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HEALTH, FOOD CHAIN SAFETY AND ENVIRONMENT

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

In this second coordinated input by the Belgian authorities we would like to provide additional data and information that has been generated in Belgium since our first comment submitted in May 2023 (more specifically (comment 4024, https://echa.europa.eu/documents/10162/59c6d776-e6ad-5ed6-b9f2-6b135470db3c).
Additionally, we would like to voice some considerations regarding the analysis made by the Dossier Submitters (DS) on the socio-economic aspects and the contents of the restriction proposal.
We want to highlight that this is not a Belgian position on the proposal, the below text mainly outlines some practical considerations we have on the current dossier regarding the analysis and choices made in the Annex XV Restriction dossier. The following topics are addressed in our comment:

1. Data and information generated in Belgium
2. Proposed restriction wording
    - 2.1 Scope exemption of "biodegradable" PFAS
    - 2.2Definition of fluoropolymers and perfluoropolyethers
3. Socio-economic analysis
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    - 3.4 Medicinal Products and Medical Devices
4. Clarification on the First BE input regarding the air emissions study from an incineration plant

1. Data and information generated in Belgium

Please find below new information, data, and reports complementing our first written comment:

- Recently published report on presence of PFAS in water in Flanders: https://www.vmm.be/publicaties/orienterend-onderzoek-naar-verspreiding-van-pfas-in-vlaanderen
- Report on PFAS in sea air: https://www.vlaanderen.be/pfas-vervuiling/nieuwsberichten/vito-voert-pfas-metingen-uit-aan-de-kust
- The following studies have been published by the University of Antwerp on PFAS in biota and reusable straws:
    - https://link.springer.com/article/10.1007/s11356-023-27237-1
    - https://www.sciencedirect.com/science/article/pii/S0269749123013064?via%3Dihub
    - https://link.springer.com/article/10.1007/s11356-022-23799-8
    - https://www.sciencedirect.com/science/article/pii/S0013935122019715?via%3Dihub
    - https://www.tandfonline.com/doi/full/10.1080/19440049.2023.2240908?src=

- Biomonitoring by the Walloon region: http://environnement.sante.wallonie.be/biomonitoring-wallon
- The Brussels region has included the following new information:
    - Study on PFAS-producing activities (see Annex 1 and Annex 2 attached to this comment)
    - For research and treatment of PFAS in soil and groundwater: Code van Goede Praktijk
    - PFAS contamination map of Brussels: https://geodata.environnement.brussels/client/view/13e9e42d-6172-4255-a925-a61cbb14a695
    - More info on the following site: https://leefmilieu.brussels/burgers/onze-acties/gewestelijke-plannen-en-beleid/pfas-en-bodem-het-brussels-hoofdstedelijk-gewest

2. Proposed restriction wording

2.1 Scope exemption of "biodegradable" PFAS

Belgium understands the logic of the dossier submitter to exclude certain subgroups of PFAS from the restriction scope as defined in the restriction proposal text. We recognize that the exclusion is based on the reasoning that these subgroups would not contribute to the main identified concern since they are not persistent. However, it has recently come to our attention that the proposed wording might be too broad, resulting in leaving out some PFAS that are persistent according to REACH registration data. For more information on this we refer the DS and the RAC to the paper of Rudin et al.[1], and more specifically table S3 of the supporting information, which lists these PFAS that would be out of scope but are classified as persistent.

We urge the DS and the scientific committees to take this information into account as it might impact the effectiveness of the restriction proposal. For Belgium, it is of the utmost importance that all PFAS that are persistent (and thus contribute to the concern identified for this dossier) are covered to ensure the protection of human health and the environment, as well as to prevent regrettable substitution.

2.2 Definition of fluoropolymers and perfluoropolyethers

In the restriction proposal specific provisions and derogations have been identified for fluoropolymers and perfluoropolyethers. However, we did not find a clear definition of these substances in the Annex XV dossier. To Belgium, it is important to have a clear definition of fluoropolymers and perfluoropolyethers that is narrow enough to ensure that only those substances that require specific temporary derogations will benefit from such specific provisions and would not lead to a discrepancy in legal interpretation.

3. On the socio-economic analysis

3.1 Need for clear justification of derogations under paragraph 4

Belgium has noted that 3 unlimited derogations from the restriction have been proposed for active substances used in biocides, plant protection products, and medicinal products. It has been identified by the Dossier Submitter that these uses are best covered within these sector-specific legislations. Nevertheless, Belgium fears that the specific concern identified for PFAS in this restriction (i.e.

[1] Per- and polyfluoroalkyl substances (PFASs) registered under REACH—What can we learn from the submitted data and how important will mobility be in PFASs hazard assessment? - ScienceDirect

persistence as the main concern together with additional supporting concerns like mobility, bioaccumulation, ecotoxicity, etc.), is not adequately addressed in the environmental risk management of these other legislations.
We do find it positive that a reporting requirement has been proposed under the proposed restriction wording for these derogations to ensure that emissions are looked at and to keep the possibility for further regulatory action open if needed (as is our interpretation of the reporting requirement under paragraph 4).
However, we urge the Dossier Submitter and the Scientific Committees to assess whether it might be more appropriate to have specific actions proposed under this restriction in case there are no clear actions envisaged under the sectorial legislation at this stage. This would prevent any further delay in the risk management of PFAS.
At least we would request the Dossier Submitters and Scientific Committees to assess the concern of these PFAS uses in detail to ensure that no separate assessment should be done within the sector-specific legislations, as this would result in a significant delay of risk management of PFAS for these uses. By the time this restriction enters into force actions could already be taken under these legislations to properly manage PFAS use and emissions.

To conclude, Belgium understands that double regulation should be prevented, however, we urge the Dossier Submitter and the scientific committees to accurately assess whether the identified concern is addressed within the other legislations, and if not to clearly identify this and the specific needs in the dossier and the scientific opinions. We would also like to note that the assessment should include not only the emissions of the active substances that are exempted, but also all other PFAS that might still be emitted due to these exemptions due to production and end of life of these exempted PFAS uses.

3.2 Including the waste phase and cleanup costs in socio-economic assessment

In the dossier it has been made clear that the risks from the waste stage of PFAS have not been taken fully into account and are thus underestimated. This is worrying, as recent findings of ChemSec[2] show that not only the health costs of PFAS exposure are high (up to 84 billion euros annually), but also the estimated clean-up costs of PFAS-contaminated soil and water are very significant (up to 2000 billion euro) and should be taken into account, especially considering these clean-up costs in many cases will be paid (indirectly) by the EU society in opposition to the **'Polluter pay' principle** which requires polluters to bear the environmental and social cost of their actions.
We believe it vital to include these considerations in the assessment in the dossier to ensure that sufficient and robust justification is given on the benefits that the phase-out of these substances would generate for society. It must be made clear that the costs of phasing out these substances are small compared to the large amount of benefit that can be gained in the form of prevented health and clean-up costs.
Relatively to 'clean-up costs' mentioned above, another important aspect to take into account when assessing these restriction provisions is the low limit values that are being proposed for the safe level of PFAS in water[3], food[4] , and others under different EU legislations and that could potentially get even lower once more data on different PFAS becomes available. One can thus imagine that clean-up costs will only keep rising.

[2] https://chemsec.org/reports/the-top-12-pfas-producers-in-the-world-and-the-staggering-societal-costs-of-pfas-pollution/
[3] https://eur-lex.europa.eu/eli/dir/2020/2184/oj
[4] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R2388

We therefore urge the Dossier Submitters and the Scientific Committees to take these considerations into account and propose an as ambitious as possible restriction to **prevent more disproportionate clean-up costs to governments and indirectly the EU society**.

Belgium emphasizes that these concerns need to be clearly identified and assessed by the scientific committees to ensure that the Commission can make well-informed decisions when drafting the Annex XVII entry proposal for this restriction.

3.3 Availability of alternatives and deciding on critical uses for the functioning of society

Belgium has noted that the main basis for granting derogations proposed by the DS is the availability of alternatives. Depending on the availability (i.e. readily available, in development, or not available) different transition periods are being proposed (no transition, 5 years or 12 years).
We question whether solely the absence of alternatives is sufficient justification for granting derogations. This methodology does not allow to take into account supplementary factors that might be important to consider in a socio-economic assessment, like whether certain uses might be considered not **critical to the functioning of society**. Since every PFAS produced will almost inevitability end up in the environment and stay there (thus resulting in ever-increasing environmental concentrations and thus bearing a lot of uncertainty on the adverse effects to the future generations) it is deemed appropriate to apply the precautionary principle and restrict all uses that are not strictly necessary for society.
Belgium does acknowledge that the essential use concept has not been formalized yet under EU law, nevertheless, it is vital that the **precautionary principle** is applied for this restriction considering the specific concern on the persistency of PFAS. It should be ensured that any uncertainty at this stage is considered a risk, meaning that temporary derogations should only be granted if absolutely necessary for the functioning of society and if there is clear evidence that no viable alternatives are readily available at this stage.

We understand the reasoning that for certain uses more time is needed to ensure that alternatives are developed and certified (for example certain medical uses), justifying a longer period of 12 years. However, for uses where there is no need for certification, a 12-year period might be too long (for example industrial precision cleaning fluids). We can imagine that every derogated use is at a different stage in alternative assessment and development, meaning that for some of them, 5 or 12 years might actually be more than needed. We therefore urge the DS and SEAC to consider the derogation time needed for every use separately to ensure the development of a correct and efficient restriction with sufficient incentive to substitute as fast as possible.

Belgium disagrees that it is necessary to have an unlimited exemption of PFAS use in refrigerants in HVACR equipment in buildings where national safety standards and building codes prohibit the use of alternatives (paragraph 5j.). Belgium does not require this in its national law because PFAS-free alternatives are available and can meet the same level of safety as PFAS containing systems[5]. Belgium

[5] Our experts at internal affairs have provided the following assessment: *"In our national royal decree (7 July 1994) there is no prohibition included on flammable refrigerants. However, installation regulations may vary depending on the flammability of the refrigerant. For example, we interpret that the cooling installation should generally be installed in a technical room with fire-resistant walls and doors, unless a rule of good practice allows installation in any room. In this sense, we are recently often confronted with propane-based cooling installations (= R-290, a possible alternative to HFCs and HFOs). For the protection of these cooling installations, reference is then often made to NBN EN 378-1. Depending on the flammability (and toxicity) of the refrigerant, this standard provides for a*

therefore proposes the DS and Scientific Committees to consider to remove this derogation as alternatives are available, and also to ensure that there are no inconsistencies on the EU internal market for these kinds of products. On top of this, Belgium believes this general and unlimited exemption would discard front-runners of the sector that have successfully switched to alternatives.

3.4 Medicinal Products and Medical Devices

We welcome the initiative to restrict the presence of dangerous and persistent substances in products such as the PFAS and we understand the environmental reasons behind a restriction spectrum as broad as the one proposed in the restriction dossier.

However, we are concerned regarding the **large impact in the fields of pharmaceuticals, medical devices and human body material**. We would therefore like to highlight several concerns on the effects this PFAS restriction may have on this sectors that would have a direct impact on health care of the Belgian population. We would like to ensure that the scientific committees take these concerns into account when drafting their opinions.

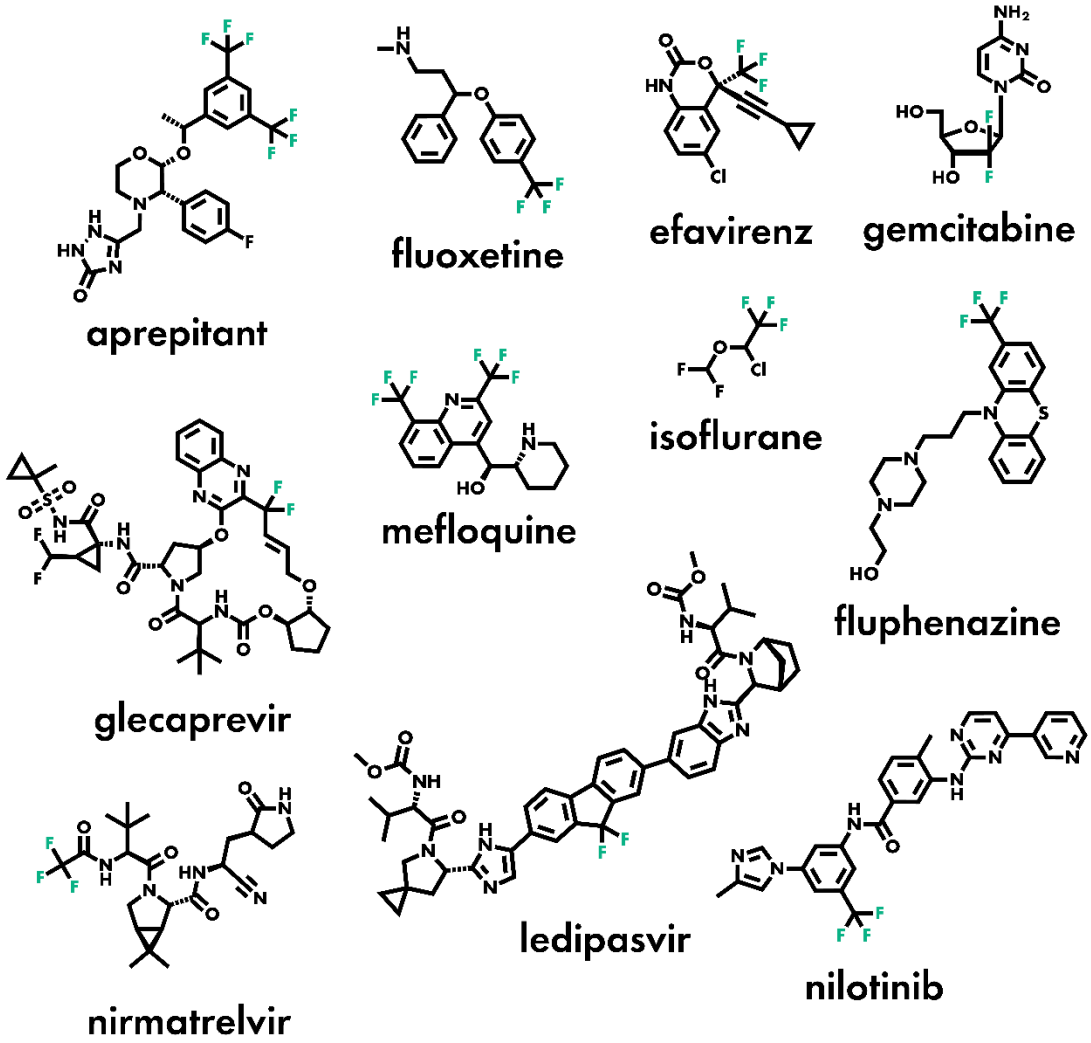
We note that **active pharmaceutical ingredients** (API's) for medicinal products have been permanently exempted. However, PFAS are also used as starting **materials, manufacturing equipment of those APIs or intermediates API**, and also into the **manufacturing equipment** for the drug products (medicinal products for **human and veterinary** use) and **medical devices** and in the **packaging** of both drug products and medical devices. The situation for blood , blood derivates , cells and tissues is similar.

Appropriate **alternatives** for starting materials and intermediates for **API synthesis** may not be available. Moreover, when they are available changes in synthesis process will present a burden to the sector activities and need resources for administrative tasks both in validation and authorization. This could lead to the **abandonment of the production of certain older, less profitable** but still essential medicines (e.g. certain antibiotics).

Another concern is with regards to the development of **novel medicinal products**: typically this is done by identifying a lead compound (a suboptimal initial development candidate) and optimizing this lead compound by medicinal chemistry to obtain an optimized molecule that has all the desirable characteristics with regards to efficacy, safety, pharmacokinetics, stability, *et cetera*. Largely **banning the use of -CF_2- and -CF_3 moieties in future medicines would limit the compound optimization options** (on an atomic level, there is no perfect replacement for the fluorine atom). For illustration, the following is a (non-exhaustive) list of -CF_2-/-CF_3 containing medicinal products on WHO's list of essential medicines: aprepitant, efavirenz, fluoxetine, fluphenazine, gemcitabine, glecaprevir, isoflurane, ledipasvir, mefloquine and nilotinib. Another relevant example is nirmatrelvir (Paxlovid), which is still used in the treatment of critically ill Covid-19 patients today: this medicinal product contains an *N*-trifluoroacetyl moiety, bringing it within the scope of the restriction; as described in a 2022 paper on the development of nirmatrelvir by R.P. Joyce *et al.* (doi: 10.1007/s00044-022-02951-6), replacement of a sulfonamide

maximum quantity of refrigerant in this installation, which varies depending on whether it is installed in a hotel room or in a shop, for example. A small split system in a hotel room using propane can contain up to a maximum of 150 g of propane according to NBN EN 378-1, in a shop this can be slightly larger and if it is in an explosion-proof 'hermetic' cabinet, up to 5 kg of propane can be used without this installation having to be in a separate room with fire-resistant walls and doors. Other solutions are often possible, e.g. putting the installations on the roof or in open air, etc."

moiety by the N-trifluoroacetyl moiety during lead optimization resulted in an approximately tenfold improvement of whole cell activity combined with a roughly 4-fold improvement of metabolic stability and a 3-fold improvement of oral bioavailability. This is just a single example, but it illustrates how this restriction proposal would limit the options available to medicinal chemists. An option to consider would be to add increased scrutiny on medicinal products that fall within the scope of the restriction in the environmental risk assessment part of the application dossier; doing so would penalize drug developers seeking to develop such candidate molecules but would not entirely prevent candidates from being developed should these have overall optimal characteristics, as the nirmatrelvir example illustrates.



PFAS are often found in pharmaceuticals and medical devices production equipment. Even though the equipment themselves would remain in service under the restriction, it wouldn't be possible to procure the **spare part and consumables needed to maintain the equipment** (lubricants, filters) containing PFASs, which could result in production stops, consequent shortages and potential market withdrawal, for EU based production. In some cases it can be possible to rely again to older materials like f.i. an inox part of the equipment which had been replaced by a disposable equipment. But in such case industry has to drop

new large and very expensive sites where single use materials are nowadays used to avoid contaminations (chemical or biological), or come back in older fashion sites still existing . In this case we will see a raise of cases of overcrowded sites with not enough space to work in a safe way. Those type of equipment have been left for reason of contamination (chemical product to product or microbiological). The shortages or those possible contaminations could have a direct impact on healthcare for the Belgian population, therefore we urge the scientific committees to take this concern into account.

PFAS are also used in **packaging materials** of many medicinal products and medical devices. The packaging that comes in direct contact with the medicinal product or the medical device must respects certain specifications and be certified (primary packaging of medicines for human and veterinary use, primary packaging for medical devices, contact sensitive plastic packaging of medical devices, including in vitro medical devices and outer packaging of medicines for human and veterinary use in cases where such packaging is necessary to comply with specific requirements to preserve the quality of the medicinal product and medical device, and sterilization pouches).

The primary packaging are part of the Market Authorization (the authorization to place a medicine on the market contained in the pharmaceutical regulation[6]) and their composition is examined in regard of their efficacy. The National competent authorities control the composition and how it is beneficial. Nevertheless, all those controls, verification, justification can become very quickly challenging in terms of time for the industry but also for the expert during the assessment. Here are examples of the type of primary packaging that can be impacted : tube, filmed tube, vial, syringe , all product in administration pomp , soft baxter , emplaters…

The certification process of medical devices includes the primary package (and possibly secondary packaging as well)[7]. All changes need to be notified by the manufacturer to the notified body and will be evaluated by that notified body as it is a significant change[8]. Any change in the package design/material could trigger a suspension of the CE certificate. Changes in packaging also requests testing and that also takes considerable time. Well know case in the sector is the Maquet PLS/HLS set, in which a package

[6] Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use ;
Regulation (EC) No 726/2004 of the European Parliament and of the Council of 31 March 2004 laying down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Medicines Agency
Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC

[7] The medical device regulation (Regulation (EU) 2017/745) or in vitro diagnostic medical device regulation (Regulation (EU) 2017/746) do not describe the concept of primary, secondary, or tertiary packaging but the term is common in the industry. The primary package is the package in direct contact with the medical device. It is the primary package that is mainly responsible for fulfilling the requirements of MDR/IVDR Annex I, paragraph 11.2-11.6.

[8] Significant change is not defined in the medical device regulation (Regulation (EU) 2017/745) or in vitro diagnostic medical device regulation (Regulation (EU) 2017/746). Notified bodies need a system in place to assess changes and their significance (MDR and IVDR Annex VII, paragraph 4.9). Significant change is also mentioned in the transitional provisions of article 120 (MDR) or article 110 (IVDR). There are 2 guidances on what is considered a significant change in that context: MDCG guidance 2022-6 and MDCG guidance 2020-3 Rev.1

inadequacy has led to a CE certification suspension. This suspension is currently ongoing from 23/02/2023 and it is not foreseen that the certificate is reinstated before mid-2024.

Changing packaging materials of a large variety of medicinal products and medical devices would require development, stability testing and authorization/certification on a very large scale. Here also, there are risks on shortages for essential medicines and medical devices and market withdrawal of essential medicines and medical devices, which would have detrimental impacts on healthcare.

Regarding the Human Body Material (Blood, Tissue and cells), in the context of the restriction dossier they should be regarded as medicines. The final usage of the material being for human application does not differ from them in term of patient's safety.

Human Body Materials already contain PFAS and will therefore bring and intervene in PFAS body level through their application (transfusion and transplantation), that cannot be avoided.

Also, tissues, blood and cells are in contact of PFAS through the packaging materials that contains them, which are medical devices themselves. If these medical devices cannot be used anymore it will impact the availability of the human body products and create shortages for patients with life-threatening conditions: a benefice-risk balance should apply as human life should come first.

Thus, an exemption should be considered for **Human Body Materials**, the materials in contact with them and the preservatives necessary for their conservation.

The relevant regulations for **medical devices** and in vitro diagnostic medical devices are Regulation (EU) 2017/745 and Regulation (EU) 2017/746 respectively. The **definition of medical devices in this text should be interpreted as equal to the definition of devices in both regulations** and as such cover medical devices, accessories of medical devices, products covered in annex XVI of regulation 2017/745, in vitro diagnostic medical devices and accessories of in vitro diagnostic medical devices.

The restriction dossier proposes no permanent exemption, but temporary exemptions for some medical devices, in contrary to medicinal products. Medical devices are considered important for the **protection of the health of humans**. Medical devices are, just like medicines, specifically regulated in the EU with extensive evaluations and approval processes by designated bodies (notified bodies) with specific expertise and experience. Safety of medical devices, **including potential toxicological concerns due to exposure to PFAS or their decomposition products and leachables, both for the user of the device and the patient, is specifically covered in Annex I "General Safety and Performance Requirements"** of the regulations. Additional detailed requirements are in the horizontal ISO 10993 series of standards and in a number of device category specific vertical standards.

These aspects are evaluated as part of the technical dossier conformity assessment prior to CE marking for medical devices. In view of the above, the currently proposed deadlines for substitution are considered very short given the fact that an equal substitute should be found. This equal substitution involves in the case of **medical devices additional steps as the same performance and patient safety needs to be assured**. The performance and patient safety should be validated according to the medical device regulations and this includes clinical investigations and performance studies. The final step is a **lengthy independent certification** step. All these steps take considerable time (e.g. multiple years) if an adequate substitute can be found. It is very difficult to estimate the actual time needed as this is highly dependent on the complexity of the device and the success in the different clinical steps. The actual certification

process at the notified body takes on average 18 months. Normally there are 3 clinical stages in medical device development and these can all take more than a year (and potentially much longer 3-5 years). To start clinical investigations or performance studies also approval (FAMHP and/or ethics committee) need to be obtained by the sponsor to be allowed to start such an investigation/study. Devices are certified for a restricted time period (5 years). Between (re)certification moments auditing of the manufacturer and evaluation of the devices is periodically carried out by the notified body. The medical device sector is too broad and too diverse to be certain all usages in which substitution is not technically or economically feasible are included in a derogation. This issue is highlighted in the dossier on multiple occasions:

- Metered dose inhalers are considered medical devices in the restriction proposal dossier and are highlighted on multiple occasions as an example of a medical device. Metered dose inhalers are (almost) always placed on the market under the EU pharmaceutical legislation and are as such legally not medical devices. This leads to a large overestimation of the relative importance of medical devices to global PFAS emissions.
- The proposal seems to ignore accessories of medical devices. Certain guidance and delivery systems of implants are not considered medical devices, nor implants but are accessories. Without them the implants (with or without PFAS) can no longer be safely implanted. The current proposal grants derogations based on the way the devices are placed on the market not on the technical and economically feasibility of substitution nor the potential socio-economic costs.
- Hernia meshes are included as a potential candidate for derogation. Closely related meshes are used for other indications like pelvic organ prolapse and stress urinary incontinence. While the meshes are similar and in certain cases even identical they are not considered for derogation.
- The diagnostic laboratory testing derogation limits the derogation to in-vitro diagnostic medical devices that are used within a laboratory. This is not in line with current practise in the medical field in which near-patient testing (also known as point-of-care testing) and self-testing is becoming increasingly important. The removal of these devices from the market would have a high health cost.
- Some of the devices listed in the annexes as being implants are not considered implants (e.g. orthodontic wires, clamps for high frequency surgery, medical splines) and some devices are placed on the market as an implant or invasive medical device based on their intended usage (e.g. central venous access device, peripherally inserted central catheter). As invasive medical devices are not described in the proposal no derogation is foreseen for these devices.
- Medical textile applications as part of technical textiles derogation; while the dossier seems to exclude medical devices from this usage, the used definition (use of textiles in a medical setting, excluding use within or on the patient) is not sufficient to exclude all medical devices. The specialist applications usage of refrigeration derogation does not necessarily cover the medical devices. Refrigerators which are intended use to be used in tissue banks, blood banks, sperm banks, the transport of organs, storage of pharmaceuticals, etc. are medical devices

The idea of heavily relying on stakeholder contribution would likely not lead to a complete representation of the whole sector of medical devices. The medical devices sector consists of 95% small and medium sized manufacturers[9]. While there exist big European/international professional associations like Medtech Europe, COCIR, EUROMCONTACT, etc. They represent mainly the 5 % big enterprises and that

[9] https://health.ec.europa.eu/system/files/2023-01/mdr_proposal_factsheet_0.pdf

representation does not include all device categories. The national associations like BeMedtech, Medtech Flanders, MedTech Wallonia, etc. also do not necessarily represent all medical device categories. An example of such a category are the dental laboratories (dental fillings, implants, etc.) which are micro[10] enterprises and not represented by any of the big professional associations even the sector specific association (UDB) only represents a fraction of the dental labs in Belgium. There is a risk that incorrect conclusions are drawn from the data provided by the large stakeholders as they will likely omit product categories because their members are not active in that part of the market. The small enterprises are likely unaware of this potential ban on PFAS and/or do not have the resources available to provide data. This could put a strain on these SMEs, resulting in them potentially halting the production, which would have negative consequences on the healthcare of the population.

The FAMHP (Federal Agency for Medicines and Health Products, the Belgian competent authority on medicines and health products) does not systematically assess the technical files of the medical devices as in the medical device sector market access is granted through a certification process by notified bodies. Due to this, the FAMHP has no overview of all medical devices that incorporate or might incorporate PFAS. Besides the general remarks made on the devices described in the dossier, the FAMHP suspects many more medical devices incorporate or might incorporate PFAS. This assumption is based on the required properties that were indicated for the mentioned medical devices in this dossier and the dossier on PFHxA. A few examples are: guidewires (placed on the market as an accessory to a medical device or as short-term invasive device), introducers/sheats (accessory or short-term invasive device) both necessary devices to safely introduce and move a catheter in a human body. Neurostimulators, ICDs, pacemakers, deep brain stimulators, cochlear implants and their leads (aka electrodes : the insulated connecting wires) are all implantable devices which need electrical and thermal isolation, no ingress of fluids, limited interaction with human body. Sheets used to keep the operating field sterile could be covered by the medical textiles if they touch the patients, but such sheets are also used to cover certain equipment (in which case they are accessories to that device). Many devices are used to administer medicinal products and they potentially contain PFAS (e.g. syringes, pain pumps, insulin pumps, etc.) and as such similar arguments as used for metered dose inhalers could be applicable.

Medical devices can incorporate substances, which if used separately would be considered a medicinal product, if that substance contains PFAS, the medical device contains PFAS. Legally that substance is an integral part of the medical device and placed on the market as a medical device. The substance is in that case not placed on the market as a medicinal product. A coated stent is probably the best-known example of such a device incorporating a substance. Medical devices can also incorporate tissue and cells or their derivates of human or animal origin. If these tissues and cells contain PFAS, and according to the dossier that is unavoidable, the medical device will also contain PFAS. A medical device can also incorporate a product derived from human blood or human plasma, again the medical device will not be able to avoid containing PFAS.

Some medical devices are large equipment in health institutes for instance: analyzers in hospital labs, MRI/CT scanners, intensive care ventilators, ventilators used during surgery, robotic surgery machines (e.g. Da Vinci), irradiation systems. These can have a long lifetime (7 years – 30 years) and come with a substantial investment cost (millions €). If they contain PFAS in sealings, lubricants, etc. and these cannot be replaced due to the proposed ban, the device must be replaced. That would not only come with a

[10] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003H0361

substantial cost, but these devices are produced in limited quantities every year and as such health institutes might not be able to replace them rapidly with negative consequences for patients who can no longer be treated.

Especially in the case of niche use (so called orphan medical devices) medical devices, the additional developmental and regulatory costs can result in removal from the market, similar to current concerns with the increased regulatory burden for bringing medical devices in compliance with the recent regulations (cfr. https://www.eapaediatrics.eu/wp-content/uploads/2023/06/EAP-Press-Release-Medical-Devices-for-Children-12h00-27-June-2023.pdf). Typically manufacturers have a broad portfolio of related but diverse medical devices, and each of these have to follow a strict regulatory route that comes with a significant cost. Another problem related to this is that for medical devices, a comprehensive, **EU-wide database called Eudamed** is still under development and as such, authorities have very limited visibility on the devices currently on the market and those that may be disappearing. We also make reference to the following statements in the SEAC/RAC opinion on the PFHxA restriction proposal (09.06.2021) "*For medical devices and related impregnation agents, a general derogation is proposed due to the possibility of additional uses that have not been identified so far and to the possible negative human health impacts of a restriction*." And "*SEAC notes that so far there are only relatively few human health hazards and risks recognised for PFHxA, its salts and PFHxA-related substances, and their continued use in medical devices creates overall a societal value. While SEAC recognises the importance of reducing emissions and related environmental impacts, this is a use group where it may be specifically important to recognise the benefits of continued use of the substances*." We would propose additional options to be given to manufacturers of medical devices, based on a global benefit-risk evaluation. One such option would be to allow closed-loop distribution of medical devices containing PFAS. For instance for contact lenses, it would seem feasible to make collection of used contact lenses mandatory and this would prevent these products from ending up in waste streams while also being sufficiently burdensome to stimulate the development of alternative materials. The medical device sector is highly regulated. All the manufacturers and their devices should be registered in the European database EUDAMED once operational (current timeline of the European Commission mid 2025). Additionally, all distributors who supply devices to the Belgian market need to be registered at the FAMHP. Most of the devices are used in health institutes (hospitals, medical labs, etc.) are these actors are known, registered and regularly inspected/audited by different governmental agencies in Belgium. Furthermore, all pharmacies are approved and registered by the FAMHP and there already exists a system that allows all Belgian citizens to return their expired or unused medicines to the pharmacies, such a system can be expanded to also cover PFAS containing medical devices. The EU can also consider the serious environmental consequences induced by the extraterritorial production of the medicines. Pharmaceutical production outside the OECD emits on average 6 times more greenhouse gases than European production and comes along with massive uncontrolled drug discharges of APIs, released in soil or surface water and raw water).

As mentioned previously, the restriction as it is worded today will also put a strain on the pharmaceutical, and medical devices, industry based in the EU. The restriction would be a serious disadvantage in these sectors, as it would become nearly impossible or too costly to produce certain medicines and medical devices in the EU. We believe there should be a cost-benefit analysis by the SEAC to assess this aspect. This would result in an increased dependency on non-EU manufacturers which is in contradiction with all the recent political actions towards the strengthening of the EU medical ecosystem, from the request of

the European Council and the Council of the EU for an EU's open strategic autonomy[11] to the attempts of reshoring the production of, at least, "critical" medicines envisioned in the potential Critical medicine Act called for by several EU Member States[12]. As shown above, many of the molecules on WHO's list of essential medicines are fluorinated.

For both medicines and medical devices, the prohibition of PFAS could lead to shortages and/or to the loss of any available treatment for people suffering from life-threatening conditions. The restriction should consider public health considerations when it comes to those two categories and apply a benefit-risk balance. With this approach the environmental risks could be taken into consideration as well as the life and the well-being of the EU patients, without putting the latter in jeopardy. Considering Health's specificities in all policies will ensure that advancement in one domain is not achieved at the expense of the well-being of patients.

The EU market is frequently subject to shortages of medicines and the access to certain medicines is already limited in some Member States, putting additional constraints on the production of medicines and medical devices would add to the situation.

For all these reasons we would like to propose a different approach for the pharmaceuticals and the medical devices and for the scientific committees to assess this approach and include it in their final opinion.

We would like to propose to the scientific committees to assess the extension of the exemption for APIs to starting materials and intermediates for API synthesis, manufacturing equipment for medicinal products and medical devices and packaging materials for medicinal products and medical devices that contain PFAS. Medicinal products are extremely controlled and the pharma legislation revision proposal encloses a new reinforced Environment Risk Assessment (ERA). Under the proposed new ERA the marketing authorisation could **be refused on the grounds of insufficient environmental risk assessment and mitigation measures**. For the production equipment **spare parts** containing PFAS specific mandatory disposal measures could be adopted.

Belgium would like to strongly recommend the scientific committees to asses these above concerns, as we believe it to be important to ensure that uses of PFAS that are essential to society can continue under safe conditions and until viable alternatives are available.

4. Clarification on the First BE input regarding the air emissions study from an incineration plant

The Belgian authorities would like to clarify that some aspects that were mentioned in the previous coordinated BE input into this consultation (comment 4024, https://echa.europa.eu/documents/10162/59c6d776-e6ad-5ed6-b9f2-6b135470db3c). More

[11] European Council conclusions , 1-2 October 2020 : 021020-euco-final-conclusions.pdf (europa.eu) ;
EU council conclusions on the EU's economic and financial strategic autonomy : pdf (europa.eu)
[12] Cf Non-paper – Improving the security of medicines supply in Europe – (BE, AT, NL, LU, HU, CZ, ES, FR, DE, EE, SI, RO, LV, LT, EL, MT, PL, IT, PT) : Non-paper-security-of-medicines-supply-02.05.23.pdf (politico.eu)

specifically, we want to clarify the following aspects of the study that was shared on the air emissions of PFAS from an incineration plant:

- The study and the results discussed should not be seen as a standalone case of Indaver, but are most likely a concern for all incineration plants handling (PFAS) waste. Similar measurements should be done at other waste installations to give a more correct picture of the industry as a whole.
- The study that was shared was an exploratory study, follow-up studies are being conducted to further understand the concern and take into account measurement uncertainties. This study should therefore not be considered finalized. The study does not provide any final conclusions on the effectiveness of incineration on PFAS degradation.
- Indaver is a waste processing company that handles waste overall, not only PFAS waste.

Attached to this comment we have provided a case study that provides a summary of results on air emission monitoring between 2021 and 2023 (Annex 3).

Lastly we recommend the Dossier Submitter and the Scientific Committees to consult the input provided by Indaver on this Public Consultation.

The Belgium authorities thank the Dossier Submitter and the Scientific Committees RAC and SEAC for considering this second BE input when drafting the Final Opinions and the final Background Document.