



Minnesota Pollution Control Agency

Syensqo Response to Proposed Rulemaking on Critically Unavoidable Uses

March 29, 2026

On behalf of Syensqo USA LLC (Syensqo), we appreciate the opportunity to submit comments to the Minnesota Pollution Control Agency concerning the Minnesota's PFAS in Products proposed rulemaking on critically unavoidable uses.

Syensqo is a global leader in advanced materials and specialty chemicals. Our tailor-made range of products and constantly evolving research offers everyday sustainable market-based solutions for next-generation transportation, resource efficiency, consumer goods, healthcare, and industrial production to accommodate U.S. consumers' needs. Syensqo, through its predecessors, has been connecting people and scientific minds for 160 years. Innovation is at our core and part of our DNA. In the United States, Syensqo employs approximately 5,000 people working in over 30 sites across 20 states. Our U.S. footprint includes our composite materials manufacturing site in Winona, Minnesota where we have over 230 employees. This site is critical to the American aerospace and defense industrial base and provides irreplaceable materials for military and civilian applications.

We are a science company with a remarkable past, aiming to reinvent the future with our technologies, particularly in the emerging clean energy markets. In that vein, in October 2022, Solvay Specialty Polymers, LLC (a subsidiary of Syensqo) was awarded a \$178M grant from the Department of Energy (DOE) as part of an Infrastructure Investment and Jobs Act battery material funding program to produce a PVDF fluoropolymer production facility in Augusta, GA.¹ This facility has the potential to provide enough PVDF fluoropolymer to supply more than 5 million EV batteries per year at full capacity, and the project is expected to create more than 500 local construction jobs and 100 highly-skilled jobs. Once fully operational, our project is an American investment that will fill a significant domestic supply gap with all major feedstocks, including fluorspar (a designated critical mineral), coming from North America.

Syensqo strongly opposes a "currently unavoidable use" construct being applied to the entire class of PFAS chemistry for the reasons outlined below. Syensqo requests that MPCA provides a full exemption for fluoropolymers manufactured without fluorosurfactant processing aids.

- I. This type of restriction is incompatible with complex critical supply chains and economies of scale.*

¹See https://www.energy.gov/sites/default/files/2022-10/DOE%20BIL%20Battery%20FOA-2678%20Selectee%20Fact%20Sheets%20-%201_2.pdf

Manufacturers of fluoropolymers (and other polymeric PFAS substances) need sufficient sales and volume to justify the immense capital and operation costs of an advanced chemical facility and remain cost competitive in a truly global market (that exists for advanced polymer chemistries). For example, if only fluoropolymer coatings for architectural applications are deemed “currently unavoidable,” but these coatings that are used in a variety of industrial applications are not approved, the loss of overall demand would be significant to the manufacturer. Syensqo’s facilities service a multitude of different industries for different applications. In many cases, we are multiple tiers removed from our products’ end use as a material supplier. This dynamic extends across our entire portfolio of fluorinated products. Allowing only “currently unavoidable uses” in specific downstream sectors – rather than analyzing the risk profiles of specific PFAS chemistries – would severely endanger the supply of materials for the approved uses by the state. The demand of PFAS products from these small sub-sectors cannot support the weight of the entire industry nor support the economies of scale that we need to compete with non-domestic manufacturers.

The US Department of Defense specifically highlights this problem as a key national defense vulnerability in their recent reports, *Report on Critical Per- and Polyfluoroalkyl Substance Uses in 2023*² and the Department’s *Update on Critical Per- and Polyfluoroalkyl Substance Uses* (July 2025).³ Notably, the Department’s July 2025 report concluded that:

- Fluorochemicals are deemed critical to national security not only because of military-exclusive applications but also due to their widespread use in civil-military common systems and products that affect readiness.
- There is a critical need to ensure the continued capability of domestic manufacturers to supply fluorochemicals; otherwise, the DoD could be forced to source mission-critical fluorochemicals from China and other foreign entities of concern, undermining efforts to establish secure domestic supply chains.

Ultimately, the market will adapt, and the supply of these critical materials will be available from foreign manufacturers who do not have the same environmental, labor, climate, and safety controls as U.S. producers. Moreover, it is highly likely that these critical supply chains will relocate to geopolitical adversaries and further disrupt domestic security for key manufacturing inputs.

II. *This regulation does not follow the science and fails to recognize key differences in PFAS chemistries*

Syensqo actively promotes the continued responsible and safe manufacture, use, and placement of products which are essential to U.S. industry and to the decarbonization of

²<https://www.acq.osd.mil/eie/eer/ecc/pfas/docs/reports/Report-on-Critical-PFAS-Substance-Uses.pdf>

³<https://www.denix.osd.mil/cmrmpp/denix-files/sites/14/2025/07/2025-DoD-Update-on-PFAS-Critical-Uses.pdf>

the global economy. We take the subject of PFAS very seriously, and health and safety are our top priorities.

The regulation currently does not recognize the distinct differences in PFAS chemistries, particularly with respect to fluoropolymers which present low hazards to human health and the environment. These chemistries are vital to the critical industries that are the foundation of our sustainable future, including hydrogen-based energy, semiconductor manufacturing, EV batteries, and aerospace and defense applications.

Specifically, fluoropolymers are molecules that are inert, relatively large and have “documented safety profiles; are thermally, biologically, and chemically stable, negligibly soluble in water, nonmobile, nonbioavailable, nonbioaccumulative, and nontoxic.”⁴ Moreover, some of these fluorinated substances are even completely insoluble, including FKM (a fluoroelastomer) and PFPE lubricants.

III. Alternative assessments should recognize the responsible manufacturing of certain PFAS chemistries.

Concerns about fluorochemistry have focused on the use of fluorosurfactant process aids used in the production of polymers.

“The objective of this analysis is to evaluate the evidence regarding the environmental and human health impacts of fluoropolymers throughout their life cycle(s). Production of some fluoropolymers is intimately linked to the use and emissions of legacy and novel PFAS as polymer processing aids. There are serious concerns regarding the toxicity and adverse effects of fluorinated processing aids on humans and the environment.”⁵

Over the last several years, we have invested millions of dollars to advance our technology where we now produce all of our fluoropolymers in the U.S. without the use of fluorosurfactants. Fluorosurfactants are non-polymeric process aids that help ingredients work together in manufacturing some fluoropolymers and historically included PFOA and PFOS, that are among the PFAS substances under the most intense spotlight. We were able to develop a next generation, more sustainable range of specialized fluoropolymers without the use of fluorosurfactants while keeping the unique properties of these products, as required for special applications.⁶

⁴ See Korzeniowski, S.H.; Buck, R.C.; Newkold, R.M.; El Kassmi, A.; Laganis, E.; Matsuoka, Y.; Dinelli, B.; Beauchet, S.; Adamsky, F.; Weilandt, K.; et al. A Critical Review of the Application of Polymer of Low Concern Regulatory Criteria to Fluoropolymers II: Fluoroplastics and Fluoroelastomers. *Integr. Environ. Assess. Manag.* 2023, 19, 326–354.

⁵ See Lohmann, Rainer, Ian T. Cousins, Jamie C. DeWitt, Julianne Glüge, Gretta Goldenman, Dorte Herzke, Andrew B. Lindstrom, et al. 2020. “Are Fluoropolymers Really of Low Concern for Human and Environmental Health and Separate from Other PFAS?” *Environmental Science & Technology* 54 (20): 12820–28. <https://doi.org/10.1021/acs.est.0c03244>.

⁶ See <https://www.svensgo.com/en/innovation/science-solutions/pfas>

A recent November 2023 scientific review specifically analyzed how the industry has responded to these claims amid new regulatory actions globally on “essential use”/“currently unavoidable use”/etc.,

“Because they are concerned about the negative aspects of the fluorinated polymerization aids (FPAs or surfactants) currently used to replace PFOA, FP [fluoropolymer] manufacturers have been overcoming the great challenge to produce FPs free from FPAs...FPs produced without any FPAs should be exempt for all uses across all industries including consumer applications as they raise no risk to the environment or to mammal and human health, in addition to the fact that FPs also match the PLC [polymer of low concern] criteria.”⁷

The supply of fluoropolymers for critical product supply chains is currently a delicate balance between market demand and regulation. A full exemption for fluoropolymers that are responsibly manufactured for industrial uses represents a path forward to address environmental, national security and economic competitiveness priorities.

Should Minnesota PCA move forward with the “currently unavoidable use” construct that focuses on downstream uses, we request that CUU categories and exempted categories be created for critical industries. This will align Minnesota with states like Maine and New Mexico and prevent economic disruptions and unintended consequences.

Recent states that have introduced PFAS in Products legislation that include currently unavoidable use designations have provided lists of product categories exempt from these regulations. States like Maine and New Mexico have developed extensive product category exemptions that tend to cover 15-plus areas.

The inclusion of these exemption categories helps ensure that products integral to critical industries are able to remain in commerce, thus reducing immediate economic disruption and unintended consequences while reducing the administrative burden associated with a more all-incompassing reporting system.

These exemption categories included in Maine⁸ and New Mexico⁹ generally include:

1. A product for which federal law governs the presence of PFAS
2. used products offered for resale
3. medical devices and pharmaceuticals
4. cooling, heating, ventilation, air conditioning, and refrigerants exempted by SNAP, vet products approved by FDA, USDA, and EPA

⁷ See Améduri B. Fluoropolymers as Unique and Irreplaceable Materials: Challenges and Future Trends in These Specific Per or Poly-Fluoroalkyl Substances. *Molecules*. 2023 Nov 13;28(22):7564. doi: 10.3390/molecules28227564. PMID: 38005292; PMCID: PMC10675016.

⁸ Maine Legislature, An Act to Support Manufacturers Whose Products Contain Perfluoroalkyl and Polyfluoroalkyl Substances (L.D. 1537, S.P. 610, 131st Legislature), 2024, <https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=SP0610&item=3&snum=131>

⁹ New Mexico Environment Department, PFAS Protection Act Proposed Rules, October 6, 2025, <https://www.env.nm.gov/wp-content/uploads/2025/10/2025-10-06-PFAS-Protection-Act-Proposed-Rules.pdf>

5. veterinarian products and packaging regulated by FDA or USDA
6. products developed for public health, environmental, or water quality testing
7. Products required to meet standards or requirements of the DOT, FAA, NASA, DOD, or DHS
8. motor vehicle equipment regulated under the federal motor vehicle safety standard
9. any other motor vehicles, including off-highway vehicles like ATVs or farm vehicles
10. watercrafts or seaplanes
11. semiconductors, including semiconductors incorporated in electronic equipment and materials
12. non-consumer electronics and lab equipment
13. products with intentionally added PFAS with uses that are currently listed as acceptable under SNAP (This would include HFOs and HFCs)
14. products used for the generation, distribution, and storage of electricity
15. equipment directly used in the manufacturing or development of the products described above
16. any products approved by the board
17. products that contain fluoropolymers consisting of polymeric substances for which the backbone of the polymer is either a per- or polyfluorinated carbon-only backbone or a perfluorinated polyether backbone that is a solid at standard temperature or pressure.

While the exempted product categories included in Maine and New Mexico's statutes do give some manufacturers of critical products regulatory certainty, those exemptions do not fully recognize the reality that fluoromaterials are used in industrial applications. Thus, we believe that Minnesota needs to proactively exempt additional critical product supply chains and industry categories to ensure consumers and industry have access to the critical products that they need. These categories include:

- **Automotive** – Within the automotive sector, fluoropolymers find application in several key technical components, such as gaskets, hoses, joints, o-rings, seals, cords, cables, or sleeves. Additionally, they are applied in articles that constitute part of components used in automotive, such as membrane in the fuel cell or bearing shafts in air conditioner compressors. Fluoropolymers are used in the transport sector primarily due to their resilience, broad thermal and chemical resistance and low friction properties, as well as due to their resistance to swelling and permeability. Without an exemption, nearly every automobile currently manufactured would not be able to be sold in Maine.
- **Aeronautics** – Fluoropolymers and Perfluoropolyethers are widely used in the aerospace industry for their general ability to withstand harsh conditions, with some sub-uses and end-applications similar to the ones described for the automotive sector. Indeed, in the aeronautic sector FPs are widely used as gaskets, hoses, joints, O-rings, seals, cords, cables, or sleeves inside the aircraft. The current proposed Chapter 90 "Products Containing PFAS" draft language exempts "A

product required to meet standards or requirements of the FAA, the National Aeronautics and Space Administration (NASA), the United States Department of Defense (DOD) or the United States Department of Homeland Security (DHS).” However, this exemption would not cover specific products that are used in the aerospace and defense industry, but are not explicitly certified by each of these federal agencies. Syensqo and its customers manufacture numerous upstream fluoropolymer products that are used in defense and aerospace applications such as fighter jets, or engine and structural parts for civilian and commercial aircraft. With the proposed “currently unavoidable use” construct, airports and airfields in Maine will find many of their necessary service and spare parts unavailable due to the lack of a specific FAA certification on many aerospace products containing fluoropolymers.

- **Batteries and E-mobility** – Batteries are essential for powering a wide range of applications, from smartphones and power tools to mission-critical assets like data centers and nuclear power plants. They are critical enablers of the growth of electric vehicles, e-bikes, and e-scooters, contributing to economic development and job creation. Additionally, batteries play a vital role in powering machines such as drones, rockets, and satellites, as well as providing energy storage for electrical grids. Without an exemption from Maine DEP, critical fluoropolymer products will be banned from usage in high density batteries, which would force manufacturers to switch back to inefficient, less advanced chemistry batteries. As consumers continue to demand higher range EVs and longer lasting consumer batteries, an exemption for batteries is necessary to ensure strong demand to continue to electrify our economy.
- **Renewable Energy** – Nearly every innovative clean energy generation source, from solar, wind, nuclear, geothermal, hydropower, energy storage, and carbon capture all rely on fluoropolymers in their products for protective coatings, sealing, and lubrication to ensure efficient and safe operation. Without an exemption for the energy industry, developers and utilities in Maine would find nearly all of their necessary clean technologies banned. Meanwhile emerging technologies such as green hydrogen use fluoropolymers in membranes used in electrolysis as well as in hydrogen storage and transport applications, such as valves, sealing and pipes. Green hydrogen is a key future technology for decarbonization, especially for hard-to-abate industrial applications that require heat generation. Hamstringing Maine utilities and developers would only increase demand for price-volatile and GHG-heavy energy sources like natural gas and petroleum and would ultimately reduce grid reliability and hurt Maine ratepayers.
- **Industrial application (e.g., lubricants, sealant)** – Sealing devices and materials serve a crucial role in the safe containment of fluids in several markets, including but not limited to automotive, aerospace, pharmaceuticals, industrial and mineral extraction. Industrial sealings are used to contain media inside hardware and the seal materials must withstand the environmental conditions of the application. Using a lower performing lubricant would result in a shorter lifetime, higher costs due to the more frequent replacements and in some cases an increase of the

safety-risk. Without an exemption, Maine companies who rely heavily on many of these industrial products would find many of their industrial equipment banned.

- **Electronics** – While semiconductors and its manufacturing equipment are exempted, many key parts that impact the waterproofing and performance of consumer electronics would not be covered by the exemption categories. Other fluoropolymer uses in electronics include the treatment medium for touchscreen glass, which protects the touch screen glass from fingerprints and degradation from skin oils. A lack of an exemption would drastically reduce the quality and longevity of many electronic products, which would likely result in the products ending up in the waste stream.

We encourage the Minnesota PCA to take all measures to implement this statute while maintaining regulatory certainty and U.S. competitiveness in critical product supply chains. It is vital that non-problematic fluoromaterials are not only allowed in commerce, but have sufficient demand and the regulatory certainty to maintain cost-competitiveness. Thank you for your consideration of our comments.

Very truly yours,



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