (consisting of more than 1 million parts) that often is assembled at facilities in the US and abroad. Thus, many different “articles” are imported by SIA members. SIA members are not advised by suppliers whether a component part or a finished piece of equipment has a “surface coating” containing one or more LCPFAC substance. EPA should set a specific *de minimis* level to provide regulatory certainty. The level would be a threshold below which the presence of a LCPFAC substances in a surface coating on an article would never require submission of a Significant New Use Notification. However, such a level should be promulgated in addition to the exemptions SIA seeks in these comments for the multiple ongoing uses documented in its 2015 comments.

SIA recommends EPA harmonize such a *de minimis* level with level(s) established in other markets, including those established in the EU pursuant to the REACH directive with respect to notification of customers which is required when a substance of very high concern is present in an article.⁸ However, SIA recommends that EPA should not use the Supplemental Proposal as

⁷ See 55 Fed. Reg. 17376 (Apr. 24, 1990) discussing EPA’s long-standing policy with respect to exempting from any final SNUR all “ongoing” uses

⁸ Article 7(2) would require notification to ECHA when substances of very high concern are present in articles being placed onto the market if both the following conditions are met: (i) the substance is present in their relevant articles above a concentration of 0.1% weight by weight, and (ii) the substance is present in these relevant articles in quantities totalling over one tonne per year. Exemption from the notification is permitted when: (a) the producer or importer of an article can exclude the exposure of humans and the environment to the substance during normal or reasonably foreseeable conditions of use of the article, including its disposal. In these cases, the producers and importers will give appropriate instructions to the recipient of the article, or (b) the substance has already been registered by a manufacturer or importer in the EU for that use.

a means to restrict the current and ongoing uses of LCPFAC substances in formulations that are manufactured domestically or imported for use in photolithographic processes in semiconductor manufacturing.

B. EPA Should Establish a Definition of “Surface Coatings”

EPA proposes to require Notification before an entity may import any articles with a surface coating containing a listed LCPFAC substances. Unfortunately, the Supplemental Proposal fails to provide a proposed definition of a surface coating. EPA states in the preamble that a coating is “a material applied in a thin layer to a surface as a protective, decorative, or functional film.” Id. at 12484. EPA provides examples such as stain- and water-repellent fabrics and nonstick products (e.g., coatings for cookware). Id at 12485.

The regulated community needs a more precise definition to determine whether a LCPFAC substance incorporated into a finished article will no longer be considered a “coating” because it is a component of the overall article. For example, a LCPFAC substance might be used in the manufacture of a polymeric substance that is applied to an electrical wire as insulation. The insulation should not be considered a surface coating for purposes of significant new use reporting. SIA recommends EPA provide a clear definition in any final rule that allows the regulated community to readily determine what is a surface coating. Perhaps the definition could provide standards based on the functional purpose of the surface treatment or its measured thickness to allow such distinctions to be made. The definition provided should clarify when a material is no longer a surface coating and can be considered a functional component of the article. Similarly, when a coating is cured or otherwise inextricably adhered to a coated surface, or are treated or cured in such a manner that the coating components are chemically modified (and are no longer identifiable by their original chemical identities), they should no longer be considered a LCPFAC containing “surface coating”.

C. Need for a “Safe harbor” Provision

SIA members who import and rely upon complex equipment with thousands of components composed of more than a million parts. These products are produced through a complex global supply chain, and semiconductor companies using these articles do not commonly know of, and rarely can be expected to acquire, data about the presence of a regulated LCPFACs in a surface coating on an imported article. Obtaining the information requires investigations through multiple links of an extremely complex supply chain, and in many cases the chemical content of equipment and components is unknown or treated by suppliers to the suppliers as confidential business information. For this and other reasons, SIA encourages EPA to establish a “safe harbor” provision for importers of articles (inclusive of the many overseas producers and suppliers of such complex equipment who likely are completely unaware of EPA’s March 3, 2020 Supplemental Proposal) who may seek to make EPA aware at a later date that their use of a listed substance in a surface coating was “ongoing” prior to the applicable effective date of the Supplemental Proposal.

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As set forth in our 2015 comments on the original proposal, and as reinforced in these comments, the semiconductor industry has continuous and ongoing uses of LCPFAC substances in our manufacturing processes and these substances may be present in articles such as semiconductor devices, fab equipment, and fab infrastructure. Because these uses are critical to this industry, SIA continues to call upon EPA to specify in any final rule amending the

LCPFAC SNUR that the notification requirements under the SNUR do not, and will not, affect these on-going uses, and will not require Notification to EPA prior to the importation of articles in the semiconductor industry. In addition, because EPA has not made an affirmative finding of the potential for releases of LCPFAC substances from semiconductor devices, fab equipment, and fab infrastructure, the notification requirements set forth in the supplemental proposal should not apply to these articles in the semiconductor industry.

SIA appreciates the opportunity to submit these comments.