



### CAS 335-67-1 Perfluorooctanoic acid (PFOA)

#### **Toxicity**

The International Agency for Research on Cancer (IARC) classified PFOA as a Group 2B possible carcinogen.<sup>1</sup> The European Union (EU) has listed PFOA as a Substance of Very High Concern (SVHC) for reproductive toxicity and as a persistent, bioaccumulative toxic (PBT).<sup>2</sup> PFOA is under consideration for listing under Proposition 65.<sup>3</sup> Exposure to PFOA is also associated with developmental toxicity. The offspring of mice exposed to PFOA showed neurodevelopmental effects<sup>4</sup>, skeletal alterations<sup>5</sup>, and reduced ossification and accelerated puberty in males<sup>6</sup>.

#### **Exposure**

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.<sup>7</sup>

Biomonitoring studies detected PFOA in blood, urine, breast milk, and umbilical cord blood.<sup>8-10</sup> Analyses of National Health and Nutrition Examination Survey (NHANES) 2003-2004 biomonitoring data demonstrated PFOA was detected in 99.7 percent of the samples and that males had greater blood serum levels of PFOA.<sup>11,12</sup>

PFOA has been detected in food, food-contact products and packaging, non-stick cookware, indoor air, household dust, drinking water, fish, wildlife, and the natural environment.<sup>1,7</sup> A 2008 study concludes 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, potatoes, snacks, vegetables and tap water.<sup>11</sup>

A median half-life of 2.3 years was determined in a study of 200 people exposed to PFOA in public water supplies.<sup>13</sup> A median half-life of 3.4 years was determined in an occupational study of 26 retired workers.<sup>14</sup> PFOA is persistent and cannot be broken down in the environment.<sup>7</sup>

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.<sup>15</sup>

## References

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