

POSITION PAPER

Making PFAS compliance possible for the European textile industry

A workable framework for analytical readiness,
legal certainty, circularity and regulatory
coherence

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Executive Summary

EURATEX supports the objective of reducing PFAS emissions and accelerating the transition towards safer and more sustainable alternatives. The European textile and apparel industry has already made substantial progress in reducing PFAS use and continues to invest in substitutions wherever technically feasible.

The effectiveness of the proposed Universal PFAS Restriction will, however, depend on whether companies, laboratories and enforcement authorities can apply it consistently in practice. Legal limit values alone are not sufficient. The regulatory framework must define how compliance is tested, how analytical results are interpreted and how unavoidable background and cross-contamination are treated.

EURATEX therefore calls for a workable implementation framework based on four preconditions: analytical readiness, legal certainty, circularity compatibility and regulatory coherence.

Five Key EURATEX Recommendations

1. Establish a legally defined, tiered compliance-assessment model for textile articles.
2. Align regulatory thresholds with validated analytical capability and measurement uncertainty.
3. Provide a proportionate mechanism for unavoidable background and cross-contamination.
4. A Coherent Derogation for All Recycled Textile Materials
5. Align UPFAS with existing REACH restrictions, the POPs Regulation and national PFAS measures.

1. A Legally Defined Compliance-Assessment Model

PFAS rules for textiles must specify not only limit values but also a harmonized pathway for demonstrating compliance. EURATEX supports a tiered approach that begins with broad fluorine screening (Total fluorine, TF) and proceeds to more specific analysis only where necessary.

For textiles, well-established methods should be referenced explicitly. ISO 20999:2026 provides a combustion and ion chromatography (C-IC) method for determining total halogens in textile products, including total fluorine. Where targeted follow-up is required, EN 17681-1:2025 and EN 17681-2:2022 provide complementary approaches for extractable and volatile PFAS-related compounds. The regulatory framework should define how results from these methods are combined and interpreted for compliance purposes. ^[1]

[2] [3]

1.1 Total Fluorine as the First Screening Step

Compliance assessment should begin with Total Fluorine (TF) screening using a reliable and validated method. Where the applicable TF trigger value is not exceeded, the textile article should be presumed compliant and no further targeted PFAS testing should be required. ^[5]

Where the trigger value is exceeded, further analysis should determine whether the detected fluorine originates from PFAS or from non-PFAS inorganic sources. Targeted PFAS analysis should only be required where PFAS have been intentionally used.. It should take account of the analytical method used, limits of quantification and measurement uncertainty. ^[5]

A trigger value of 50 mg/kg TF should be considered, reflecting the threshold concept already used for PFAS in food-contact packaging under Regulation (EU) 2025/40. This reference should be assessed for its suitability for complex textile matrices before final adoption. ^{[4] [5]}

1.2 Analytical Results Must Be Interpretable

A test result must not be treated as self-explanatory. The legal text should define sampling, the material unit to be tested, applicable methods, limits of quantification, treatment of measurement uncertainty and rules for interpreting results close to the threshold. Key implementation requirements must be included directly in the legal framework rather than being left entirely to later guidance. This is essential for predictable market surveillance and particularly important for SMEs.

Analytical sensitivity alone is not sufficient for regulatory enforcement. The ability of a laboratory to detect PFAS at very low concentrations does not, by itself, mean that such results can be used reliably to determine compliance. Compliance decisions require predefined interpretation criteria that distinguish analytical findings from legally relevant evidence of non-compliance.

2. Analytical Readiness Before Enforcement

A restriction can only be enforced credibly when laboratories can reproduce results in representative textile matrices. Remaining challenges include matrix effects, extraction and hydrolysis conditions, limited certified reference materials and insufficient inter-laboratory evidence at ultra-low concentrations. ^{[2] [3] [6]}

2.1 EN 17681-1:2025 and Method Robustness

EN 17681-1:2025 can release certain FTOHs and PFCAs from side-chain fluorinated polymers and other precursor substances because of alkaline hydrolysis, which are subsequently quantified. This represents an important analytical development because it can provide information on PFAS precursors that may not be captured by conventional extraction alone.

Measuring concentrations of specific target analytes may be significantly influenced by sample-preparation procedures, hydrolysis conditions and the composition of the textile matrix. The analytical result may therefore not solely represent the concentration of the corresponding free target analytes present in the textile prior to analysis but may also include substances released or formed during the analytical procedure. This creates a risk that method-dependent findings are interpreted as direct evidence of non-compliance or intentional use without appropriate differentiation. These methodological limitations, together with textile matrix effects and insufficient inter-laboratory robustness at very low concentrations, must be addressed through validated protocols and legally defined interpretation criteria before such results are relied upon for binding enforcement decisions at very low regulatory thresholds. ^[2]

EN 17681-2:2022 complements this approach through the gas-chromatographic determination of certain volatile compounds. As the two-parts address different analytical fractions, neither result should be treated as self-explanatory evidence of intentional PFAS use. Their respective regulatory roles and the rules for combining and interpreting findings should therefore be defined in advance. ^[3]

The recent decision by CEN/TC 248/WG 26 to initiate a revision of EN 17681-1:2025 confirms that the analytical methodology continues to evolve. The revision is expected to improve the determination of PFAS sensitive to alkaline hydrolysis, introduce additional analytical approaches for substances not adequately covered by the current extraction procedure, better distinguish between free PFCAs and PFCAs generated during hydrolysis, and enhance the consistency and regulatory relevance of analytical results. ^[6]

EURATEX supports this targeted revision. Its objective should not be to withdraw or replace the existing method in its entirety, but to preserve its technically valid elements while addressing identified limitations and improving its robustness for regulatory application. The revision process should involve standardization bodies, accredited laboratories, enforcement authorities and textile-industry experts to ensure that the revised method is scientifically robust, practically applicable and suitable for consistent enforcement across diverse textile matrices.

2.2 Polymeric PFAS and Total Organic Fluorine

The regulatory framework must distinguish between fluoropolymers, such as PTFE, and side-chain fluorinated polymers historically used in textile finishing. Existing targeted methods do not provide a comprehensive and equally robust assessment of all polymeric PFAS.^{[2] [3]}

EURATEX calls for the development and validation of reliable, standardized methods for the determination of Total Organic Fluorine and polymeric PFAS not adequately covered by existing targeted methods. Until such methods are available, enforcement should not rely on analytical requirements that cannot be demonstrated consistently.

2.3 Analytical Readiness Principle

EURATEX proposes an Analytical Readiness Principle under which regulatory requirements and harmonized European standards develop in parallel. The restriction should not wait for analytical perfection; however, compliance and enforcement must be based on methods and interpretation criteria that are sufficiently reliable for the relevant textile matrices. Compliance should be demonstrated through a risk-based combination of supply-chain documentation, chemical management, due diligence and targeted testing where justified, rather than through mandatory testing alone.

3. Intentional Use and Unavoidable Contamination

Trace PFAS findings may result from sources other than intentional PFAS use. Cross-contamination can occur during chemical production, textile processing, assembly, transport, storage, distribution and recycling as well as during sampling and sample preparation in testing laboratories. It may also arise in facilities processing both derogated PFAS applications and consumer products without intentional PFAS use. In addition, global supply chains may include jurisdictions where PFAS uses are subject to different or less stringent regulatory requirements, increasing the likelihood that PFAS are unintentionally present in upstream materials or production environments.^[12]

Analytical results alone cannot always establish whether PFAS were intentionally used. Compliance assessment should therefore allow operators to complement analytical evidence by available supply-chain documentation and chemical declarations.

Downstream operators often have limited visibility over upstream chemical formulations, raw-material manufacturing and shared production facilities. Incomplete disclosure of polymeric substances, limited information in Safety Data Sheets and the complexity of global supply chains reduce the ability of operators to identify and control potential contamination sources. As analytical sensitivity increases, these structural limitations become increasingly relevant for demonstrating compliance with very low regulatory thresholds.^[12]

A trace finding must not automatically be treated as evidence of intentional use. The legal framework should provide a proportionate compliance mechanism for operators where the available evidence indicates that PFAS have not been intentionally used. Additional transition time should be available where residual cross-contamination results from previously lawful or derogated uses and operators can demonstrate ongoing measures to identify and reduce such contamination.

4. Circularity and Recycled Textile Materials

Textile recycling streams contain products manufactured over many years, including articles placed on the market before current PFAS restrictions existed. Recycled materials may therefore contain legacy PFAS even where no PFAS is intentionally added during current production.^{[10] [12]}

Recent analytical developments have also revealed PFAS in recycled textile streams that were not previously detected using earlier analytical approaches. As analytical methods evolve, legacy PFAS present in historical products are increasingly identified, reinforcing the need for proportionate transition measures that preserve textile-to-textile recycling while preventing new intentional PFAS inputs.^{[10] [12]}

4.1 A Coherent Derogation for All Recycled Textile Materials

Recycled textile materials may contain legacy PFAS, process residues or unavoidable contamination originating from products, production environments and material streams established under different legal and technical conditions. The presence of PFAS in recycled materials therefore does not necessarily indicate intentional use in the current production process.

The same regulatory framework should apply to all recycled textile materials, irrespective of whether they originate from pre- or post-consumer waste. EURATEX therefore calls for a coherent derogation covering all recycled materials. This derogation should preserve the legal and economic viability of textile-to-textile recycling while ensuring that recycling does not become a pathway for continuing the intentional use of PFAS.

The derogation should be accompanied by proportionate requirements for traceability, chemical management, sorting and continuous improvement. Compliance should be risk-based and should avoid mandatory analytical testing of every recycled textile batch where operators can demonstrate adequate supply-chain controls and due diligence. Whether derogation should be time-limited or unlimited should be determined on the basis of technical feasibility, the availability of PFAS-free recycling streams and the practical ability to eliminate legacy PFAS from circular material flows.

4.2 Protect the Recycling Provision Across PFAS Legislation

The recycling provision foreseen under the Universal PFAS Restriction is necessary and should be maintained. It must also be reflected coherently in parallel PFAS rules; otherwise, recycled materials could remain blocked by other requirements that do not contain equivalent solutions for legacy PFAS.^[12]

Any time-limited derogation for recycled materials containing legacy PFAS should be long enough to support the transition to cleaner feedstocks, while ensuring that it does not cover new intentional PFAS inputs.

5. Regulatory Coherence

Textile companies already face PFAS obligations under the PFHxA and C9–C14 PFCA restrictions in REACH Annex XVII; restrictions for PFOA, PFOS and PFHxS under the POPs Regulation; further developments under the Stockholm Convention and EU POPs framework; and national PFAS measures and initiatives, including in France and Denmark. These frameworks differ in substance scope, thresholds, analytical concepts, transition periods, derogations and treatment of recycled materials.^{[7] [8] [9] [10] [11] [12]}

The Universal PFAS Restriction must not become an additional conflicting layer. Existing derogations under current PFAS restrictions should also be considered and should not be undermined by overlapping requirements under the Universal PFAS Restriction. The European Commission should review the interaction between UPFAS and existing PFAS rules and establish a coherent compliance framework for textile articles. Where parallel obligations remain, the legal text should clearly define which requirement applies.

Existing EU approaches should inform this work. The PFHxA restriction uses 25 ppb for the sum of PFHxA and its salts and 1,000 ppb for the sum of PFHxA-related substances. This established approach demonstrates the need to distinguish between regulated acids and salts and related substances. Where limits for related substances or precursor-related findings are required, the 1,000-ppb approach should be considered as one reference point, particularly where lower limits cannot be reliably verified in complex textile matrices. Such values should not, however, be transferred automatically to all PFAS groups or textile applications.^[7]

Where existing REACH, POPs and national restrictions remain applicable, the legal framework should clearly define the interaction between overlapping obligations. A single article should not be subject simultaneously to multiple analytical approaches, thresholds and interpretation rules for the same PFAS unless the relationship between those requirements is explicitly defined.

6. Phased Implementation and Legal Certainty

A phased implementation should allow authorities and industry to establish a common evidence base before full enforcement of targeted PFAS requirements. The TF-first screening approach should form the permanent basis of compliance assessment, with targeted PFAS analysis required only where necessary (i.e. when TF is above 50 ppm). During the initial implementation period, particular emphasis should be placed on building representative analytical data and establishing reliable interpretation criteria.

Enforcement priorities during the transition should reflect the maturity of available analytical methods while supporting the continued development and revision of harmonized European standards.

Transition periods must also reflect substitution, qualification, certification and decontamination timelines, particularly for technical textiles and uses covered by time-limited derogations.

The ongoing revision of EN 17681-1:2025 illustrates that analytical standardization for PFAS in textiles continues to evolve. Effective implementation of the Universal PFAS Restriction therefore requires that analytical methods, interpretation criteria and regulatory obligations develop in parallel. Only a framework that combines scientific robustness, legal certainty and practical enforceability will deliver the intended environmental benefits while ensuring a fair and proportionate transition for the European textile industry.^[6]

7. EURATEX Recommendations

Tiered compliance assessment: Establish a legally binding model beginning with Total Fluorine screening at 50 mg/kg, followed by further analysis only where the trigger value is exceeded and further analysis is scientifically justified.

Measurable thresholds: Align thresholds with validated analytical capability, limits of quantification, measurement uncertainty and demonstrated inter-laboratory reproducibility in textile matrices.

Analytical Readiness Principle: Ensure that regulatory requirements and European standards develop in parallel, with compliance and enforcement based on sufficiently reliable methods, agreed interpretation criteria and a risk-based combination of documentation, due diligence and targeted testing were justified.

Contamination mechanism: Distinguish intentional PFAS use from unavoidable background and cross-contamination, allowing available supply-chain documentation and chemical declarations to complement analytical evidence.

Method development: Develop and validate reliable, standardized methods for the determination of Total Organic Fluorine as well as for side-chain fluorinated polymers and other polymeric PFAS not adequately addressed by existing methods.

Recycled textiles: A Coherent Derogation for All Recycled Textile Materials.

Regulatory coherence: Align UPFAS with REACH, the POPs Regulation and national PFAS rules, including thresholds, methods, derogations, transition periods and recycling provisions.

Phased implementation: Provide realistic and phased implementation of targeted PFAS requirements, taking account of substitution, qualification, certification and the expiry of derogated uses.

Regulation and standardizations: Coordinate restriction development with analytical standardizations and ensure transparent participation of laboratories, authorities and affected sectors.

Conclusion

EURATEX supports effective action to reduce PFAS emissions and advance safer alternatives. To deliver that objective, the Universal PFAS Restriction must be measurable, enforceable and compatible with Europe's circular-economy objectives.

Analytical readiness, legal certainty, circularity compatibility and regulatory coherence are not reasons to delay environmental action. They are the conditions required to make that action effective, credible and consistently enforceable across Europe.

References

Numbered citations in the text link to the corresponding source below. Linked source titles open the official online text where available.

- [1] ISO 20999:2026, Textiles – Determination of total halogens in textile products – Combustion and ion chromatography (C-IC) method.
- [2] EN 17681-1:2025, Textiles and textile products – Organic fluorine – Part 1: Determination of extractable substances using liquid chromatography.
- [3] EN 17681-2:2022, Textiles and textile products – Organic fluorine – Part 2: Determination of volatile compounds by extraction method using gas chromatography.
- [4] [Regulation \(EU\) 2025/40 on packaging and packaging waste, Article 5\(5\), including the 50 mg/kg Total Fluorine provision for PFAS in food-contact packaging.](#)
- [5] [European Commission, Guidance document for Regulation \(EU\) 2025/40 regarding PFAS compliance assessment, Commission Notice OJ C/2026/3084, 10 June 2026.](#)
- [6] CEN/TC 248/WG 26, decision to initiate revision of EN 17681-1:2025, including alkaline-hydrolysis-sensitive PFAS and differentiation of free and hydrolysis-generated PFCAs (2026 standardisation work item/resolution).
- [7] [Commission Regulation \(EU\) 2024/2462 amending REACH Annex XVII as regards PFHxA, its salts and PFHxA-related substances.](#)
- [8] [Commission Regulation \(EU\) 2021/1297 amending REACH Annex XVII as regards C9–C14 PFCAs, their salts and C9–C14 PFCA-related substances.](#)
- [9] [Regulation \(EU\) 2019/1021 on persistent organic pollutants \(consolidated text, including PFOA, PFOS and PFHxS entries and subsequent amendments\).](#)
- [10] [Décret n° 2025-1376 du 28 décembre 2025 relatif à la prévention des risques résultant de l'exposition aux substances per- et polyfluoroalkylées \(France\), including provisions for textiles and recycled content.](#)
- [11] [Stockholm Convention on Persistent Organic Pollutants, official overview of PFAS listings, including PFOS, PFOA and PFHxS.](#)
- [12] [ECHA, Annex XV Restriction Report: Proposal for a restriction on per- and polyfluoroalkyl substances \(PFAS\), submitted by Denmark, Germany, the Netherlands, Norway and Sweden, 2023, as subsequently evaluated and updated.](#)



EURATEX

THE TEXTILES AND APPAREL CONFEDERATION

As the voice of the European textile and clothing industry, EURATEX works to achieve a favourable environment within the European Union for the design, development, manufacture and marketing of textile and clothing products.

Working together with EU institutions and other European and international stakeholders, EURATEX focuses on clear priorities: an ambitious industrial policy, sustainable supply chains, innovation and skills development, free and fair trade.

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