

Changes on the analysis of PFAS in textiles (EN 17681-1/-2)

TÜV Rheinland LGA Products – Information

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Per- and polyfluoroalkyl substances (PFAS) are increasingly a topic of discussion in the media and are thus attracting the attention of consumers.

PFAS are also referred to as "forever chemicals" because they are considered persistent, bioaccumulative and toxic (PBT) and can easily pass into and accumulate in air, dust, food, soil and water.

Restrictions for different classes of PFAS in articles and mixtures currently exist, for example in Europe under the REACH or the POP Regulation.

PFAS are currently tested by EN 17681-1/-2:2022 to demonstrate compliance with EU legislation. This method uses methanolic extraction followed by determination by LC-MS/MS or GC-MS-EI/CI.

It is intended for textiles and leather, but matrices are likely to be similar to footwear and have been used as standard for several years.

The current test method has only been published in 2022, but is currently under revision to include polymeric PFAS in the analytical scope. A draft method is expected to be published later this year.

WHAT ARE THE CHANGES TO THE NEW METHOD?

ECHA recently confirmed that polymeric PFAS are part of the current PFAS restriction. As the current method does not cover polymeric PFAS, a revision of the standard became necessary to cover polymeric PFAS. EN 17681-1/-2: 2022 mainly extracts free or loosely bound PFAS, which is reflected in the low detection levels and therefore leaving gaps when it comes to demonstrating compliance with regulatory requirements.

WHICH PRODUCTS ARE IMPACTED?

Textiles and footwear materials with Durable Water Repellent (DWR) or Stain Repellent Coating containing fluorine as a structural component. The newly developed method uses alkaline hydrolysis to break the covalent bonds between the polymer backbone and the fluorinated side chains, resulting in a higher concentration of PFAS and thus improved coverage of regulatory demands. Of course, if the materials have been treated with non-fluorinated products, there will be no increased concentration of PFAS.

OUR RECOMMENDATION

The analytical examination with the new method for products containing a DWR or stain repellent coating with unknown fluorine content is suggested in order to evaluate the impact.

Besides the analytical testing, it is also suggested to monitor the supply chain regarding the usage of chemicals. A review and further development can be carried out, for example, based on production site audits on chemical and/or wastewater management (textile or electroplating industry), which are additional measures to eliminate PFAS from the production.

TESTING PACKAGES

Package 1	Covers existing restriction for the EU market (including ORRChem - Switzerland)
Package 2	Overview target analysis by LC-MS/MS and GC-MS
Package 3	Total fluorine content (applicable U.S. state law requirement)

		Package 1	Package 2	Package 3
PFOS and its derivatives	POP Annex I Part A	•	•	
PFOA its salts and related compounds	POP Annex I Part A	•	•	
PFHxS its salts and related compounds	POP Annex I Part A	•	•	
C9-C14 PFCA and related compounds	REACH Annex XVII	•	•	
PFHxA and related compounds	REACH Proposal		•	
PFAS target analyte testing	Open scope		•	(○)**
Total Fluorine Content	U.S. State law*			•

* e.g. California AB 1817 or California AB 1200

** Further testing suggested in case of total fluorine detection, not included in the package

Order your package here [PFAS testing: Prepare now for legal changes \(tuv.com\)](https://www.tuv.com/regulations-and-standards/en/)

Further information on current legal changes can also be found on our homepage at www.tuv.com or <https://www.tuv.com/regulations-and-standards/en/>.

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