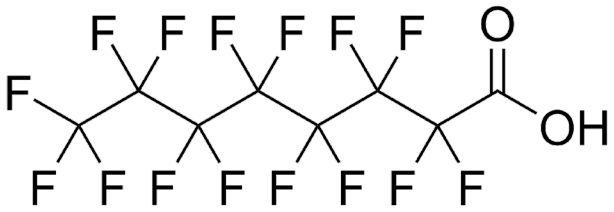
CAS 375-95-1

Perfluorononanoic acid (PFNA)

$C_9HF_{17}O_2$

VERMONT
DEPARTMENT OF HEALTH



Summary of Health Effects

PFNA may harm the liver, development, and reproductive and immune systems based on animal studies.

How is PFNA used?

PFNA belongs to a class of chemicals called perfluoroalkyls which are often applied to consumer products as a water or stain protectant or surface coating.[1] PFNA was found in children's consumer products including infant sleeping bags, and sports and outdoor clothing.[2]

Toxicity: What are its health effects?

After listing PFNA as a Substance of Very High Concern due to reproductive toxicity and its persistent, bioaccumulative and toxic properties, the European Union restricted the manufacturing of PFNA and limited its use in consumer products.[3] PFNA is listed by the State of California under Proposition 65 due to reproductive toxicity.[4]

The Agency for Toxic Substances and Disease Registry Toxicological Profile for Perfluoroalkyls notes that animal studies showed immune, endocrine, reproductive, and developmental toxicity, and consistently report reduced body weight or weight gain, which provides strong evidence that the liver is a sensitive target of PFNA consistent with effects of other perfluoroalkyl chemicals.[1]

After intraperitoneal (abdominal) injection, PFNA was found to accumulate in the livers of mice and mice developed enlarged livers.[5] Human and mouse cells treated with PFNA had changes in peroxisome proliferator-activated receptor alpha (PPARa) activity.[6]

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.[7]

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

A person may come into contact with PFNA, from skin contact with consumer products that contain PFNA, by eating or drinking contaminated food or drinking water, or by breathing in contaminated air or dust.

Biomonitoring studies have detected PFNA in human blood[1,8-11], breast milk[1,11] and urine.[8] PFNA has also been found in indoor and outdoor air, dust, water, soil, and food and fish and wildlife.[1,11]

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References

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