Michael Scanlon, Jeff Civins, Nicolette Nunez and Ann Al-Bahish in Chemical Watch: Actions to Regulate PFASs

March 7, 2022 Jeff Civins, Michael Scanlon

PRACTICES Environmental, Energy, Power and Natural Resources, Chemical, Environmental Litigation, PFAS and Emerging Contaminants

Per- and polyfluoroalkyl substances (PFASs) are a group of several thousand manmade chemicals – perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are the best known – that began to be widely manufactured and used in the 1940s.

PFASs are fluorinated alkyl molecules with different functional groups, in which the hydrogen atoms have been replaced with fluorine atoms. They are known as perfluorinated, where all of the hydrogen atoms have been replaced, and polyfluorinated when just a number of them have.

Although as a family PFASs have certain defining characteristics, chemicals within it also have different chemical and physiological properties. Generally speaking, however, PFAS molecules have a hydrophobic 'tail' that contains the carbon-fluorine bonds and a hydrophilic 'head' that includes the functional group. As such they are able to dissolve in both oil and water, and also form a coating that is resistant to oil and water. And, as California's State Water Resources Control Board points out, PFAS molecules with longer fluorinated carbon chains also have a "unique ability to reduce the surface tension of liquids." These chemical properties mean that PFASs are used in many industrial applications and consumer goods, including:

- firefighting foam;
- stain-resistant carpeting and upholstery;
- food wrappers; and
- ·non-stick coatings for cookware.

Excerpted from *Chemical Watch*. To read more, click on this PDF.