

Call for Information

on short-chain per- and polyfluoroalkyl substances (PFASs)

A wide range of fluorinated substances are used in technical applications, processes and products to receive beneficial technical properties. They are applied to surfaces to provide chemical resistance, dirt and oil repellency, are used in detergents or intermediates to form higher molecular polymeric molecules. All these functions can be utilised because the carbon–fluorine bond is very strong and can hardly be cleaved. At the same time this persistence can lead to environmental problems once the substance is released from technical applications and processes¹.

The German Environment Agency (Umweltbundesamt – UBA) is currently investigating specific representatives of poly- and perfluoro alkyl substances (PFASs). In particular the UBA is collecting information on the manufacture and use of such short chain PFASs with the aim to **identify areas of use that pose a risk to the environment and/or human health** that needs to be addressed by an EU-wide regulatory measure under REACH (a restriction)². Furthermore, the data collection covers the **availability of alternatives to the use of fluorinated compounds and the socio economic impacts of a potential restriction scenario** for the various areas of application.

Short chain PFASs in this regard are substances with chain lengths < 7 perfluorinated C-atoms, more likely the main representatives C4 and C6. These can originate from various chemical groups. Some examples are given below (not conclusive):

- Per- and Polyfluorinated Carboxylic Acids (PFCAs)
- Fluorotelomer alcohols (FTOHs)
- Fluorotelomer iodides (FTIs)
- Fluorotelomer acrylates (FTAs) and Fluorotelomer methyl acrylates (FMAs)
- Per- and Polyfluorinated Sulfonic Acids (PFSAs)

Within the scope of the information collection are also polymeric substances that are generated out of these building blocks, such as several fluorotelomers etc.

It should be **highlighted** that the outcome of such a data collection is to **define the scope** of the restriction. This also includes:

- The identification of uses, materials or final products where good control can be assumed. Such applications can be **excluded from the scope** of the restriction proposal.

¹ Some compounds are in the meantime subject of global ban initiatives, like e.g. perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA)* or perfluorohexane sulfonic acid (PFHxS)* are regulated in almost all countries in the world by their inclusion in the Stockholm Convention.

*under discussion

² For further information see also the website of the European Chemicals Agency (ECHA) <https://echa.europa.eu/rmoa> or the website of the German REACH/CLP/biocides Helpdesk <http://www.reach-clp-biozid-helpdesk.de/en/REACH-en/SVHC-Roadmap-en/Roadmap-ECHA-en/Roadmap-ECHA-en.html>

- Furthermore, **exemptions can be included** in the restriction proposal if these can be justified, e.g. if the lack of viable alternatives can be demonstrated or a high socio economic importance of the application area.
- Information on the extend of the use, the content of the substances concerned in products and the socioeconomic impact of a planned “non-use” scenario help **to define thresholds of the later restriction.**

Therefore the authors of the restriction proposal would welcome any information in this regard that will be provided by stakeholders that can be included into the proposal.

As your organization has been identified to manufacture and/or use the substances under investigation or use articles that have been produced with the substances under discussion, we contacted you and kindly requested to support the investigations of the EU-authorities with additional data (further information see below).

Note: In this first phase of data collection please do not provide data, but a contact person (Name, e-Mail/phone and substance group/material/product area relevant for your organization) for further specific exchange. A web based survey will be launched in spring 2018 where you will have the chance to provide information in a structured way.

If you are willing to provide information please contact:

Dr. Olaf Wirth/Paula Wichmann of the supporting consultancy Ökopol³ under chemie@oekopol.de

In case you prefer to contact the UBA directly for initial contact under chemicals@uba.de

³ www.oekopol.de

Background Short chain PFASs (<C/)

Short chain PFASs (<C7) have been increasingly used as substitutes for PFOS and PFOA. Although they seem to have less problematic properties in some regards, like bioaccumulation potential or human toxicity, they have other properties that might cause environmental problems by a similar extend. The substances are highly mobile in the aquatic and soil environment. As a consequence they might enter water bodies that are used for drinking water production and via this pathway enter the food web. Increasing concentrations in water found in monitoring activities that were the basis for an initial concern for the UBA. As a reaction it was decided to assess the extent of the use of short chain PFASs in more detail and potential risks that might originate from the use. This process has been formalized in a non-legislative process in the EU called “risk management option analysis” (RMOA)⁴.

Additionally, information on alternatives, that are suited to substitute these substances in uses and products and of the socio economic impacts of a non use scenario will be integrated in the restriction proposal and will define its scope (phase out periods, exemptions).

The objective of this data collection is to increase the information basis on

- manufactured and imported amounts of the respective substance groups (with regard to the EU)
- manufactured and imported amounts of their potential alternatives
- the type of uses and products (finished goods like chemical products, textiles etc.) the substances are applied to as well as
- the economic effects that are linked to the use of the substances
- The extend of emissions to the environment form processing of the substances

Please note that it is highly important to provide information⁵ to enable the development of a well defined focused restriction proposal on all the use cases you know of (also if only small tonnages of a substance is applied) to avoid unintended consequences for market actors if a regulatory measure is implemented. This is especially true for uses that might contribute to a high added value of products or have a high socio economic value due to particular application (e.g. health care or pharmaceuticals).

Uses are also of particular relevance if they are linked to long phase-out periods of substances (for example due to long product development cycles, a long service life or safety related approval processes, that require longer transition periods for the phase out of substances).

⁴ See ECHA under <https://echa.europa.eu/addressing-chemicals-of-concern/substances-of-potential-concern/rmoa>

⁵ **Please note: outcome of an RMOA can also be, that regulatory measures are not necessary. Therefore it is important to clarify the uses of the substance as far as possible based on good data provided by industry.**

Data safety and security

The data will be used by the German Environmental Agency and Ökopol GmbH/Swerea IFV (supporting contracted consultancies) in the frame of the project to develop a restriction proposal under REACH. The data you are providing will be anonymized and aggregated ways in all documents that need to be published. Confidentiality can be ensured for sensitive data.

Explanations

PFASs include a vast number of substances with varying chemical structures and technical performance⁶. Because of that wide variety, mapping potential applications and sources of PFASs in the environment needs considerable effort. Nomenclature and terminology is varying and highly complex. Group designations such as “short-chain” are established and used by the OECD⁷ and other institutions, such as US EPA⁸ and FluoroCouncil⁹ to specify a cut-off:

- Perfluorocarboxylic acids (PFCAs) with perfluorinated carbon chain lengths of 6 and lower, including perfluorohexanoic acid (PFHxA) and perfluorobutanoic acid (PFBA)
- Potential precursors of these substances that may be produced or present in products. A "precursor" means a substance that has been recognized as having the potential to degrade to the above substances, such as short-chain fluorotelomer-based raw materials (FTOHs; FTIs, FTAs, FMAs, see list below)
- Polymeric and non-polymeric fluorotelomer-based chemicals made from short-chain fluorotelomer-based raw materials belong to the class of short-chain PFASs (this will be most likely be materials that mediate typical functions to a product described above as e.g. water/dirt repellency, surface active substances and mixture in textiles, paper etc. not conclusive!)

Given the complexity we would encourage you to contribute to the survey, even if you are not certain if the substances and materials in your products are affected. It will help to define the scope and regulation based on an incomplete data basis can be avoided!

⁶ Buck et al. “Perfluoroalkyl and polyfluoroalkyl Substances in the Environment: Terminology, Classification and Origins”, Integrated Environmental Assessment and Management, Vol 7, Number 4 – pp 513-541 (2011).

⁷ <http://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/>

⁸ <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfass>

⁹ <https://fluorocouncil.com/>