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Proposed restriction of around 12.800 per- and fluoroalkyl substances (PFAS) under Annex XV of REACH – ECHA consultation

PFAS are widely used by industry used in compressor components such as;

- Batteries, in separators, binders, gaskets, seals, electrolytes
- Electrical motors and combustion engines
- Lubricants, coatings and greases of surfaces, to e.g., reduce friction
- Plastic parts of EEE as fluoropolymers are the most flame-retardant plastics
- Seals and gaskets
- Cables and their sheathing
- Industrial installations and manufacturing equipment

The above list is not exhaustive and there are many other uses for PFAS.

ICAAMC fully supports the aims of ensuring safety for humans and the environment. However, in the case of PFAS we would urge a proportionate approach.

Compressors are an essential component in security of energy supply and the moves towards alternative energy and global carbon reduction and this ultimately relies on the compressors being installed, maintained and repaired to ensure that they operate efficiently and do not break-down.

We perceive the impact of this potential restriction on our sector to be high as fluoropolymers are used in a wide variety of applications and most of them are

hard or impossible to substitute at this time due to the unique properties of fluoropolymers.

Fluoropolymers are used in a wide variety of applications and most of them are hard or impossible to substitute at this time due to the unique properties of fluoropolymers.

Alternatives, especially high performance polymers like PEEK, PPS or Polyimide will be much more expensive.

A risk based assessment approach would be preferable in determining any restriction on the use of PFAS. Release of PFAS from a compressor could only occur when a component is replaced or when the compressor reaches the end of its life. In such cases, this can be managed to ensure the PFAS is not released into the environment and can be safely disposed of, recovered, recycled or reused.

The usage of fluoropolymers, a sub-group of PFAS not classified as hazardous by the CLP Regulation, needs to be permitted for continued usage as they are critical to the EU's green transition when there is no reasonable substitute. These fluoropolymers are commonly used in many kinds of electric and electronic devices and other components due to a unique combination of properties which include low coefficient of friction, temperature and chemical resistance.

As PFAS are used in such a very wide number of applications we would need time to investigate where they are used and in which cases workable alternatives might be feasible. This process will be a considerable administrative burden and requires significant resources. Time is needed to be able to identify parts and subcomponents, validate the components with a new material, should one become available, and validate the long term suitability for the life of compressor with the new components, implement assembly, pre-development and if necessary re-design. Requalification and recertification of these components and products would be necessary and given the huge demand from industry for such services should a ban be imposed, there may not be sufficient third-party certification bodies and test houses for this to be completed within the deadline.

If a suitable alternative is identified by a company, this could be a commercial advantage that they may wish not to share with other companies, and altruism on their part to ensure that availability out of a limited supply to other companies cannot be assumed.

PFAS are used in multiple components and products used in the compressor industry. The types of PFAS used in these applications are mainly fluoropolymers, which are not classified as hazardous by the CLP Regulations and described by the OEC as polymers of low concern, such as PVDF, PTFE or FKM. They are used due to their high pressure and – for larger compressors – high power, due to the chemical aggressiveness of industrial gases and oils, as well as the needed flexibility and reliability of components. FKM is not dependent on plasticisers. Furthermore FKM has a low compression set and is resistant to aging effects of ozone exposure even after long time in storage. Alternatives such as

silicone elastomers or NBR do not fulfil these necessary requirements. For these reasons FKM cannot be substituted at present in these applications and we would call on the Commission to consider a derogation (exemption from or relaxation of the proposals) for these applications.

Such fluoropolymers are used in several kinds of high-performance plastics which are used in gaskets made of FKM - due to its low swelling rate and high flexibility cracks can be avoided, providing water ingress protection, prevent unwanted leakage over the product's entire service life and to ensure operational and function safety - fans and housings and coatings for surfaces to reduce friction and prevent mechanical blockages or overheating or to make surfaces resilient to external effects such as impacts. Fluoropolymers are also used to ensure compressor parts are heat-resistant and flame retardant. Cables and their sheathing in general can contain fluoropolymers. In all these applications, fluoropolymers are critical to the functionality of the compressor and serve to ensure the safety of the user and mitigate several possible hazards. This can only currently be achieved due to the unique combination of properties they possess.

Currently manufacturers only have limited information on the presence, concentration, weight, and substitutability and kinds of PFAS present in components. The broad scope of the proposed definition of PFAS and the lack of a definitive list of PFAS substances would be a problem. In engineering industries, components are sourced by their technical specification as well as legislative requirements. The way this is accomplished is down to respective suppliers and the specific way this is achieved may be considered commercially sensitive. Up to this time there has not been information obligations for most PFAS and information at this point is therefore very limited. To track information through international supply chains would be a significant administrative burden. This is exacerbated because at present there are no reliable methods of measurement to capture the concentration of PFAS in the necessary level of detail needed to comply with the concentration limits proposed by the dossier submitters.

The compressor industry, in common with many other industries, would be in a very difficult position regarding the proposal to restrict PFAS under REACH. We would ask for public authorities and the committees of ECHA to consider other instruments to ensure human health and protection of the environment other than restriction under REACH and suggest that those PFAS identified as hazardous should be added to the candidates list of 'Substances Of Very High Concern'.

Recommendations

A risk based assessment approach would be preferable in determining any restriction on the use of PFAS. Release of PFAS from a compressor could only occur when a component is replaced or when the compressor reaches the end of its life. In such cases, this can be managed to ensure the PFAS is not released into the environment and can be safely disposed of, recovered, recycled or reused.

Where recycling is not feasible (e.g. because of impurities), incineration can be used to safely dispose materials based on polymeric PFAS. According to scientific literature, the incineration of PTFE shows no significant generation of harmful low molecular PFAS.

We suggest that those PFAS identified as hazardous should be added to the candidates list of 'Substances Of Very High Concern'.

We would ask for an exemption for the use of PFAS for use in Compressors, with the requirement that at end of life there should be clear guidelines to facilitate safe disposal that does not let them enter the environment.

The Compressor industry needs a derogation to give time to identify PFAS in the supply chain and research alternatives.

Yours faithfully

Mr Crispin Dunn-Meynell
Secretary General

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