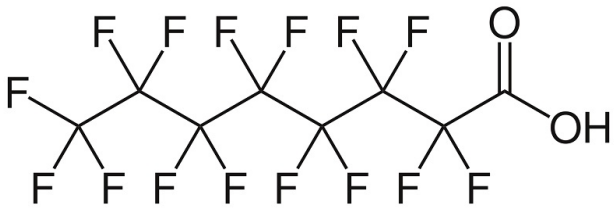
CAS 335-67-1

Perfluorooctanoic acid (PFOA)

$C_8HF_{15}O_2$

VERMONT DEPARTMENT OF HEALTH



Summary of Health Effects

PFOA may cause cancer or harm development or neurological, immune and reproductive systems, based on animal studies. Some studies in people show that certain perfluoroalkyl chemicals may affect child development, metabolism, the immune and reproductive systems, and increase the risk of cancer.

How is PFOA used?

PFOA has been used primarily for fluoropolymer manufacturing. It has been used in surfactants, adhesives, polishes, paints, greases, lubricants, food packaging, cosmetics and firefighting foam.[1] PFOA has been detected in food, food-contact products and packaging, and non-stick cookware.[1,2]

Toxicity: What are its health effects?

The International Agency for Research on Cancer classified PFOA as a group 2B possible carcinogen.[2] The European Union has listed PFOA as a Substance of Very High Concern (SVHC) for reproductive toxicity and as a persistent, bioaccumulative toxic (PBT).[3] PFOA is listed as a carcinogen and developmental toxicant under California's Proposition 65.[4] The offspring of mice fed PFOA showed neurodevelopmental effects[5], skeletal alterations,[6,7] and reduced ossification and accelerated puberty in males.[7]

PFOA belongs to a class of chemicals called perfluoroalkyls. Some studies in people show that certain perfluoroalkyl chemicals may affect growth, learning and behavior of infants and older children, lower a woman's chance of getting pregnant, interfere with the body's natural hormones, increase cholesterol levels, affect the immune system, and increase the risk of cancer.[8]

Exposure: How can a person come in contact with it?

A person may come in contact with PFOA by breathing in contaminated air, eating or drinking contaminated food or drink, or from skin contact with consumer products containing PFOA.

Biomonitoring studies detected PFOA in blood, urine, breast milk, and umbilical cord blood.[9-11] Analyses of National Health and Nutrition Examination Survey 2003-2004 biomonitoring data demonstrated PFOA was detected in 99.7% of the samples and that males had greater blood serum levels of PFOA.[12,13]

PFOA has been detected in indoor air, household dust, drinking water, fish, wildlife, and the natural environment.[1,2] A 2008 study concluded that most PFOA exposure is through contaminated drinking water or food as it has been detected in cereal products, fish, shellfish, fruits, human milk, meat, snacks, vegetables and tap water.[12]

A median half-life of 2.3 years was determined in a study of 200 people exposed to PFOA in

public water supplies.[14] A median half-life of 3.4 years was determined in an occupational study of 26 retired workers.[15] PFOA is persistent and cannot be broken down in the environment.[2]

References

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