

July 6, 2023

MEMORANDUM

TO: Global Silicones Council

FROM: Russ LaMotte, Beveridge & Diamond, PC

RE: Potential Consequences of Siloxane Nominations to Stockholm Convention

Executive Summary

This paper evaluates the legal and practical implications of the European Commission's intention to nominate for listing in the Stockholm Convention on Persistent Organic Pollutants the siloxanes D4, D5, and D6. (For purposes of discussion, we assume that these siloxanes will be found to satisfy the Annex D criteria screening and Annex E risk profile elements required for a nomination to proceed to the risk management phase, notwithstanding the serious questions about whether they meet those criteria.)

In particular, we assess the Commission's assurances that a future listing decision could be narrowly scoped by listing siloxanes on Annex B (the so-called "restriction" annex) with broad exemptions designed to avoid control measures on polymers made from siloxane monomers. Such a result would require Parties to the Convention to craft broad exemptions that limit applicability of the Convention's control measures, which would otherwise prohibit virtually all production and use of siloxanes, as well as products that are derived from siloxanes.

In brief, the paper concludes that:

- It is, in theory, legally *possible* for the Parties to the Stockholm Convention to devise and agree on a Stockholm Convention listing decision that achieves the Commission's stated narrow goal, at least with respect to control measures applicable to production, use and trade in siloxane monomers and products produced from them.
- It is, in practice, however, *very unlikely* that such a narrowly targeted outcome is achievable.
- Nomination of these siloxanes would therefore present a high risk of impacts on the global production and trade of silicone products that are derived from polymerization of siloxane monomers.
- There are also potential implications that such a listing might have on trade flows of wastes containing siloxanes for disposal or recycling, which would be difficult to address through even a broadly worded exemption under the Stockholm Convention.

These risks arise for several reasons. First, a Party that nominates a substance does not determine the final content of control measures that the Conference of the Parties (COP) ultimately adopts. Once a Party has nominated a chemical for listing, it loses control of the process: the nomination triggers a multilateral procedure, with multiple stakeholders and actors, that will determine both the placement of the listing and the content of the associated control measures. Simply put, no single Party or group of Parties – even a very influential Party like the EU – has the ability to determine or control the outcome of the listing process.

Second, there are reasons to be skeptical of the EU's ability to use its influence to limit a siloxanes listing in the Stockholm Convention in a way that closely mirrors the outcome of the REACH restriction process. Commission representatives who participate in the Stockholm Convention have failed on several occasions to secure exemptions that mirror derogations incorporated into previously enacted REACH restrictions, including for REACH restrictions that were finalized only slightly earlier than the Stockholm Convention listings.

Third, there is no precedent for a Stockholm Convention listing that identifies a substance as a global POP while simultaneously exempting the overwhelming majority of a chemical's uses by volume and by application. To the contrary, the Convention has operated in a way that creates an inexorable drive toward the ultimate elimination of every new substance that is designated as a POP. It would be extremely difficult to craft broad and time-unlimited exemptions for a chemical that has been identified as a global POP. Doing so would require the cooperation of a wide range of stakeholders and Parties to fundamentally alter the practices that have characterized the Convention's listing process to date. For example, the POPRC starts from a presumption that all POPs should be eliminated, and then carves out limited exemptions based on application-specific requests. The validity of such requests depends on the POPRC's judgment of whether an alternative is available. It is therefore likely that the POPRC would undertake an application-by-application review of the uses of siloxane-based silicone polymers to determine whether (a) those polymers could be produced through methods other than with the listed siloxanes; or (b) the functional end uses of the silicone polymers could be achieved by substitution to another material. Exemptions would only be considered if industry proponents could demonstrate that no alternatives were available.

And fourth, even if it were legally and politically possible to achieve such a narrow result within the Convention, it is likely that designation of siloxanes as a global POP would indirectly trigger a cascading series of more expansive controls that would damage the global silicones market. Those controls could arise under various Parties' domestic laws that implement the Convention. They could also arise under list-based secondary standards, such as those used by various retailers and eco-labels, that are triggered automatically by a POPs listing decision. Many of these automatic consequences may not differentiate based on the availability of exemptions or nuances in listing decisions. They lie outside of the Convention's control, and there is no legal mechanism by which the Stockholm Convention listing could exclude such impacts. Moreover, the Convention sets a floor for national controls, not a ceiling. Individual countries could therefore take more stringent action triggered by the listing.

Essential Background: Control Measures, Exemptions, and Annex A versus Annex B

By default, the Stockholm Convention imposes a global prohibition on all intentional production and trade of a substance listed in either Annex A or Annex B; all uses of that substance to produce other substances, products or articles; all trade in products and articles that contain that substance; all stockpiling of listed substances; and all trade and recycling of listed substances, as well as products and articles that contain that substance, once they become waste. (An Annex C listing, which can occur separate from or together with a listing on Annex A or B, triggers separate obligations for Parties to identify and mitigate unintentional releases of listed substances. Those obligations generally apply to facilities rather than products, with more stringent measures applicable to new facilities in particular, although the waste-related controls in the Convention are also triggered for Annex C-listed chemicals.)

The Convention's core control measures are subject to limited exceptions that apply by default to all Annex A and Annex B listed chemicals. They are:

- An exception from the control measures on production and use and trade of listed chemicals for lab-scale research.
- An exception from the control on production and use and trade for products and articles that contain listed chemicals as "unintentional trace contaminants" (UTCs).
- An exception from the control measures on production and use and trade for articles that contain listed chemicals if the article was "manufactured or already in use" before the listing took effect, and if the relevant Party has submitted a notification to the Secretariat to trigger this exemption.
- An exception that allows use of the listed chemical as a "closed-system site-limited intermediate" under narrowly circumscribed conditions, including (a) that no significant quantities of the listed chemical are expected to reach humans and the environment; (b) the listed chemical must be chemically transformed in the manufacture of other chemicals; (c) the other chemicals must not themselves exhibit POPs characteristics; and (d) the relevant party has submitted a notification to the Secretariat. This exemption is also time-limited: it expires after 10 years unless the relevant Party notifies the Secretariat and the COP does not oppose an extension.

The scope of these baseline control measures and the availability of these general exceptions, however, can be modified by the COP on a chemical-by-chemical basis at the time that it decides to list a substance:

- A COP listing decision could make a listing more stringent than the baseline Convention obligations by limiting or excluding the availability of any of the generally available exceptions for a given chemical.
- Or a COP listing decision could make a listing *less* stringent than the baseline Convention obligations, by carving out various production and use exemptions that apply to that chemical. Legally, these exemptions would work by clarifying that, when the production

or use of a substance falls within the scope of such an exemption, the quantities of a chemical that are produced or used in those applications are deemed not to be listed in the Stockholm Convention.

It should be noted that the Convention text presents some legal ambiguities regarding the extent to which the COP can craft exemptions from the control measures applicable to stockpiles and wastes in Article 6, particularly for chemicals that are listed in Annex C. Article 6 limits trade in wastes that contain chemicals listed in Annexes A, B or C, and also prohibits the recycling of wastes that contain such listed chemicals, unless the chemical is present below a “low POP threshold” that is prescribed through a separate decision-making procedure in the Basel Convention. The COP has previously crafted specific exemptions (for the PBDE substances) that modified the Article 6 obligations to permit recycling of PBDE-containing articles under certain circumstances, irrespective of the Basel Convention “low POP” level. In principle, a similar exemption could be drafted to allow transport and recycling of the siloxanes and siloxane-related materials in circular economy cycles. If the siloxanes were also listed on Annex C, however, the ability to include such an exemption in the Annex C listing would present a novel question; the COP has not previously adopted a listing in Annex C that includes such a carve-out from the Article 6 waste obligations.

Even if the control measures on trade in wastes under the *Stockholm Convention* could be managed through appropriately tailored exemption language in that instrument, it would also be necessary to evaluate the potential implications of a Stockholm listing decision under the Basel Convention.

- The Basel Convention imposes various prohibitions and trade controls on the transboundary movement of certain Basel-controlled waste streams.
- Under the version of the Basel Convention that is *currently* in effect, we understand that neither wastes that comprise siloxanes nor waste silicone polymers that contain unreacted siloxane monomers are generally managed as hazardous wastes that are subject to controls under the current Basel Convention. (Certain shipments of waste silicone polymers might be controlled under Annex II “other wastes” since the 2021 entry into force of the recent amendment to control shipments of some categories of plastic waste, but shipments of such polymers that are unmixed with other plastic waste streams, where designated for environmentally sound recycling, would likely fall outside of Basel Convention controls.) That is because the Convention currently defines hazardous wastes as wastes that belong to any category of waste identified in Annex I of the Basel Convention unless they do not possess the characteristics in Annex III, and siloxanes are not currently listed in Annex I or subject to an Annex I category.
- The Basel Convention *in its current form* does not contain a separate listing category for Stockholm Convention-listed substances. Listing of siloxanes in the Stockholm Convention, therefore, would not directly result in a change in the regulatory status of siloxane-containing wastes under the Basel Convention.

- But the EU and others have proposed an amendment to the Basel Convention to add a new listing to Annex I for “Chemicals listed in Annexes A, B and C of the Stockholm Convention,” along with a new listing in Annex III for “Persistent, Bioaccumulative and Toxic ... properties.” That proposed amendment is currently the subject of active negotiations taking place under the Basel Convention, and could be adopted as soon as the COP that will be held in 2025 (but is more likely to be considered in 2027).
- If finalized in its current form, the amendment could mean that even a narrowly scoped Stockholm Convention listing could trigger significant controls and (for some routes) trade bans on transboundary shipments of siloxane-bearing waste materials, with highly disruptive impacts and trade frictions applicable to current trade flows of secondary materials for recycling and reprocessing. For example, the listing of siloxane-bearing wastes as hazardous wastes would increase shipping costs significantly. It could also effectively lead to prohibitions on some waste flows, such as from OECD to non-OECD countries, or shipments to or from the United States, which is a non-Party to the Basel Convention.

In sum, with the possible exception of certain obligations relating to trade in POPs-containing wastes and recycling of such wastes, the COP (at least in theory) has wide legal leeway in structuring the scope and impact of the global control measures under the Convention for each listed chemical on a chemical-by-chemical basis, depending on the decisions that it makes at the time of the listing.

But it is important to clarify that there is virtually no distinction between the control measures and exceptions that apply to substances listed on Annex A (the so-called “elimination” annex) and those that apply to substances listed on Annex B (the so-called “restriction” annex). The core obligations for each annex are in all material respects identical. The primary differences among the control measures for each listed chemical result not from the annex that they are listed on, but instead from the content of exemptions that the COP adopts on a chemical-by-chemical basis. The only legal difference between the annexes is that, by listing a substance on Annex B, the COP could *in theory* grant a category of exemption – known as an “acceptable purpose” – that is not automatically time-limited and not automatically limited in geographic scope. In contrast, chemicals listed on Annex A can benefit only from “specific exemptions.” A specific exemption is time-limited (it expires after 5 years unless renewed by the COP, although paradoxically several of the specific exemptions that have been adopted to date do not by their terms expire until dates well in the future) and it is available only in a Party that has registered for that exemption with the Secretariat. Neither a nomination “for” Annex B nor an eventual listing *on* Annex B ensures that a chemical will be

Is Annex B a “restriction” Annex?

Neither a nomination *for* Annex B nor an eventual listing *on* Annex B ensures that a chemical will be designated only for ‘restriction’ rather than ‘elimination.’ And listing on Annex B does not necessarily mean that acceptable purpose exemptions will be time-unlimited, or that such exemptions will be universally available.

designated only for “restriction” rather than “elimination.” And listing on Annex B does not necessarily mean that acceptable purpose exemptions will be time-unlimited, or that such exemptions will be universally available. Annex B does not *require* that exemptions be time-unlimited and universally available; it means only that the COP could *in theory* adopt such broad exemptions for an Annex B-listed chemical. As discussed below, however, the COP has significantly limited the duration and geographic availability of “acceptable purpose” exemptions even when it has decided to list a substance on Annex B.

Legal Context – Applicability to Siloxane Nominations

A narrowly tailored listing of siloxanes that globalizes the proposed REACH restriction on direct use of siloxanes, formulated to minimize impacts on their use as monomers in polymer production, is legally possible *in theory*.

But to achieve that result through the Stockholm Convention would require a decision to confer extraordinarily broad and time-unlimited exemptions for the following stages of the siloxane-silicone life-cycle (each which would otherwise be prohibited by a Stockholm Convention listing):

Phase	Exemption Required	Comments
Production	Allow production of listed siloxanes where they are destined for use in polymerization processes.	<p>We understand that this exemption would allow 98% of the global volume of siloxane production to continue.</p> <p>No such exemption has ever been sought, much less granted, for a chemical identified as a global POP.</p>
Use of Listed Chemicals (as Monomers)	Allow use of the listed siloxanes at facilities to produce silicone polymers. In the absence of such an exemption, silicone polymers could only be produced at facilities that comply with highly restrictive conditions applicable to the general exception for closed-system site-limited intermediates.	<p>Because a substantial portion of the polymerization facilities in Europe today rely on monomers produced at other sites, an exemption to allow transportation between sites of listed POPs as intermediates is essential to avoid industrial dislocation of silicone production in the EU.</p> <p>The POPRC rejected an exemption request for transport-isolated intermediates that are PFOA-</p>

		related substances, due to concerns about emissions associated with the transport phase of intermediates.
Transport and trade in Listed Chemicals (Monomers)	Allow transport and trade of the listed siloxanes for use as monomers in the polymerization production process.	Transport and trade in listed chemicals will generally be permitted by automatic operation of article 3 of the Convention with respect to any production and use activity that is permitted by a specific exemption or acceptable purpose in the listing of a chemical, assuming that both the exporting country and importing country are parties that are eligible for the exemption.
Trade in Products and Articles Containing Siloxanes	Allow use and trade of products that consist of or contain polymers produced from the listed siloxanes, where the listed siloxanes may be present as unreacted monomers, at a threshold level that is technically achievable. In the absence of a designated threshold level, trade in (and use of) all silicone-containing products and articles would be permissible only to the extent the end product or article complies with the UTC threshold.	We understand that it is not practicable to reduce unreacted siloxane monomer content below 0.1%. To ensure global trade freedom for products and articles containing silicone products, therefore, it would be necessary to specify an acceptable threshold level of unreacted monomer content at a level that is no lower than 0.1%. Unlike REACH restrictions and the EU POPs Regulation restrictions, it is uncommon to specify such an exemption threshold for Stockholm Convention listings, and unprecedented to do so with respect to unreacted monomers. (The only example where such a threshold is addressed is for SCCPs, and in that case the COP did not prescribe a higher UTC level as such, but instead merely noted that the UTC exemption is not available for products where SCCPs

		are present at a level that exceeds 1%.)
Trade and Recycling of Wastes Containing Siloxanes	Allow for flexible transport, trade and recycling of wastes that contain or consist of the listed siloxanes.	<p>The COP adopted a time-limited exception to permit certain recycling of PBDE-containing articles. However, that exemption was highly controversial at the time, took place at the first COP that adopted new listing decisions, and has not been extended to any subsequently listed POP, even those that had been in widespread use prior to listing (like Deca-BDE).</p> <p>Parties may have difficulty agreeing on such an exemption for siloxane-containing wastes if there is evidence that degradation of poorly managed waste polymers is a substantial source of siloxane releases.</p>

Political Context: Risks of an Annex B Listing

Based on experience with the Stockholm Convention's evolution and operations to date, the likelihood that the EU could steer a siloxane nomination to such a narrowly tailored outcome appears low.

First, it is not legally possible for the EU to determine the final content of control measures that the COP ultimately adopts.

- The EU's draft nomination is styled (in its title only) as a proposal to list siloxanes on Annex B. Despite that framing, there is no guarantee that the nomination will result in an Annex B listing. The EU's status as a nominating party confers no inherent legal authority with respect to the ultimate disposition of that nomination. Once a Party has nominated a chemical for listing, it loses control of the listing process.
- The Convention does not allow a Party to make a conditional nomination. It does not allow a Party to specify an annex or the end control measures that it deems appropriate. And it does not allow a Party to withdraw a nomination once it has been made.

- Instead, the nomination will trigger a multilateral procedure that will determine both the placement of the listing and the content of the associated control measures. The listing process is initially driven by the 31-member Persistent Organic Pollutant Review Committee (POPRC), an independent scientific body.
- The final listing is determined by a collective multilateral decision by the COP as a whole. Although the general practice for such decisions has to date involved consensus decision-making (a practice that should give the EU the ability to avoid an outcome that it disagrees with), the Convention allows for majority voting where consensus is not achievable. And recent trends in the multilateral conventions that meet simultaneously with the Stockholm Convention COP – where controversial decisions have been quickly brought to a vote -- suggests that we should anticipate more voting-based decisions in the future. In the end, the final negotiation process at the COP is wholly political in nature. It is therefore both unpredictable and subject to extrinsic global economic and political dynamics at the time of the listing.

Second, there are reasons to be skeptical of the Commission's ability to use its influence to limit a siloxanes listing in the Stockholm Convention in a way that closely tracks the outcome of the REACH restriction process.

- Commission representatives, when participating in the listing process both as members of the POPRC itself and as observers representing the EU, have in prior circumstances failed to defend or assert the need for certain exemptions in the Convention even when those exemptions have been deemed appropriate to include in contemporaneous REACH restrictions.
- The history of the PFOA listing offers a cautionary lesson in this regard. At the time that the POPRC first took up the Annex F process for PFOA (beginning in fall 2017 and running through fall 2018), the Commission had just concluded (only months earlier) the process of [adopting a REACH restriction for PFOA](#). That restriction included several derogations that had been determined to be required and appropriate under REACH, including for use of a substance as a transport-isolated intermediate under certain conditions designed to contain releases at the site where the intermediate is used. The primary beneficiary of that exemption (Archroma) sought to ensure that it would be carried through to the Stockholm Convention listing decision, and participated in the POPRC listing process to explain the value of the exemption. When the exemption request came under pressure from NGOs and some POPRC members, the Commission's representative (a senior DG Environment staffer) who participated in the POPRC working group withdrew support for the exemption. A transport-isolated intermediate exemption was not included in the POPRC's report, the final Stockholm Convention

listing, or the revised EU PFOA restriction that was subsequently incorporated into the EU POPs Regulation.

- A similar process appears to be under way at present in the LC-PFOA listing process in the POPRC. Although the recently adopted [REACH restriction for LC-PFOAs](#) includes an exemption until 2031 for semiconductors used in spare parts, for example, the Commission (in comments to the POPRC working group that is currently preparing a draft Risk Management Evaluation) recently questioned whether such an exemption should be included in the Stockholm Convention listing for LC-PFOAs.
- To be sure, there could be a number of reasons for the Commission's record in failing to carry through the multilateral process the exemptions that were carefully deliberated by ECHA, RAC, SEAC and the European Council during the REACH listing process. Although the Stockholm Convention listing process is transparent at many key stages, the multilateral process lacks many of the regulatory disciplines and accountability mechanisms of REACH. It is therefore difficult to map with certainty the factors that led to a given outcome. Regardless of the reasons, however, there are many examples where derogations in REACH have been reduced or even eliminated at the Stockholm Convention listing stage, with more stringent requirements that are subsequently incorporated into EU law through EU POPs Regulation amendments that give effect to the Stockholm Convention.

Third, the Convention's operation in practice has to date resulted in broad prohibitions on production and use for every nominated substance, with targeted exemptions that are expressly designed to lead inexorably to ultimate elimination. There is no precedent for a "limited" restriction that would permit the vast majority of a global POP's production and use to continue. Moreover, there is no agreed risk management methodology or approach that, at least as the Convention currently operates, could yield such an outcome.

- There are technical criteria and legal standards that the POPRC must clear before designating a substance a global POP at the Annex E "risk profile." But once the POPRC has decided that a substance is a global POP in accordance with article 8, the Convention is mostly silent on how to formulate the risk management measures. Annex F merely requires the POPRC to collect a range of socio-economic factors and to consider "the full range of options" for control measures, ranging from "management to elimination." There are no regulatory guideposts or principles in the Convention text or in COP guidance that inform the POPRC's judgment with respect to risk management decisions. The Convention does not, for example, require the POPRC to demonstrate the proportionality of control measures that it recommends. Instead, once it determines that a substance is a persistent organic pollutant of global concern (i.e., a global POP), the POPRC has wide discretion to include or reject exemptions in its recommended control measures. In formulating its influential recommendations to the COP, the

POPRC decides, based on criteria known only to the individual POPRC members themselves, what applications or uses of a chemical are sufficiently important to society to merit exemptions and what applications or uses are not; how long those exemptions should last; how to evaluate whether an alternative chemical is available and effective; whether the control measures under consideration are proportional to the risk reductions that can be expected (or whether proportionality is even a relevant consideration); and how to balance the socio-economic and environmental costs of a listing with the environmental and human health benefits that a listing might bring.

- The Convention likewise sets no boundaries or guardrails around the COP's ultimate decision-making, other than a requirement to "take due account" of the POPRC recommendations and to make a decision "in a precautionary manner." As a legal matter, each nomination that proceeds past the Annex E stage triggers a unique and essentially open-ended negotiation with respect to the control measures for a given global POP.
- To date, moreover, the Convention's decision-makers have consistently and uniformly exercised that latitude in a manner that presumes that a chemical that has been determined to meet the criteria for a global POP should be ultimately eliminated, and that any exemptions that are allowed should be narrow in scope and subject to continuous pressure over time. This presumption is so ingrained into the Convention's current practices, moreover, that it is effectively unquestioned. Although it is not written into the Convention text or expressly stated by COP decisions, it is a *de facto* first principle of the Convention's operations, which is manifest in a myriad of ways.
- For example, of the Convention's 31 listed substances, only 2 have been listed on Annex B. No new substance has been added Annex B for the last 14 years, since PFOS was listed on Annex B during the COP's inaugural listing decisions. Every substance that has been listed since COP-4 (and most of the substances listed *at* COP-4) have been added to Annex A.
- Even the two substances that are currently found on Annex B – the putative "restriction" annex -- have been expressly designated for ultimate elimination. For both DDT and PFOS, the parties have chosen to include language in the Annex B listing decision making clear the goal of elimination. See Annex B, Part II, paragraph 5 ("With the goal of reducing and ultimately eliminating the use of DDT, the Conference of the Parties shall encourage [...]"); Annex B, Part III, paragraph 3 ("[E]ach Party that uses and/or produces these chemicals shall report on progress made to eliminate PFOS [...]") and paragraph 4 ("With the goal of reducing and ultimately eliminating the production and/or use of [PFOS]").

- The EU itself has embraced this elimination-focused vision. For example, in its public-facing website on the Stockholm Convention, the EU characterizes the objective of the Convention as elimination: “The global treaty aims to protect human health and the environment from the harmful effects of persistent organic pollutants (POPs). It restricts, and ultimately eliminates, their intentional or unintentional production, use, trade, release and storage.” See <https://eur-lex.europa.eu/EN/legal-content/summary/tackling-threats-posed-by-chemicals-stockholm-convention.html>. Similarly, in the Commission’s most recent report on the EU’s implementation plan for POPs, the Commission took note of a similar orientation in its domestic implementation of the Convention’s obligations: “To a certain extent the POP Regulation goes further than the international agreements emphasising the aim to eliminate the production and use of the internationally recognised POPs [...]” <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52018SC0495R%2801%29>
- In addition, the POPRC has evolved a number of practices that reflect and perpetuate this orientation toward elimination. For example, the POPRC has to date eschewed any consideration of blanket or categorical exemptions based on risk. There have been virtually no practical examples where a chemical, once identified as a global POP, has been subjected to differentiated control measures that align emission and exposure reduction with risk. Instead, the POPRC starts from a presumption of prohibition and elimination, and then carves out exemptions based on application-specific requests or identified needs. Moreover, the validity and acceptance of a such exemption request is determined exclusively based on the POPRC’s judgment of whether an alternative is “available”. In the absence of a wholesale revision of the POPRC’s operating procedures and culture, it is therefore likely that the POPRC would undertake an application-by-application review of the uses of siloxane-based silicone polymers to determine whether (a) those polymers could be produced through methods other than with the listed siloxanes; or (b) the functional end uses of the silicone polymers could be achieved by substitution to another material. Exemptions would only be considered if industry and country proponents could demonstrate that no alternatives were available.
- The POPRC’s approach is well reflected in this excerpt from the recent PFOA Risk Management Evaluation:

“When assessing the human health and the environmental impacts of restricting PFOA and PFOA-related substances, it is crucial to take into account the specific concerns of these substances as PBT substances. ... Even if the emissions of PFOA and PFOA-related substances will cease, it will not result in an immediate reduction of environmental concentrations. ... PFOA is present in the environment on a global scale, also in remote areas where PFOA emissions are negligible. Continuous use and emissions may lead to rising concentrations in the environment and to long-term, large-scale environmental and human exposure

to PFOA. In combination with the potential of PFOA to accumulate in living organisms as well as its toxicological properties, continuous use and emissions of PFOA ... may lead to adverse effects on human health and the environment arising from long-term exposure. These effects will be very difficult to reverse, once they have occurred. The magnitude and extent of the risks of PFOA ... as POPs remain uncertain. Therefore, the risk management of these substances is driven by scientific data and precautionary action to avoid potentially severe and irreversible impacts resulting from continued emissions. This is evident even though the full physical impacts on human health and the environment of reducing the emissions of PFOA ... cannot be quantified....”

This assessment, which deems a substance that is designated a global POP as a *per se* risk that in practice cannot be controlled without elimination, is not unique to PFOA. It is completely typical of the POPRC's approach to every chemical evaluated to date. It is also, unfortunately, antithetical to a risk management approach that is capable of yielding nuanced and risk-based controls, let alone wholesale exemptions that exclude from any controls at all the vast quantity of a global POP's production and use.

And fourth, even if it were legally and politically possible to achieve such a narrow result within the Convention, it is likely that designation of siloxanes as a global POP would indirectly trigger a cascading series of more expansive controls that would damage the global silicones market. Those controls could arise under various Parties' domestic laws that implement the Convention. They could also arise under list-based secondary standards, such as those used by various retailers and eco-labels, that are triggered automatically by a POPs listing decision. Many of these automatic consequences may not differentiate based on the availability of exemptions or nuances in listing decisions. They lie outside of the Convention's control, and there is no legal mechanism by which the Stockholm Convention listing could exclude such impacts.
