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BELGIAN COMMENT ON THE 'Per- and polyfluoroalkyl substances (PFAS)' RESTRICTION PROPOSAL

The following document is a first comment from Belgium authorities on the Public Consultation of the Universal PFAS restriction proposal. This comment has been coordinated between the different regional and federal authorities of Belgium and provides new PFAS related data generated by these authorities. Please note that we might come back in the coming months with additional input into the Public Consultation.

First and foremost, we would like to thank the Dossier Submitters (DS) for drafting such a detailed and ambitious restriction proposal to restrict PFAS substances. In our following comment we will be providing data generated in Belgium that has not been shared in a previous call for evidence or public consultation. Please note that Belgium has already provided data in the Public Consultation of the PFAS in AFFF restriction, please refer to these comments to get specific info on these uses.

The following topics will be dealt with:

1. Data on industrial emissions of PFAS, linking the emissions with industrial sectors
2. PFAS mapping in Belgium and justification for EU wide risk
3. Study on air emissions from incineration plant
4. Study on PFAS in Belgian household textiles
5. Human biomonitoring around 3M site in Zwiindrecht
6. Study on PFAS in seafoam
7. Upcoming studies and project on PFAS

Lastly please note we have also provided some of the data we present in this paper as answers to the specific information requests.

1. Industrial emissions data

Attached to this document we have provided an excel file with the latest industrial emissions data from the Flemish region. This data specifically covers measurements from 2020 until 2022, for earlier data we refer to previous communications to the DS.

The following data can be consulted in the excel file:

- Overview of the total PFAS emissions per site measured over the last years

- Yearly emissions of PFAS from the different companies
- PFAS concentrations found in the waste water of the different companies

In the first tab of the excel file you can find a short explanation of the different tabs.

An important factor to take into account with this data is that it clearly links the emissions of specific PFAS with specific sectors. For each emission point the company name is provided, as well as the NACE code, thereby linking the emissions with the sector of use and production.

Interesting to note is that if one looks at the total PFAS emissions from 3M over the years, one can clearly see that the total emissions have drastically been reduced, from almost 264 kg in 2020 to less than 1 kg in 2022. This drastic reduction proves the effect of imposing strict management measures on PFAS production and use sites. It must be noted that part of this reduction is explained by the temporary stop of production during 2021 and 2022, however this only further substantiates the effectiveness of a full ban on PFAS. This data thus clearly shows that limiting the production and industrial uses of PFAS would be an effective measure to reduce the emissions of PFAS into the environment.

2. PFAS Pollution mapping – EU wide risk

Since the discovery of the large scale PFAS pollution around the 3M site in Zwijndrecht (BE), the Flemish regional authorities have been working on mapping all potential sites of PFAS pollution in the region. The result of this work can be consulted on the Flemish PFAS site¹. Most of the identified sites are related to the use of fire-fighting foams (training sites and incident sites), however several sites have been indicated based on industrial activity and legacy landfill sites in Flanders. On some of these locations high PFAS concentrations are being found, even if the industrial activity or landfilling has been stopped for some time. One can also see on the Flemish site that so called “no regret measures” have been defined for the majority of the potential pollution sites. These measures are meant to prevent exposure to PFAS as much as possible, for example by advising against eating vegetables and eggs from home gardens and not letting children play on the ground. The long lasting presence of PFAS in these polluted sites, as well as the measures that need to be taken to prevent exposure at these sites, clearly illustrate how PFAS can pose a problem to society for long after they have been used or disposed of.

Recently the Forever Pollution project² has illustrated that this problem is not limited to Flanders alone, and that pollution sites of PFAS can be found all over the EU. If one would extrapolate the no regret measures implemented in the Flemish region to these other sites around the EU, one cannot argue the fact that these substance pose an EU wide risks, and that emissions should be minimized as fast as possible.

The region of Brussels has also conducted measurements on several potential pollution sites, a press release with results can be found via the following links:

[Des PFAS retrouvés sur 5 sites en Région bruxelloise \(environnement.brussels\)](https://environnement.brussels/nl/actualiteit/2023/04/20/pfas-gevonden-op-5-sites-in-het-brussels-gewest)
[PFAS gevonden op 5 sites in het Brussels Gewest \(environnement.brussels\)](https://environnement.brussels/nl/actualiteit/2023/04/20/pfas-gevonden-op-5-sites-in-het-brussels-gewest)

¹ <https://www.vlaanderen.be/en/pfas-in-flanders>

² <https://foreverpollution.eu/>

The Walloon region is also investigating potential pollution sites. At the moment 16 polluted sites have been identified, mainly with sources from use of firefighting foams, but also linking to industrial activities like textile and paper production.

3. Air emissions from incineration plant

In 2022 waste incineration company Indaver has conducted measurements on the air emissions of PFAS from their incineration plant in Antwerp. The study has been requested by the Enforcement Section of the Department Environment (AHH) and under the guidance of the Flemish Environment Agency (VMM) and the Agency for Care and Health (AZG). Indaver is known for processing PFAS waste from PFAS producing companies. The full study is attached to this comment.

The results from this study indicate the high uncertainty that still remains on the effectiveness of incineration. In this report it is insinuated that not only the incineration stage can be an emission point, but also the prewashing stages can generate PFAS emissions. It must be noted that these PFAS emissions are potentially generated due to contaminated groundwater that is used for the prewashing step. This indicated that the whole process of waste incineration – including prewashing steps – should be carefully considered when looking at incineration as a method to dispose of PFAS containing waste.

In the study indications have been found that PFOS does not completely degrade during the incineration process. The Flemish authorities have been conducting follow-up studies together with Indaver to further look into the exact ways at which PFAS can be emitted during the incineration process, therefore we might come back at a later stage with more information on this subject.

Furthermore there are indications that the incineration of PFAS waste at this particular site is generating ultra-short chain PFASs, which pose a concern since they might contribute significantly to the total Belgian emissions of greenhouse gasses.

4. Study on PFAS in Belgian household textiles

The Federal Public Services of Health and Environment have commissioned a study on the use of PFAS in home textiles industry in Belgium. For the study chemical suppliers, textile producers and traders have been surveyed on the use of PFAS in their products. This study shows that PFAS have been largely phased out in home textile uses. However for the following uses PFAS are still being used:

- Use in outdoor furniture and furniture for boats. It has been confirmed by the supplier of these products that alternatives are being developed.
- Use in textile wallpaper for the contractors market. PFAS are used for cleaning and removing glue from the wallpaper. For this use no alternatives have been identified yet, although this use only covers limited (high-end) applications.
- Care sprays in shoes, coats and bags. These products were found to be strongly PFAS based.

Furthermore, the study indicates that alternatives are available for water repellent properties, however for dirt repellent industry indicated that alternatives are less readily available. The full study report has been attached to this comment.

5. Human biomonitoring around 3M site

The Flemish authorities have conducted a local HBM study on teenagers living near the 3M PFAS production site in Zwijndrecht. The study looked at the presence of PFAS in humans (blood sampling)

as well as the presence in house dust and in gardens and eggs etc. A total of 303 teenagers were included, all living within a 5 km radius around the 3M site for at least 5 years. The study showed that exposure to PFOS was significantly higher compared to the mean exposure in Flanders, with only 1 in 4 teenagers having safe levels. PFOS, PFOA and PFHxS were found in all blood samples and PFNA, PFBA and PFDA in most samples.

The study also showed that main exposure routes are the location (closer to 3M equals higher exposure), consumption of eggs and locally grown vegetables and fruits, but also other sources like use of lubricants and to a minor degree house dust. Especially consumption of eggs was found to be the highest exposure route (of PFOS specifically).

Lastly, the study also investigated the link with PFAS exposure and health impacts. The results show that there are clear links between PFAS exposure and the immune system, as well as effects on growth and puberty. Higher exposure to PFAS was linked with a lower amount of immune cells, as well as higher risks for infections and suppression of the immune system. Furthermore, PFAS exposure was linked with a slower growth and delay of puberty. No signs were found for abnormal development, however the delay in growth and puberty confirm the endocrine disrupting effect of PFAS.

More information and the full study report can be found on the study website:

[Resultaten \(hbm-pfas.be\)](https://hbm-pfas.be)

6. PFAS in seafoam

In 2022 the Flemish Institute for Technological Research (VITO) has finalized a study on the presence of PFAS in seafoam. The results of this study can be consulted via the following link:

[https://assets.vlaanderen.be/image/upload/v1676639526/VITO -
PFAS in zeewater en zeeschuim draft eindrapport feb 2023 z7jemc.pdf](https://assets.vlaanderen.be/image/upload/v1676639526/VITO_-_PFAS_in_zeewater_en_zeeschuim_draft_eindrapport_feb_2023_z7jemc.pdf)

For more info on PFAS in the sea one can consult the Flemish PFAS website:

<https://www.vlaanderen.be/pfas-vervuiling/pfas-in-de-zee>

7. Ongoing and upcoming studies and projects regarding PFAS

As a last point we would like to provide an overview of ongoing and planned studies regarding PFAS in Belgium:

- The Public Waste Agency of Flanders (OVAM) has recently started a campaign to measure the **presence of PFAS in specific waste streams** (oven ashes, wood dust and chips, filtering materials, water treatment sludge, etc.). We hope to be able to share some first results before the end of the consultation period. On top of this a second campaign will be launched next year focusing on different materials like for example textiles and plastics.
- The Federal Public Services of Economy and Health and Environment have recently launched a call under the **Belgium Builds Back Circular (BBBC) plan** for projects that focus on substituting substances of concern. PFAS have been identified as a priority group of substances for this call. The project call was launched in April 2023 and projects will be starting in 2024.
- The Walloon region is working on a **mapping study** to identify potential PFAS pollution sites. On top of this there is also an investigation ongoing on the presence of **PFAS in landfills**. We hope to share new data on these projects before the end of the consultation period.

Again we thank the Dossier Submitters for this comprehensive dossier. As mentioned earlier it is possible we will come back at a later stage in the consultation period with additional data and information.

Please do not hesitate to contact us if you have any further clarification questions on our input by using the [REDACTED]@[health.fgov.be](mailto:[REDACTED]@health.fgov.be) mail address.