

Perfluorooctane Sulfonate

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Overview

CAS Number: [1763-23-1](#)

DTXSID: [DTXSID3031864](#)

Synonyms:

[PFOS](#), [1-Octanesulfonic acid](#), [1-Perfluorooctanesulfonic acid](#), [Perfluorooctane Sulfonate](#), [Perfluorooctyl Sulfonate](#), [Perfluorooctylsulfonic acid](#) [Click here for more synonyms](#)

Contaminant Type: [Chemical](#)

Description:

The perfluorooctane sulfonate anion (PFOS) is not a discrete substance and does not have a CAS number [2167] PFOS is a synthetic perfluorinated compound (PFC), fully fluorinated, with a reactive terminal sulfonyl group [2166]. PFOS has a number of industrial and commercial uses, including as a surfactant for fire-fighting foam, a mist suppressant for metal-plating baths, and providing grease and water resistance to materials such as textiles, carpets, and paper [2166, 2167]. In 2000, the US manufacturer 3M agreed to cease production of PFOS [2166].

PFOS is not regulated by the USEPA in drinking water. However, in 2016, the USEPA established health advisories levels of 70 parts per trillion to provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. In the 1990s, PFOS was known to be widespread in the blood of the general population [2171]. Animal studies show that PFOS is well absorbed orally and distributed mainly in the serum and the liver [2170].

PFOS has been shown to be toxic, persistent, and bioaccumulative in the environment. The fluorine-carbon bond is one of the strongest known in nature. As a result, PFOS is very much resistant to hydrolysis, photolysis, biodegradation [2166], and metabolism by vertebrates [1756]. Because of its polarity, PFOS is also readily soluble in water [1705]. PFOS has been detected in both surface and ground drinking water sources in many parts of the world such as Japan [1756], the United Kingdom [2166], Italy [1705], and the US [2164].

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