

PFAS ‘forever’ chemicals – joint statement from the North Sea Commission and KIMO International

Per- and polyfluoroalkyl substances (PFAS) are synthetic chemical compounds which, because of their ability to repel both fats and water, have been widely used in the manufacture of industrial and consumer products. Also known as ‘forever chemicals’ because they do not break down in the environment, there are almost 5000 highly persistent chemicals in this group. PFAS compounds have been used as a coating on a diverse range of items including paper and cardboard food packaging, textiles, non-stick cookware, carpets, cosmetics and electronics. PFAS can be released into the environment through both the manufacture and use of these products.

PFAS are classed as persistent organic pollutants (POPs) – organic substances that persist and accumulate in the environment and degrade extremely slowly. They can be transported over long distances by air or water. They are prevalent in the marine environment and have been identified in bathing water and in rainwater. High concentrations have been measured in ocean foam along the shoreline. The substances accumulate in the food chain and are toxic to humans and animals. The substances have also been a cause of contamination of sources of drinking water and of soil.

The European Persistent Organic Pollution Regulation 2019/1021 bans or restricts the use of PFAS. The EU has also decided to ban 200 PFAS substances in phases starting in February 2023. This is the EU’s largest ban on a group of similar chemical compounds. However, this ban does not include all forms of PFAS, some of which are also of concern, as water contaminated with these types cannot easily be purified.

There is still a considerable lack of knowledge about the extent of the PFAS problem globally, but it is clear that where there is a possibility of harm, action is needed urgently (the precautionary principle). Tighter restrictions and monitoring must be imposed to ensure that inputs to the aquatic environment are slowed down via cleaning and phasing out.

The knowledge base must be significantly increased and sources of PFAS better identified. It is not known how many PFAS originate from rivers and streams flowing into the North Sea. There is insufficient data on the amounts and type of PFAS in the discharge of general wastewater effluent or from diffuse emission from the exhaust of incineration plants. Most concerning of all, it is not known how toxic and harmful each of these PFAS is. In Denmark, recreational users of the seas and beaches are worried about PFAS on the shoreline and some studies are underway to test how surfers in the west of Denmark may have been affected.

There needs to be a plan for phasing out and banning of harmful PFAS. Efforts must be made to prevent PFAS entering the environment. The European ban needs to be expanded to cover all PFAS.

PFAS substances in wastewater from sewage treatment and from flue gas from incineration plants need to be better regulated. Municipalities also need guidelines for addressing PFAS in wastewater and sludge from sewage treatment plants. Cleaning must be optimized, primarily at the source and secondarily at treatment plants. Financial aid for modern cleaning technology must be made available. Tests with modern cleaning methods show that some PFAS compounds can be cleaned out of water.

Finally, a robust monitoring strategy and stricter limit values and guidelines are needed. A monitoring program should be initiated that exposes the concentration and quantities of PFAS in the marine environment, streams, lakes, groundwater, and also in fish, shellfish, mussels, meat, milk and eggs. Development of standardized methods for sampling must therefore also be in place.

Recognising:

- **the need for a clean environment in and around the North Sea and**
- **the threat of harm to marine ecosystems and coastal communities' economies by release of PFAS into the marine environment.**

KIMO and the North Sea Commission urge National Governments of all North Sea countries to act in unison to:

- **Impose a Europe-wide ban on the entire group of PFAS compounds;**
- **Conduct research into the wider impacts and behaviour of PFAS in the marine environment and encourage systematic monitoring and sampling programmes to measure the effects of these compounds in the environment, including in marine wildlife;**
- **Strictly regulate discharge limits of PFAS from industrial effluent, sewage treatment and waste management sites including flue gas from incinerators, with effective programs for monitoring and assessment;**
- **Support the development of effective cleaning technologies to remove PFAS and other hazardous chemicals from the treatment of wastewater before it enters the marine environment;**
- **Support initiatives to investigate the spread of PFAS in the ocean, including spread to the Arctic and other uninhabited regions;**
- **Support initiatives that investigate the risk of pollution from PFAS spreading from the marine environment to land, for example by sea foam, and the impacts on food resources in coastal zones.**