



Statement on the regulation of PFAS under the REACH Regulation

Consultation process from 22.03. – 25.09.2023

The Mechanical Engineering Industry Association (VDMA) represents around 3,600 member companies in the medium-sized mechanical and plant engineering sector in Germany and Europe. Within this organization, VDMA Valves with its nearly 200 member companies forms the network of manufacturers of building valves. This includes sanitary valves such as bathroom and kitchen fittings as well as technical building valves, for example shut-off or regulating valves, but also hygiene flushing systems, heating fittings and fittings in heat generators and heat pumps.

The companies we represent use perfluoroalkyl substances (PFAS) primarily as a material in seals, but also in membranes and hoses that - in connection with valves or as their components - come into contact with drinking or heating water.

To the background

On March 22, 2023, the six-month public consultation period on the restriction project provided for in the REACH Regulation was launched. According to the systematics of Annex XVII of the REACH Regulation, the manufacture, placing on the market and use of PFAS would potentially be affected by a future restriction.

VDMA Valves stands for a sustainable world and basically supports the central idea of substituting materials and substances hazardous to health as well as the goal of no longer allowing PFAS classified as very hazardous (for example CMR, PBT, vPvB, PMT, vPvM or as ED) to enter the environment. In this respect, regulation of these PFASs, which are classified as very hazardous, is fundamentally correct.

In line with its commitment to sustainability, the building and sanitary valves industry has been continuously researching new sustainable materials for decades and has developed solutions that have long since proven their suitability for drinking water hygiene and extreme durability in heating systems and are successfully used in a wide variety of products.

The components in the drinking water sector have also been tested microbiologically (including internationally on the basis of the EN 16421 standard) and with regard to migration behavior (including through national regulation by the Federal Environment Agency in Germany, such as the assessment basis for plastics and other organic materials in contact with drinking water) for decades and have also been certified in many areas. In addition to national regulation such as the German Drinking Water Ordinance, the requirements of the European Drinking Water Directive are also met.

The result of these efforts: Drinking water quality in Germany is "very good," according to the Federal Environment Agency, and heat generators such as heat pumps have a service life of decades. Both is sustainable.

Fluoropolymers in drinking water and heating applications

The applications of plastic materials in drinking water contact or heat generators primarily involve the use of fluoropolymers. These are high-performance plastics that are characterized by particularly high resistance. They have sealing and water-repellent properties, reduce friction and prevent the adhesion of substances. These include above all the widely used fluoroplastic PTFE (polytetrafluoroethylene, also known as "Teflon") or FKM ("fluor rubber"). They are used, among other things, in seals and hose in drinking water installations and not only make a significant contribution to preventing leaks, but also to the success of the climate change. They also provide optimum protection for drinking water quality.

Some fluoropolymers have been scientifically evaluated as "polymers of low concern" (PTFE, ETFE, FEP, PFA, PVDF and VDF-co-HFP). They have been proven to be chemically stable, non-toxic, non-bioavailable, non-water soluble and non-mobile. For these reasons, the fluoropolymers are also approved, for example, as food contact materials or in medical devices. In addition, Henry et al. (2018) state that all fluoropolymers should be considered "polymers of low concern"¹.

Request: Exempt fluoropolymers from restriction projects

VDMA Valves therefore calls for the general exclusion of fluoropolymers, which (incidentally also according to the OECD definition) are considered "polymers of low concern", from the PFAS restriction project.

In addition, substances such as monomers and processing aids required for fluoropolymer manufacture and production should be exempted from the ban, provided that safe use is ensured. This is also envisaged by the study of the British Health and Safety Executive (HSE)².

¹ Henry, B. J.; Carlin, J. P.; Hammerschmidt, J. A.; Buck, R. C.; Buxton, L. W.; Fiedler, H.; Seed, J.; Hernandez, O. A. Critical Review of the Application of Polymer of Low Concern and Regulatory Criteria to Fluoropolymers. Integr. Environ. Assess. Manage. 2018, 14 (3), 316–334.)

² <https://www.hse.gov.uk/reach/assets/docs/pfas-rmoa.pdf>

Therefore, groups with low risk (e.g. fluoroelastomers, fluoropolymers, evaluated as "polymers of low concern") or uses without relevant risk (e.g. uses in closed systems), should generally be excluded.

Fluoropolymers indispensable

In the drinking water as well as in the heating sector, these exceptions are important, because without seals, membranes, hoses, etc. based primarily on fluoropolymers such as PTFE in particular, the secure supply of our most important resources cannot be guaranteed. Here, there are currently no alternatives to the use of materials classified as "polymers of low concern" that exhibit similar resistance over a comparable period of time. These are of enormous importance, especially in the case of drinking water and heating installations, because here it is a matter of protecting health and comfort over long periods of time. In many buildings, drinking water and heating installations are not accessible or are only accessible with great difficulty and should remain leak-proof and efficient for the life of the house - that is at least 50 years. This also applies to the valves used in the installations, for which the manufacturers must provide corresponding warranties, which vary in length depending on the product and can amount to many years.

Furthermore, we would like to point out that, especially in the case of "polymers of low concern", the concrete hazard potential during the use phase should first be known before bans are imposed on materials and substances that have been tried and tested for decades. For example, no concrete hazard potentials are currently known that would result from the release of PFASs into drinking water through building and tapping valves or their seals. It is therefore absolutely necessary to first determine the sum of all PFAS released in a building and drinking water installation before a ban is even imposed.

If the possible values determined are below the PFAS concentration limits stipulated by the European Drinking Water Directive and its national implementations, such as the German Drinking Water Ordinance, the EU and ECHA should generally refrain from banning the use of materials containing PFAS in parts and components in contact with drinking water.

Consequences of banning fluoropolymers

If the PFAS-containing materials such as PTFE, which are previously used primarily for seals, are banned, this poses a risk to the building stock: If seals with lower resistance no longer fulfil their function, there is a risk of leaks and water damage that can affect an entire building. According to the German Insurance Association, there are already more than 1 million cases of tap water damage in Germany every year, the costs of which add up to more than 3 billion euros.

Above all, however, there are considerable risks to health: if seals no longer fulfil their protective function, there is a risk of substances hazardous to health migrating into the drinking water and consumers are acutely endangered.

For example, safety valves ensure that water from rainwater harvesting cannot enter the drinking water installation or that contaminated water from a system or apparatus is forced back into the drinking water distribution pipes of the water supplier.

Without reliable seals, this can no longer be guaranteed and contamination with germs and bacteria threatens the health of consumers, who in Germany are drinking water directly from the tap in ever greater numbers. In this context, we would like to point out that a central goal of the European Drinking Water Directive, updated in 2020, is that drinking water in Europe can be drunk from the tap without hesitation. This presupposes a flawless quality of both the drinking water and the drinking water installation, which currently cannot be guaranteed without the use of materials containing PTFE.

However, the economic effects of a ban on fluoropolymers should not be ignored: Without seals, membranes and hoses, valves will not function in either the heating or drinking water sectors. And without suitable alternatives, manufacturers will not be able to guarantee their customers long-term safe use in accordance with legal requirements. This threatens not only severe upheaval for the entire valves industry, which beyond the drinking water sector has sales of 12.7 billion euros in Germany alone and employs around 43,000 people. The consequences could also be a dramatic emergency in the basic supply of drinking water or the failure of the climate change.

The example of a medium-sized German manufacturer of safety valves, which are used in buildings as well as in industrial plants and in the supply of technical gases, shows how dramatic the consequences for individual companies can be. The company could not currently offer valves without PFAS-containing seals due to a lack of alternatives. This would affect 70 per cent of all valves sold by the manufacturer, which account for 55 per cent of total sales - an economic disaster that would acutely threaten not only jobs but also the future of the entire company.

In order to avert such damage to our society and industry, fluoropolymers such as PTFE must therefore be excluded from PFAS regulation in the context of building valves for the reasons stated above.

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