

Exempted fluoroplastics and fluororubbers for use in fluid power equipment

The European Union proposal to ban around 10,000 PFAS industrial chemicals would have a massively negative effect on the European fluid power industry and its customers if implemented in the form published on 22nd March 2023. The European Fluid Power Market is currently valued in excess of 15 billion Euro and employs 70,000 people.

The proposal to ban all PFAS materials fails to discriminate between substances recognised as being damaging to human health and the environment and those, such as PTFE fluoroplastics and FKM fluoroelastomers, that are not considered hazardous to health and spend their operational life protecting mankind from the dangers of fluid leakages and emissions without direct contact with the external environment. It also fails to differentiate between business to business applications and those of business to consumer. Our concerns lie solely with the former applications.

We are calling for exemptions for fluoroplastics and fluoroelastomers used in fluid power equipment that do not come into contact with the environment and can be safely disposed of at the end of their life by reviewing existing waste management regulations.

The broad group of Per- and PolyFluoroalkyl Substances (PFAS) includes sealing materials such as PTFE and FKM along with other fluoroplastics and fluoroelastomers that are used as versatile barrier and sealing materials in fluid power systems.

These PFAS materials are used because they are not harmful to human health, they are unreactive to most chemicals, have excellent mechanical strength over a wide temperature range combined with, in the case of PTFE and similar materials, a low coefficient of friction. These attributes benefit the industry by preventing the leakage into the environment of a wide range of fluids that would otherwise pollute the environment if allowed to escape into the land/waters. They are extremely stable chemical compounds.

This unique range of properties makes them effective in sealing and barrier applications resulting in low fugitive emissions, low operating energy and safe reliable processes for the end users of fluid power equipment and machinery.

Currently there is no other single group of commercially available materials that can replace fluoroplastics and fluoroelastomers and offer this valuable range of attributes.

A ban of these materials would return the fluid power industry to the technology and pollution levels of the 1950s by having a profoundly negative effect on the performance of fluid power equipment and machinery and add to environmental pollution through external leaks.

The essential use of these materials extends to safety critical applications e.g. aerospace, energy

sector, flood defence and high performance manufacturing industry where their attributes provide extended resistance in extreme applications to high temperatures, dynamic wear and chemical resistance particularly in hazardous areas (ATEX).

We are urging the responsible EU authorities to revise the current approach to PFAS to ensure the following:

- 1) PFAS substances with low hazard potential (polymers of low concern) and their production must be removed from the banned list.
- 2) Control of substances required to manufacture polymers of low concern should be regulated through the development of existing regulations to ensure that occupational health and environmental risks are mitigated effectively.
- 3) Fluoropolymers and substances, such as monomers and processing aids, which are required for fluoropolymer manufacture and production should also be exempted from the banned list, as recommended by the British Health and Safety Executive (HSE) as should low risk groups (e.g. fluoroelastomers, fluoropolymers assessed as 'polymers of low concern'), or uses without relevant risk (eg. contained uses).
- 4) The approach to PFAS must consider the magnitude of the risk of environmental pollution with recognition that components inside an item of any fluid power pressure equipment have no direct contact with the environment.
- 5) For PFAS considered to be of higher hazard potential, the planned default implementation period of 18 months without derogation until the ban takes effect is far too short for industrial applications. Where PFAS materials are currently used in sealing applications, a period of many years will be necessary just to develop alternative materials and repeat the product qualification and approval testing of replacement materials to ensure that they are safe and environmentally effective alternatives.

EU exemptions for active substances in plant protection products and drugs have already been made and create a precedent. We supports the view that non-hazardous fluoroplastics and fluoroelastomers that are indispensable to society when used in fluid barrier, pressure carrying and sealing applications within fluid power equipment should also be exempted from the proposed PFAS ban. These substances should continue to be used but with appropriate measures to control end of life disposal and ensure there are no detrimental effects on the environment.