PFAS in our Environment – Should We Be Concerned for The Health of the UAE?

The growing worldwide awareness of PFAS and other ‘forever chemicals’ that are increasingly present in our environment is a cause for concern, for our environment and for our health.

PFAS persist and accumulate in soil, water, air, wildlife and ultimately in our bodies. PFAS has been detected in blood and in breast milk, reports show that PFAS has been found in 97% of the American population. The United States have in recent years paid close attention to PFAS and the harm it is doing because of high levels of PFAS that have been detected in the water table across the United States. Legal battles have highlighted the prevalence of PFAS in rivers, natural springs and wells. There are numerous examples in the United States of water contaminated by PFAS finding its way into drinking water. Without stringent testing and treatment regimens PFAS remains in the water and poses a threat to health.

Detection and treatment of PFAS is considered to be in the very early stages, with many countries now introducing legislation to control the acceptable levels of PFAS. It is thought that there is nowhere on earth that PFAS isn’t present, it has been detected in many places including Mount Everest and the Arctic Circle.

PFAS has been linked to fertility problems, obesity, changes in metabolism and cancer. PFAS is commonly found in food packaging, water resistant clothing, drinking water (bottled and fresh), greaseproof paper, river sediment, plastic water bottles, microwave bags, non-stick Cookware, Cleaning Products, Cosmetics, Oceans, Fish, Wildlife, Rivers, Wells, Paint, Stain resistant coatings, sweet wrappers, fire-fighting foam, pesticides, personal care products, stain resistant products, in fact it is being detected in everything we touch.

The question that remains to be answered is ‘are all PFAS toxic to humans’, or can our bodies tolerate low levels of contamination? Research over coming years will provide the answers as scientists analyze data that will inform the impact PFAS is having on the environment and the human body.

Some PFAS is not an immediate danger as it is not released into the air, water table or soil until buildings containing PFAS are demolished. Careful consideration must be given to all items when they reach their end of useful life.

Small residual particles of PFAS wash off easily and are quickly absorbed into water, soil and air, many short-chain PFAS dissolve in water. Over time PFAS sinks into the depths are rivers and oceans, eventually finding their way into drinking water. Thesettled sediment becomes a concern for plants, marine life and other animals that live in and feed from the sediment. Some scientists believe that ocean spray is the biggest source of atmospheric PFAS.
For over 30 years the European Union have worked tirelessly to protect the integrity of our drinking water. EU officials have recently reached a provisional agreement to update the Union's 1998 Drinking Water Directive to tighten up the permissible limits allowed for both PFAS and several other drinking water contaminants, including bisphenol-A, microplastics, lead and chromium. At the time of writing the European Parliament and Council are still to formally approve the proposal.

European drinking water standards currently far exceed the standards set in the United States but this is a changing picture as state-by-state new instances of contaminants are emerging. Currently, the U.S. Environmental Protection Agency has only issued a non-enforceable health advisory of 70 ppt for PFOA, formerly used by DuPont to make Teflon, and PFOS, formerly an ingredient in 3M's Scotchgard. Those compounds are no longer manufactured in the U.S., but they and other PFAS contaminate the drinking water for an estimated 110 million Americans.

Greyhound Chromatography supplies a comprehensive range of Reference Standards for environmental testing from their website https://www.greyhoundchrom.com

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Author: Susan Massie, Sales & Marketing Director, Greyhound Chromatography and Allied Chemicals, 6, Kelvin Park, Birkenhead, Merseyside, CH41 1LT, United Kingdom.

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