Contribution ID: 1020c473-8155-4905-9cce-be896509b378

Date: 18/05/2026 15:12:59

General survey

Fields marked with * are mandatory.

1 Respondent background information

Before responding to the survey, please read the following documents (see links in the sidebar):

1. **Guidance Document**
2. **Use Mapping**
3. **Privacy Statement**

☑

- I have read and understood the information in the **Guidance Document** and **Use Mapping**.
- I agree to the privacy policy as set out in the **Privacy Statement**.

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* 1.1 **[Q2.0]** Select the EU language in which you will respond to the questions (the questions themselves will be in English only).

English

* 1.2 **[Q2.1]** Which of the following best describes you or your affiliation?

Select Citizen/individual if you are responding in a personal capacity.

Select Organisation if you represent an organisation (e.g. company) or other official role.

- ○ Citizen/Individual
- ◉ Organisation

* 1.3 **[Q2.2]** What type of organisation are you responding for?

- ○ Government organisation
- ○ Non-governmental organisation
- ○ Academic institution
- ◉ Industry association
- ○ Company

* 1.4 **[Q2.3]** What is the name of the organisation you are reporting for?

Text of 1 to 300 characters will be accepted

European Sealing Association

* 1.5 **[Q2.4]** Please name a point of contact ECHA can contact if needed.

Text of 1 to 100 characters will be accepted

A point of contact is needed for seeking clarification or justification for the consultation responses if considered necessary by SEAC.

For individual respondents, the contact's name is always kept confidential.

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Sandy Van den Broeck

* 1.6 **[Q2.5]** What is the email address for that contact point?

sandy.vandenbroeck@europeansealing.com

1.7 **[Q2.6]** If you submitted comments in the previous consultation on the Annex XV restriction proposal (Mar-Sep 2023), please list the comment numbers (e.g. #1234, #5678).

300 character(s) maximum

unknown

* 1.8 **[Q2.7]** Is your organisation national or international?

Organisations having activities in several countries (in EEA or globally) should choose "international".

- ○ National
- ◉ International

* 1.9 **[Q2.8]** What country are you (or your organisation) based in?

Individuals should choose the country where they permanently reside.

Respondents representing organisations, such as companies, should select the country where the largest share of their PFAS related activities occur.

Respondents representing other organisations may choose the country where the organisation is based in.

Germany (DE)

1.10 **[Q2.9]** How many members does your association have?

Provide the number of member organisations (e.g. for industry associations), or individuals (e.g. for trade unions).

64

2 General survey questions

Instructions

Please do not include links to particular websites or source literature in the response fields. For security reasons, links to external sources will not be opened.
If you wish to cite a third-party source (e.g. research paper), you can reference it in the response field. This allows SEAC to note the source and request it from you if necessary.

For more information, please see the Guidance document.

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* 2.1 **[Q2.17]** Choose all sectors that are relevant or covered by your responses in this general survey.

Minimum 1 selection(s)

Select the sector(s) for which you will provide information. You can choose PFAS manufacturing and 22 sectors (14 sectors covered by SEAC sector-specific evaluation and additional eight sectors identified in the Background Document).

You can select as many sectors as you see fit. Information provided will apply to all selected sectors unless you specify otherwise in your answers. If you prefer to do it so, you can submit one survey for each specific sector of use your answers apply to.

If your use is not covered by any of the identified sectors, choose “other” and specify it in the next question.

- [ ] **[01] PFAS manufacturing**
- [ ] **[02] Textiles, upholstery, leather, apparel and carpets (TULAC)**
- [x] **[03] Food contact materials (FCM) and packaging**
- [x] **[04] Metal plating and manufacture of metal products**
- [ ] **[05] Consumer mixtures and miscellaneous consumer articles**
- [ ] **[06] Cosmetics**
- [ ] **[07] Ski wax**
- [x] **[08] Applications of fluorinated gases**

- [x] **[09] Medical devices**
- [x] **[10] Transport**
- [x] **[11] Electronics and semiconductors**
- [x] **[12] Energy**
- [x] **[13] Construction products**
- [x] **[14] Lubricants**
- [x] **[15] Petroleum and mining**
- [ ] ***[16] Printing applications***
- [x] ***[17] Sealing applications***
- [x] ***[18] Machinery applications***
- [x] ***[19] Other medical applications***
- [x] ***[20] Military applications***
- [ ] ***[21] Explosives***
- [ ] ***[22] Technical Textiles***
- [ ] ***[23] Broader industrial uses***
- [ ] **[24] Other sector**

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* 2.2 **[Q2.18]** Please provide a general description of the use(s) of PFAS (or alternatives) you are providing comments on

Text of 1 to 2000 characters will be accepted

Briefly describe the use(s) of PFAS (or alternatives) in this sector(s).

1) Sealing & Bearing Elements
Dynamic seals / rotary & reciprocating: lip seals, V-rings, bushings, pump seals, bellows
Static seals: gaskets (PTFE), O-rings (FKM,FFKM), backup rings, wedges,primary rings, primary ring adapters, gland plates, valve seats, sleeves (sleeves/sleeves)
Braided Packing: compression packing sets
IP sealing: IP washers (entry seals)
2) Flow Control Hardware
Valves & Valve Assemblies
Housing & Door Seals
3) Instrumentation & Sensors
Pressure/Level/Flow/Temperature
4) Filtration & Media
Filters: membrane, coalescing, non-coalescing
Membranes and housings
5) Storage & Containment
Tanks & Liners
6) Electrical & Electronics
Cables & Wiring.
Ingress Protection: IP washers
Printed Circuit Boards (PCBs): laminates, solder masks, or specialty high-freq dielectrics can involve fluorinated resins
Batteries: separators/electrolytes/binders may involve fluorinated polymers 7) Expansion joints

2.3 **[Q2.19]** Please provide your comments on section 1.2. SEAC opinion

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

We request that the sealing applications for industrial use be elevated from “general” to a defined cross-sector class to prevent loss of critical nuance in the SEAC analysis. ECHA’s PFAS use-mapping and consultation guidance show that SEAC prepared sector-specific evaluations for 14 sectors, but sealing applications are not among them, forcing seals to be subsumed under unrelated verticals; this structure obscures the horizontal, cross-industry safety function of sealing applications and undermines a fit-for-purpose socio-economic analysis.

SEAC needs to establish a scope by process environment, not by market vertical. Sealing materials are engineered to contain media under specific temperature/pressure/
chemistry and motion regimes, not to “industry labels.” Treating sealing as a horizontal enabling technology aligns with how sealing devices prevents fugitive emissions and protect environmental integrity across sectors.

2.4 **[Q2.20]** Please provide your comments on section 2.2. Summary of the opinion and 2.2.2. SEAC opinion summary

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

The ESA acknowledges that the SEAC draft opinion presents the overall structure and objectives of the proposed PFAS restriction in a transparent manner and considers aspects of proportionality at a general level. However, it is noted that Sealing Applications (Sector 17) have not been assessed in sufficient technical depth. As a result, application-specific conclusions regarding alternatives, costs, benefits and proportionality for sealing technologies are lacking. ESA therefore explicitly supports SEAC's recommendation for an interim and time-limited approach until a robust, application-specific assessment has been conducted.

2.5 **[Q2.21]** Please provide your comments on section 3.2. Justification that action is required on a Union-wide level

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

From ESA's perspective, the justification for a Union-wide downstream restriction on sealing applications remains insufficiently substantiated. While the general rationale for an EU-wide regulatory approach based on cross-border environmental impacts is understood, the SEAC evidence base does not adequately assess sealing applications as a distinct use sector. ECHA's PFAS use-mapping explicitly categorizes sealing applications among the eight additional sectors not included in the 14 sector-specific evaluations, indicating that sealing uses have not been evaluated with the level of granularity necessary to support an EU-wide downstream restriction.

In particular, the current assessment does not sufficiently differentiate downstream, encapsulated sealing applications from other PFAS uses, as realistic emission pathways and relevant life-cycle stages of seals are not adequately considered. Consequently, the direct application of broader Union-wide arguments to sealing applications is not considered evidence-based.

Furthermore, SEAC and RAC continue to examine several horizontal issues, including concentration limits, enforceability, monitorability, spare-parts practicality, and PFAS management. Many of these issues primarily relate to manufacturing-level emissions rather than contained downstream uses. As these matters remain under discussion, the evidence base cannot yet be considered complete for concluding that downstream sealing applications are an appropriate target for Union-wide regulatory action.

2.6 **[Q2.22]** Please provide your comments on section 3.3.1 Availability and technical and economic feasibility of alternatives

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

For the sealing industry, alternatives to PFAS-based sealing materials are generally not technically feasible, not widely available, and not economically viable for critical applications. The functionality, durability, emissions-prevention role, and safety performance of sealing devices depend on PFAS-based materials in ways not currently matched by non-PFAS substitutes.
The evidence base—reflected in ECHA's own sector mapping and ongoing SEAC horizontal issue reviews—does not justify an assumption of broad substitutability for sealing applications.
Across multiple industrial sectors, a wide range of fluids still require PFAS-based sealing materials due to the absence of technically viable alternatives. This is primarily driven by the need for exceptional chemical compatibility and the ability to withstand extreme temperatures and pressures.
Critical fluids include hydrogen sulfide, hydrocarbons, black liquor, hydrofluoric acid, propane, hydrogen, liquid oxygen, carbon dioxide, ethane, ethylene, and liquefied or compressed natural gas (LNG/CNG). These substances are essential in industries such as oil and gas, chemical processing, pulp and paper,

pharmaceuticals, medical applications, steel production, and emerging energy systems.
In parallel, a broad spectrum of aggressive solvents—such as acetone, acetonitrile, acetyl chloride, bromine, chlorine, chloroform, acetic anhydride, glacial acetic acid, chromic acid, and carbon tetrachloride—are widely used in high-complexity sectors including pharmaceuticals, semiconductors, electronics, aerospace, coatings, polymer production, and biopharma. These environments impose conditions that non-PFAS materials cannot reliably withstand.
Industrial processes involving these fluids rely on a wide range of sealed equipment to ensure safety, reliability, and product integrity. Common equipment includes:
Pumps (often numbering in the thousands per site) ,Compressors,Mixers and reactors ,Dosing and filtration systems ,Chromatography units ,Storage tanks and piping systems ,Extraction and polymerisation vessels , Water-treatment and chlorination units.
These machine types recur across industries because fluid-handling operations—such as pumping, mixing, dosing, filtration, and chemical conversion—are highly sensitive to seal degradation. Leakage or contamination can lead to process instability, safety risks, or product failure.
In large-scale industrial installations, total equipment counts typically reach:
9,000–14,000+ pumps ,~75–80 compressors, Dozens of mixers and additional specialized equipment (expanders, contactors)
Beyond chemical resistance, PFAS materials are indispensable in applications involving:
high temperatures (e.g., oil & gas, polymer processing) ,high pressures (e.g., hydrogen compression, CO_2 systems), aggressive or reactive media (e.g., halogens, strong acids) ,high-purity environments (e.g., semiconductors, pharmaceuticals) .
Examples include alkylation processes, fertilizer production, olefin manufacturing, and thermal sterilization systems. These environments often involve large fleets of pumps, reactors, and high-pressure equipment.
Certain chemical families are particularly difficult—or impossible—to seal without fluoropolymers: Aromatics (e. g., benzene, toluene, xylene) – strong solvents for polymers
Functionalized aromatics (e.g., nitrobenzene, bromobenzene) – may even attack high-performance elastomers (FFKM) . Halogenated hydrocarbons (e.g., dichloromethane, methyl chloride) – require fluoropolymer resistance. Ethers – often highly aggressive and unpredictable in sealing behavior . ASTM reference fuel C – alternatives like NBR/HNBR show significant swelling (15–25%), posing safety concerns
Across industries, PFAS-based sealing materials—particularly fluoropolymers—remain essential for ensuring operational safety, reliability, and efficiency. More than 85% of industrial fluids in these environments require PFAS due to their unmatched resistance to chemical attack, temperature extremes, and pressure.
Given the combination of aggressive media, demanding operating conditions, and critical process requirements, there are currently no broadly viable technical substitutes for PFAS in many of these applications. We would also refer to the findings from the ITRE study (released by the EU Parliament) : for the six key fluoropolymers (PTFE, PVDF, ETFE, FEP, PFA, FKM/FFKM; ~93% of EU use), substitution is often technically infeasible in critical uses; where options exist they typically miss one or more essential criteria (high-temperature capability, chemical inertness, long lifetime, ultra-low contamination). The study recommends application-by-application assessment rather than blanket assumptions of substitutability.

2.7 **[Q2.23]** Please provide your comments on section 3.4.1. Regulatory risk management options other than restriction

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

From the ESA perspective, a broad restriction is not the only—nor the most proportionate—risk management approach for PFAS used in sealing applications. While SEAC identifies restriction as the preferred regulatory instrument, ESA considers that alternative measures are often more targeted, technically feasible, and better aligned with the essential function of sealing systems in preventing fugitive emissions and ensuring industrial safety and containment reliability.

More appropriate approaches include upstream manufacturing controls, standards-based product oversight, duty-based derogations, end-of-life regulation, and integration through BAT/BREF frameworks, alongside other life-cycle-oriented measures. Together, these mechanisms can achieve effective PFAS risk reduction without compromising emissions control, plant safety, or operational reliability across EU industry.

2.8 **[Q2.24]** Please provide your comments on section 3.4.2.2.1. Socio-economic analysis: Approach

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA supports SEAC's conclusion that the socio-economic analysis is currently affected by significant data gaps. For sealing applications, ESA considers that an effective SEA should be based on the functional role of sealing as primary containment and assessed at the duty (service-environment) level rather than through a purely sectoral approach.

ESA therefore recommends a horizontal, function- and application-based assessment framework that reflects the real operating conditions of seals, including factors such as static versus dynamic sealing, media exposure, temperature, and pressure classes. The analysis should incorporate full system costs and benefits linked to containment performance, using metrics such as leak-tight operating hours and internationally recognized sealing standards with auditable performance criteria.

Such an approach would enable SEAC to more accurately evaluate environmental outcomes, identify feasible substitution opportunities in lower-severity duties, and preserve indispensable sealing performance in high-severity applications, thereby ensuring effective and proportionate risk reduction for the Union.

2.9 **[Q2.25]** Please provide your comments on section 3.4.2.2.2. Socio-economic analysis: Costs

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

The SEAC conclusion that costs cannot be reliably quantified is confirmed. However, ESA considers that key cost drivers for sealing application are systematically underestimated such
as:
1) Redesign an Re-engineering, Qualification, and Certification Costs
These are multi-year, multi-iteration programmes with high laboratory and field-trial costs.
Re-certification & documentation. Because sealing is deployed across many sectors, the same duty would need to be re-documented repeatedly under different verticals, a duplication driven by SEAC's sector-specific evaluation structure (sealing applications not treated as its own sector).
2) Operational Performance Costs (Environmental & Reliability Externalities)
Where non-PFAS options cannot meet thermal, chemical, or permeability requirements, leak rates can increase and service life can fall, raising maintenance interventions, flaring/venting, and clean-up costs—contrary to the leakage-minimization objectives embedded in international sealing practice.
Lower-capability materials elevate the probability of process upsets and unplanned shutdowns, with cascading costs in lost production and environmental response.
3) Supply-Chain and Inventory Costs
4) Compliance, Monitoring, and Administrative Costs
With sealing uses scattered across sectors (no sealing-specific evaluation), manufacturers must file duplicative submissions in multiple tracks, increasing regulatory admin and audit exposure while yielding less comparable data for authorities.
5) Innovation & Transition Costs
R&D displacement. Redirecting resources from incremental emissions-reduction innovations (e toward forced material substitutions reduces long-term efficiency gains and misallocates limited engineering bandwidth.
6) SME and Workforce Impacts
Many sealing suppliers and service companies are SMEs; duplicative qualification, inventory, and documentation costs are financially material and can reduce regional maintenance capacity, increasing contractor rates and lead times.
Technicians must be retrained for new materials and limits, and service tooling may need replacement—non-trivial costs at fleet scale.
7) System-Level External Costs (If Substitution is Non-Equivalent) Any increase in fugitive emissions (VOCs, hazardous media, greenhouse gases) imposes public-health and environmental remediation costs that dwarf savings from material substitution. Standards bodies and industry experience emphasize seals' role in preventing these emissions.
SEAC is already considering practicality, enforceability, monitorability as horizontal issues—an indicator that current structures could drive such costs.

2.10 **[Q2.26]** Please provide your comments on section 3.4.2.2.3. Socio-economic analysis: Benefits

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA acknowledges the long-term environmental objectives of emission reduction. At the same time, it must be emphasized that PFAS-based sealing materials are not a relevant source of emissions, but rather a key enabler of emission prevention. Restricting these materials may indirectly result in higher leakage rates and increased environmental burden, thereby undermining the intended environmental benefits resulting in net negative socio-economic outcomes for the Union.

2.11 **[Q2.27]** Please provide your comments on section 3.4.2.2.4. Socio-economic analysis: Other relevant impacts

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

The recognition of derogations for spare parts and second-hand articles is welcomed. For sealing applications, it is essential that spare-part availability over the full lifetime of industrial installations is ensured. Unclear definitions (e.g. “spare parts” versus “consumables”) pose significant risks to operational safety, maintenance practices and circular-economy objectives.These impacts must be fully accounted for in SEAC’s socio-economic analysis to ensure that the restriction does not produce greater societal costs than the risks it seeks to mitigate.

2.12 **[Q2.28]** Please provide your comments on section 3.4.2.2.5 Socio-economic analysis: Proportionality

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

The proposed restriction is not proportionate as for sealing applications, a function- and application-specific evaluation is indispensable, as otherwise costs and safety risks may be disproportionate to the potential environmental benefits, as seals are emissions-prevention devices and should be assessed as a stand-alone sector.

2.13 **[Q2.29]** Please provide your comments on section 3.4.2.3. Practicality, including enforceability

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA points out that for sealing applications re-certification, re-qualification and plant approval processes are highly time- and resource-intensive. These practical implementation constraints are not sufficiently reflected in the SEAC draft opinion. From the sealing industry standpoint, the proposed restriction—applied through sector-based evaluation—is not practical and not enforceable. This is because sealing is a horizontal containment technology, evaluated by service duty rather than sector, and because SEAC did not evaluate sealing as its own sector.

2.14 **[Q2.30]** Please provide your comments on section 3.4.2.4. Monitorability

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA considers the monitorability of sealing applications to be limited. Due to negligible or non-measurable emissions during normal operation, conventional monitoring approaches are of limited relevance. A cross-sectoral, tonnage-based reporting approach is neither technically meaningful nor proportionate for sealing applications. Because sealing applications are not assigned their own sector and are instead dispersed across multiple sectors, regulators cannot consistently track, compare, or verify PFAS-related sealing uses. Monitorability fails unless sealing applications are treated as a horizontal, environment-defined technology with consistent reporting criteria across all sectors.

2.15 **[Q2.31]** Please provide your comments on section 3.4.3.2.1. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: (i) PFAS definition

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA acknowledges SEAC's use of the OECD (2021) PFAS definition as a harmonised, structure-based starting point. However, from the perspective of sealing applications, the summary does not explain how markedly different risk and exposure profiles within the very broad PFAS group, in particular polymeric PFAS /fluoropolymers, are to be differentiated in regulatory practice. The lack of clarification on how application-specific exposure and performance aspects are reflected at the definition stage introduces uncertainty for downstream sealing uses.

2.16 **[Q2.32]** Please provide your comments on section 3.4.3.2.1 Conclusion whether the suggested restriction is the most appropriate EU-wide measure: (ii) Exclusion of PFAS from the scope

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA's position:
Excluding the PFAS used in sealing applications (principally fluoropolymers and perfluoroelastomers in gaskets, seals, packings, mechanical seals,..) from the scope of the restriction is the more appropriate EU-wide measure provided the exclusion is framed as a horizontal, duty-based carve-out tied to demonstrable containment performance and credible end-of-life controls. This approach better protects human health and the environment by preserving technologies that prevent fugitive emissions across all industrial sectors, aligns with SEAC's own focus on practicality, enforceability, and monitorability, and avoids the unintended consequence of higher leak rates from premature or non-equivalent substitutions.

2.17 **[Q2.33]** Please provide your comments on section 3.4.3.2.2 Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Scope of the proposed restriction

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA notes SEAC's confirmation that the proposed restriction scope appropriately targets manufacture, placing on the market and use, based on the assumption that emissions can or will result from all these actions. For sealing applications, the summary remains high-level and does not clarify how contained, low-emission articles are distinguished from other uses, nor how concentration limits are practically applied to complex sealing components.

2.18 **[Q2.34]** Please provide your comments on section 3.4.3.2.3. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Concentration limits

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

SEAC's assessment that the proposed concentration limits are appropriate given current analytical capabilities is acknowledged. However, for sealing applications, the summary does not explain how compliance with multiple simultaneous limits (targeted PFAS, sum PFAS, total PFAS/fluorine) is expected to be demonstrated consistently for polymer-rich articles, nor how the differentiated treatment of polymeric PFAS across metrics affects enforceability in practice

2.19 **[Q2.35]** Please provide your comments on section 3.4.3.2.4. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: General 18-month transition period

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

The general transition period of 18 months may be acceptable for applications with high substitutability. For sealing applications with high technical complexity, this timeframe is not realistic, as development, testing and approval cycles typically extend over several years. Significantly longer transition periods would be needed unless exemptions are granted.

2.20 **[Q2.36]** Please provide your comments on section 3.4.3.2.5. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Derogations

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA welcomes the explicit SEAC statement that for Sealing Applications (Derogation 6p) no sufficiently robust assessment is currently available and that a time-limited transitional derogation is therefore recommended. This conclusion is fully supported, as it reflects the current state of evidence and provides necessary planning certainty until a reassessment is conducted.
SEAC views standard exemption periods (5 or 12 years) as practical, though not strongly justified.
ESA argues that sectors not contributing to PFAS emissions, especially sealing applications should be entirely excluded from the restriction.
Where exemptions apply, ESA believes industries need long transition periods because reformulation, industrial adaptation, certification, and approval processes take many years.

2.21 **[Q2.37]** Please provide your comments on section 3.4.3.2.6.1. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Reporting requirements

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

SEAC's recognition of reporting requirements as a potential monitoring tool is acknowledged. For sealing applications, however, the summary highlights major uncertainties regarding proportionality, cost and benefit, and the linkage between reported tonnages and actual emissions. Without a uniform, duty-based reporting framework, reporting risks becoming fragmented and of limited added value for low-emission sealing uses.

2.22 **[Q2.38]** Please give an indication of the costs related to the reporting requirements.

Consult the SEAC draft opinion section 3.4.3.2.6.1. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Reporting requirements.

Provide an estimate of the magnitude of the costs for the implementation of the reporting requirements, from very low when the impacts are estimated to be insignificant to very high when they may result in a decision to discontinue your business activities.

- ○ Very low or none
- ○ Low
- ○ Moderate
- ○ High
- ◉ Very high
- ○ I do not know

2.23 **[Q2.39]** Please provide your comments on section 3.4.3.2.6.2. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Site-specific PFAS management plan

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA notes that monitoring obligations for PFAS emissions at industrial sites are expected to entail low relevance for sealing applications, as use-phase emissions from properly functioning seals are typically negligible and not readily measurable.

2.24 **[Q2.40]** Please give an indication of the costs related to the implementation of a site-specific PFAS management plan

Consult the SEAC draft opinion, section 3.4.3.2.6.2. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Site-specific PFAS management plan.

Provide an estimate of the costs for monitoring of emissions at industrial sites. Use the scale from very low (minimal impact) to very high (may result in a decision to discontinue business activities).

- ○ Very low or none
- ○ Low
- ○ Moderate
- ○ High
- ○ Very high
- ◉ I do not know

2.25 **[Q2.41]** Please give an indication of the costs related to monitoring of PFAS emissions at industrial sites

Consult the SEAC draft opinion, section 3.4.3.2.6.2. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Site-specific PFAS management plan.

Provide an estimate of the costs for monitoring of emissions at industrial sites. Use the scale from very low (minimal impact) to very high (may result in a decision to discontinue business activities).

- ○ Very low or none
- ○ Low
- ○ Moderate
- ○ High
- ◉ Very high
- ○ I do not know

2.26 **[Q2.42]** Please provide your comments on section 3.4.3.2.6.3. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Additional conditions considered by RAC

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

SEAC's summary of RAC-proposed additional conditions (supply-chain communication, labelling and further risk-management measures) is acknowledged. However, the lack of information on costs, benefits and enforceability, combined with unclear distinctions between industrial, professional and consumer uses, limits the ability to assess proportionality for sealing applications. Clear, practicable guidance would be required to avoid inconsistent implementation across supply chains.

2.27 **[Q2.43]** Please give an indication of the costs related to the additional conditions considered by RAC

Consult the SEAC draft opinion, section 3.4.3.2.6.3. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Additional conditions considered by RAC.

Provide an estimate of the costs for implementing these conditions. Use the scale from very low (minimal impact) to very high (may result in a decision to discontinue business activities).

- ○ Very low or none
- ○ Low
- ○ Moderate
- ○ High
- ◉ Very high
- ○ I do not know

2.28 **[Q2.44]** Please provide your comments on section 3.4.3.2.7. Conclusion whether the suggested restriction is the most appropriate EU-wide measure: Interaction with other relevant legislation

Text of 1 to 1000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

ESA notes SEAC's agreement with the objective of avoiding overlap with other EU legislation, while also sharing SEAC's concern that the proposed wording may be unclear or ineffective. From a company perspective, the lack of clarity on how potential conflicts with existing REACH restrictions and other legislation will be resolved creates legal and compliance uncertainty for sealing applications.

2.29 **[Q2.45]** Please provide your comments on section 3.5.2. Uncertainties evaluated by SEAC

Text of 1 to 5000 characters will be accepted

Consult the SEAC draft opinion and provide your comments relevant to this specific section of the opinion.

Key uncertainties for the sealing industry arise from:
Substitution feasibility & performance risk: Evidence remains mixed on whether non-PFAS materials can deliver the same lifetime, chemical/thermal resistance, and fugitive-emission control as fluoropolymers in critical seals, raising uncertainty in environmental and safety outcomes if substitution is forced prematurely.
Emissions & enforceability metrics: Horizontal work on concentration limits, monitoring, recycling, spare parts, and PFAS management plans is ongoing; practicality and measurability for polymer-rich sealing articles remain uncertain.
Socio-economic impact & timelines: Impacts of downtime, retrofits, and spare-parts continuity under RO2/RO3 are still being refined in SEAC's process toward 2026 opinions, introducing timing and cost uncertainty for operators and OEMs.
SEAC's remaining uncertainties—particularly around substitution feasibility, enforceability of limits, monitoring practicality, and socio-economic impacts—mean that the sealing industry faces significant operational and compliance risks if the restriction proceeds without tailored provisions. Because fluoropolymer-based seals have no technically equivalent alternatives in many high-hazard, high-temperature, or chemically aggressive environments, forced substitution could increase failure rates, fugitive emissions, and safety incidents, contradicting the environmental goals of the restriction.
Uncertainties in measurement, thresholds, spare-parts continuity, and PFAS-management requirements could also disrupt maintenance cycles and asset reliability, raising costs and complicating enforcement.
Given the unresolved uncertainties identified by SEAC, the sealing industry concludes that a uniform restriction is not yet demonstrably proportionate or practically enforceable for seals. The risk of unintended environmental and safety consequences remains high if essential fluoropolymer seals are restricted without feasible alternatives. A more appropriate EU-wide measure would rely on controlled-use conditions, site-specific PFAS management, and long-term derogations that preserve critical sealing functions while minimizing emissions.

3 Confidentiality and submission

3.1 **[Q2.46]** Indicate each section for which your response contains confidential information.

Select all the questions for which you consider your responses confidential. The options below include all questions in the survey.

- ☐ Respondent background information
- ☐ General survey questions

Useful links

Guidance Document (https://echa.europa.eu/documents/10162/17091/upfas-seac-do_consultation_guidance-for-respondents_en.pdf/68d5b13b-d7d6-f14b-2c3e-9b3c07c98113?t=1765956675386)

Use Mapping (https://echa.europa.eu/documents/10162/17091/pfas_use-mapping_annex_to_guidance_for_respondents_en.pdf/e242dcf0-0aab-2619-234e-09445bb181c5?t=1765893415372)

Background Documents

Privacy Statement

Contact

https://comments.echa.europa.eu/comments_cms/Contact_REACH.aspx