

PERFLUOROOCTANOIC ACID (PFOA) AND PERFLUOROOCTANESULFONIC ACID (PFOS)

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ANNEX 2. ACTIONS AND REGULATIONS FOR THE ELIMINATION OF PFAS WORLDWIDE

In the European Union (EU), the Stockholm Convention on Persistent Organic Pollutants (POPs) places restrictions on perfluorooctanesulfonic acid (PFOS) and has targeted global elimination of perfluorooctanoic acid (PFOA); these mandates are implemented through the Persistent Organic Pollutants (POPs) Regulation (ECHA, 2023c). The first POP regulation (European Commission, EC) 850/2004 was published in 2004, but only in the 2019 recast (POP Regulation (EU) 2019/1021) was PFOS included in Annex 1 of the regulation. Annex 1 is dedicated to substances that should be allowed to be manufactured and used only as closed-system site-limited intermediates if an annotation to that effect is expressly entered in the relevant Annex and if the manufacturer demonstrates to the Member State concerned that the substance is manufactured and used only under strictly controlled conditions (\underline{EU} , $\underline{2019}$). In the scope of the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) regulation, PFOA and ammonium perfluorooctanoate (APFO) are identified as Substances of Very High Concern under Article 57 I and (d) (ECHA, 2023a). These two per- and polyfluoroalkyl substances (PFAS) already have a harmonized classification and labelling under the Classification, Labelling and Packaging (CLP) Regulation (ECHA, 2023c). In 2020, the European Commission published its Chemicals Strategy for Sustainability, which

states that the use of PFAS is to be phased out in the EU, unless the use is proven to be essential for society (European Commission, 2023; OECD, 2023). A proposal submitted in January 2023, by Germany, Denmark, the Netherlands, Norway, and Sweden that would further restrict the manufacture, placing on the market, and use of a broader group of more than 10 000 PFAS is under consideration by the scientific Committee for Risk Assessment (RAC) and the Committee for Socio-Economic Analysis (SEAC) of the European Chemicals Agency (ECHA) (ECHA, 2023c).

In Canada, both PFOS and its salts and PFOA and its precursors are listed on the Canadian Environmental Protection Act (CEPA) Schedule 1 – List of Toxic Substances. The 2012 Prohibition of Certain Toxic Substances Regulation from Environment and Climate Change Canada (ECCC) restricts the manufacture, use, sale, or import of products containing PFAS (including PFOA and PFOS), such as aqueous film-forming foam (AFFF) and personal care products. In 2022, changes were proposed to this regulation that would remove some exemptions and accommodations (ECCC, 2023).

Under the Emergency Planning and Community Right-to-Know Act (EPCRA) in the United States of America (USA), the Toxics Release Inventory (TRI) collects information reported by companies manufacturing, processing, or

otherwise using 100 lbs or more of PFOA or PFOS or other listed PFAS. Additional reporting is required under the Toxic Substances Control Act (TSCA), and there are multiple recent Significant New Use Rules (SNURs) restrictions. Discharge of PFOA and PFOS is controlled under the Clean Water Act National Pollutant Discharge Elimination System (NPDES) permitting system of the United States Environmental Protection Agency (US EPA). In 2022, the US EPA proposed that PFOA and PFOS be designated as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Office of the Federal Register, 2022). Several states in the USA have also designated PFAS as a hazardous substance and proposed or enacted restrictions on use or limits in products and in the environment (ITRC, 2023a).

In 2020, Australia issued a National PFAS Position Statement that was added to the 2018 Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination. This Position Statement describes a national stance on an intentional phase-out of PFAS from use (Australian Government, 2020).

In 2016, the United States Food and Drug Administration (US FDA) revoked regulations authorizing the remaining uses of PFOA and PFOS in food packaging (81 FR 5, 4 January 2016 and 81 FR 83672, 22 November 2016; US FDA, 2022). Since then, multiple states in the USA have enacted bans on PFAS in food packaging materials (ITRC, 2023b). There are also state reporting requirements for PFOS and PFOA in children's products, regulations on PFAS in carpets, and regulations broadly governing the sale of products containing PFAS (ITRC 2023a, b). At present, the most comprehensive law regulating PFAS in consumer products in the USA has been established in Maine. This law includes reporting requirements for manufacturers of products to which certain PFAS (including PFOS and PFOA) are intentionally added, as well as bans

on the sale of carpets, rugs, and fabric treatments containing PFAS (Maine DEP, 2023). However, other states, such as Minnesota, have proposed banning all "nonessential use" of PFAS in products. If enacted, this would prohibit the sale of certain consumer products containing PFAS, including carpets, cleaning products, cookware, cosmetics, dental floss, fabric treatments, juvenile products, menstruation products, textile furnishings, ski wax, and upholstered furniture (MNPCA, 2023).

The class B firefighting foam known as AFFF is the subject of numerous legislative efforts. In the EU, a 2022 proposal to the ECHA to restrict the use of PFAS in firefighting foams is moving forward, with combined opinions from the RAC and SEAC committees to review by the European Commission. This proposal would implement a gradual ban on PFAS in foams in the EU, if adopted, and could reduce PFAS emissions into the environment by around 13 200 tonnes over 30 years (ECHA, 2023b). In Canada, the Prohibition of Certain Toxic Substances Regulations currently allow for certain uses of AFFF, including AFFF that contains PFOA, AFFF contaminated with PFOS in military vessels or firefighting vehicles returning from foreign operations, and AFFF containing residual levels of PFOS (\leq 10 ppm) (<u>ECCC</u>, <u>2017</u>). Legislation enacted under the 2019-2022 National Defense Authorization Act (NDAA) requires the United States Department of Defense to take certain actions, including surveying technology for AFFF replacement to be included on the approved list for military use (ITRC, 2023b); this list is also used by commercial airports in the USA. Numerous states in the USA have also enacted partial bans on the sale and distribution of AFFF, as well as AFFF collection or buy-back programmes and restrictions on firefighting training with AFFF (ITRC, 2023b). In Australia, some states, including Queensland, South Australia, and New South Wales, have implemented phased restrictions on AFFF, including banning the use of AFFF during training or demonstration and restrictions on the use or sale of AFFF products (NSW EPA, 2023).

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