Manufacturers are making claims about the low toxicity of new generation PFAS. But studies on these chemicals have found health effects similar to those caused by the older, partially phased-out compounds.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY

- PFBS showed reproductive and developmental effects in a laboratory study. Offspring of mice exposed prenatally to PFBS had delayed development and reproductive effects including disrupted reproductive cycles and impaired growth of the uterus and ovaries.¹
- Prenatal exposure to PFBA in mice caused developmental delays and delayed onset of puberty, and more incidences of litter resorption (full litter loss).²
- Mice exposed to PFHxA suffered toxicity resulting in larger numbers of stillborn offspring and more dying shortly after birth.³

LIVER AND KIDNEY EFFECTS

The liver and kidney are known target organs for PFASs, and laboratory studies are finding new generation PFASs impact these organs as well.

- A 90-day study performed by Dupont scientists found increases in liver and kidney weights after exposure to PFHxA.⁴
- The same study found PFAS exposure resulted in lesions in the liver.⁴
- Mice exposed to 6:2 FTOH had increased kidney and liver weights as well as liver lesions.⁵
- A two-year industry-sponsored study of PFHxA-exposed rats found kidney degeneration was one of the most sensitive effects.⁶
- Laboratory animals exposed to PFHxA had significant changes in liver parameters, indicating damage to liver function.⁷

SYSTEMIC TOXICITY

- Laboratory animals exposed to 6:2 FTOH suffered convulsions, tremors, labored breathing, and death.⁵
- In a certified GreenScreen assessment, PFHxA was given a score of High for systemic toxicity based on reduced body weight at a single oral dose.⁸

ENDOCRINE DISRUPTION

- There is epidemiological and experimental evidence indicating several of the PFASs are associated with disrupted thyroid hormone signaling which is important for proper neurodevelopment.⁹-¹²
- Like PFOA, multiple new-generation PFASs activate a key nuclear receptor involved in lipid metabolism. They include PFBA, PFPeA, PFHxA, PFHpA, and PFBS.¹³-¹⁵
- Two precursor compounds, 4:2 FTOH and 6:2 FTOH, are estrogenic in laboratory tests.¹³,¹⁶,¹⁷

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REFERENCES


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