

ANNEX 3- Answer to question 8 from Europump

8: Other identified uses – Analysis of alternatives and socio-economic analysis:

Table 8 in the Annex XV restriction report provides a summary of the identified sectors and (sub-)uses of PFAS, their alternatives and the costs expected from a ban of PFAS. More details on the available evidence are provided in the respective sections in Annex E.

For many of the (sub-)uses, the information on alternatives and socio-economic impacts was generic and mainly qualitative. In particular, evidence on alternatives was inconclusive for some applications falling under the following (sub-)uses: technical textiles, electronics, the energy sector, PTFE thread sealing tape, non-polymeric PFAS processing aids for production of acrylic foam tape, window film manufacturing, and lubricants not used under harsh conditions.

More information is needed on alternatives and socio-economic impacts to conclude on substitution potential, proportionality, and the need for specific time-limited derogations. Therefore, specific information (if not already included in the Annex XV restriction report or covered in the questions above) is requested on alternatives and socio-economic impacts covering the elements listed in points a) to g) in question 6 above.

Application (no finished list)	Use	Property	PFAS
Pumps in chemical process industry	Gaskets, seals, wear parts, diaphragm, inserts	Resistance against aggressive chemicals Temperature resistance Low coefficient of friction	FKM, FFKM, PTFE, PVDF, PFA
Pumps in energy generation	Gaskets, seals	High temperature resistance even in the presence of air borne oxygen	FKM, FFKM, PTFE, PFA
Pumps in the pharmaceutical and biotechnological industry	Coatings, seals, gaskets, diaphragm	Resistance to high temperatures and aggressive chemicals being used in CIP and SIP	PTFE, PVDF, FKM, FFKM, PFA
Submersible pumps in dewatering	Seal, cable sheath	Low coefficient of friction Weathering resistance and	PTFE, PVDF, FKM, FFKM, PFA

		low water uptake.	
Pump in other industries - Wastewater treatment - Dosing - HVAC - Cryogenic application - H2 production - other	Seals, gaskets, diaphragms, cables, coatings, wear parts, bearings, ...	Resistance against chemicals, temperature, weather, or a combination thereof. → Safety. Use due to tribologic functionality. → energy efficiency, duration, safety Use due to hygienic aspects. → health	PTFE FKM FFKM FPE (PFPE) ETFE ECTFE PVDF PFA PCTFE
Spare parts for pumps	Seals, gaskets, diaphragms, cables, coatings, wear parts, bearings, ...	Resistance against chemicals, temperature, weather, or a combination thereof. → Safety. Use due to tribologic functionality. → energy efficiency, duration, safety Use due to hygienic aspects. → health	PTFE FKM FFKM FPE (PFPE) ETFE ECTFE PVDF PFA PCTFE
Machining industry - production of (PFAS AND NON-PFAS containing) materials - production of (assembled) products - spare parts	Seals, gaskets, coatings, production aids, sliding parts, To be specified by machine manufacturers	Temperature (changes), chemicals, steam, anti-stick properties, hygiene,...	PTFE FKM FFKM FPE (PFPE) ETFE ECTFE PVDF PFA PCTFE
Electronic industry - production of other electronics	To be specified by electronics manufacturers.		