

Relevant studies include mammals that have undergone non-acute exposure to Cape Fear PFCs and biomonitoring of workers who and their children. PFOA and PFOS are excluded from this list. Please note there are duplicate reports for certain PFCs.

GenX Salt – CAS 62037-80-3

February 8, 2008 “Company Sanitized”

- Mice, male – repeat dose, 7 day – oral gavage
- Two-fold elevations in all liver weight parameters
- Changes in liver for mice given 30kg/mg: minimal single cell necrosis of hepatocytes, moderate hepatocellular hypertrophy, moderate increases in mitotic figures

May 23, 2008 “Company Sanitized”

- Mice and Rats, male & female – repeat dose, 28 day – oral gavage, 28 day recovery
- Doses were 0, 0.3, 3, 30 mg/kg for males and 0, 3, 30, 300 mg/kg for females
- Statistically significant increases in kidney and liver weights for male rats in 3 and 30 mg/kg/d groups. All organ weight changes were reversible (in recovery period)
- Statistically significant increases in kidney and liver weights for male & female mice in 3 and 30 mg/kg/d groups. All organ weight changes were not completely reversible (in recovery period)

September 16, 2009 (DuPont)

- Rats, male & female – 90 day oral toxicity – 30d recovery period
- Male doses: 0.1, 10, 100 mg/kg/day; Female doses: 10, 100, 1000 mg/kg/day
- Most of the 1000 mg/kg/day females exhibited intermittent wet clear material around the mouth at the time of dosing and approximately 1-2 hours post-dosing. Two 100 mg/kg/day males exhibited wet clear material around the mouth on 2 days at the time of dosing. One 100 mg/kg/day male vocalized during handling on one occasion
- Kidney and liver weights increased for high dose male/females
- Microscopic findings in two of the 1000 mg/kg/day females that died (nos. 73 15 and 73 18) were similar, suggesting that these deaths were test substance related. Female no. 7315 (found dead on study day 21) had microscopic lesions of renal tubular necrosis, renal papillary necrosis, hepatocellular hypertrophy, and lymphoid depletion in multiple tissues. Female no. 73 18 (found dead on study day 37) had microscopic lesions of renal papillary necrosis, hyperplasia of the transitional epithelium of the urinary bladder, coagulation necrosis of portions of an adrenal gland, hepatocellular hypertrophy, and lymphoid depletion in multiple tissues
- PMN: P-08-0508 (for CAS 13252-13-6)

December 29, 2009 (DuPont)

- Mice, young male & female – 90 day oral toxicity
- Dose: 0, 0.1, 0.5, or 5 mg/kg/day
- Increased liver weight, reduced cholesterol in males. No substance-related deaths, neurobehavioral, clinical or ophthalmological observations
- PMN: P-08-0509 (for CAS 62037-80-3)

February 5, 2010 (DuPont)

- Rats - Developmental toxicity – Dosing from gestation day 6 to 20
- Dose: 0, 10, 100, or 1000 mg/kg/day
- Dose related increase to the number of dams found with early deliveries on gestation day 21
- There were 0, 0, 4, and 9 dams found delivered at 0, 10, 100, and 1000 mg/kg/day, respectively. In addition, mean fetal weight was 8 and 28% lower than controls at 100 and 1000 mg/kg/day, respectively; these reductions were statistically significant. Slight reductions in maternal body weight and food consumption occurred at 1000 mg/kg/day. Maternal kidney weights were

significantly higher at 1000 mg/kg/day and maternal liver weights were significantly higher at 100 and 1000 mg/kg/day

- PMN: P-08-0509 (for CAS 62037-80-3)

July 15, 2010 (DuPont)

- Mice, male & female – Reproductive and developmental toxicity – preliminary (See next)
- At 5 mg/kg/day, a statistically significant increase in body weights/gains, food consumption, liver weights (42% in males and 102% in females) and kidney weights (8% in males, which is not statistically significant and 21% in females) compared to controls
- Lower body weights of offspring
- PMN: P-08-0509 (for CAS 62037-80-3)

July 20, 2010 (DuPont)

- Final results for previous study (July 15, 2010)

January 8, 2013 (DuPont)

- Rats, male & female – 2 year oral toxicity study
- Lengthy list of significant changes are in the document

PFBA – CAS 375-22-4

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals

December 2008 (3M)

- Analysis of the Homologous Series of Perfluorocarboxylates – Perfluorobutanoate (C4) through Perfluorododecanoate (C12) from American Red Cross Adult Blood Donors, 2006
- 600 plasma samples collected May/June 2006

PFPeA – CAS 2706-90-3

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals
- Follow-up study is next

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

January 9, 2013 (Taft)

- Submitted the following paper relating human health effects to PFOA and PFCs:
 - Javins, B., et al., "Circulating Maternal Perfluoroalkyl Substances during Pregnancy in the C8 Health Study," Environ. Sci. & Tech. (doi:- 10.1021/es3028082) (on-line Jan. 7, 2013);
 - Dong, G-H., et al, "Serum Polyfluoroalkyl Concentrations, Asthma Outcomes, and Immunological Markers in a Case-Control Study of Taiwanese Children," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205351) (on-line Jan. 8, 2013);
 - 3. Vieira, V.M., et al., "Perfluorooctanoic Acid Exposure and Cancer Outcomes in a Contaminated Community: A Geographic Analysis," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205829) (on-line Jan. 8, 2013).

PFHxA – CAS 307-24-4

September 2003 (3M)

- Provides a master index of studies submitted under TSCA 8(e) by 3M. CBI is redacted so it is borderline useless

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals
- Follow-up study is next

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

May 27, 2009 (DuPont)

- Occupational serum results for PFHxA at the West VA facility

June 25, 2009 (DuPont)

- Occupational Serum Sample Results for PFHxA

January 9, 2013 (Taft)

- Submitted the following paper relating human health effects to PFOA and PFCs:
 - Javins, B., et al., "Circulating Maternal Perfluoroalkyl Substances during Pregnancy in the C8 Health Study," Environ. Sci. & Tech. (doi:- 10.1021/es3028082) (on-line Jan. 7, 2013);
 - Dong, G-H., et al, "Serum Polyfluoroalkyl Concentrations, Asthma Outcomes, and Immunological Markers in a Case-Control Study of Taiwanese Children," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205351) (on-line Jan. 8, 2013);
 - 3. Vieira, V.M., et al., "Perfluorooctanoic Acid Exposure and Cancer Outcomes in a Contaminated Community: A Geographic Analysis," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205829) (on-line Jan. 8, 2013).

PFHpA – CAS 375-85-9

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals
- Follow-up study is next

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

January 9, 2013 (Taft)

- Submitted the following paper relating human health effects to PFOA and PFCs:
 - Javins, B., et al., "Circulating Maternal Perfluoroalkyl Substances during Pregnancy in the C8 Health Study," Environ. Sci. & Tech. (doi:- 10.1021/es3028082) (on-line Jan. 7, 2013);
 - Dong, G-H., et al, "Serum Polyfluoroalkyl Concentrations, Asthma Outcomes, and Immunological Markers in a Case-Control Study of Taiwanese Children," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205351) (on-line Jan. 8, 2013);
 - 3. Vieira, V.M., et al., "Perfluorooctanoic Acid Exposure and Cancer Outcomes in a Contaminated Community: A Geographic Analysis," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205829) (on-line Jan. 8, 2013).

PFNA – CAS 375-95-1

September 17, 2004 (Company Sanitized)

- Worker monitoring data from blood levels of 281 people at 3 different production lines.

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals
- Follow-up study is next

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

November 12, 2012 (3M)

- PFCs in the Tennessee River Results of Potential PFC Sources

PFDA – CAS 335-76-2

September 17, 2004 (Company Sanitized)

- Worker monitoring data from blood levels of 281 people at 3 different production lines.

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals
- Follow-up study is next

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

PFBS - CAS 375-73-5

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals
- Follow-up study is December 2005

November 25, 2005 (3M)

- Analysis of PFBS, PFHS, PFOS, and PFOA in Water Samples Collected at 3M Guin

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

April 12, 2006 (3M)

May 30, 2006 (3M)

November 15, 2006 (3M)

February 26, 2007 (3M)

March 13, 2008 (3M)

May 28, 2008 (3M)

February 24, 2011 (3M)

October 27, 2011 (3M)

July 5, 2012 (3M)

November 19, 2012 (3M)

- Site related monitoring of groundwater, surface water, wells, soils, fish, etc

February 16, 2010 (3M)

- Submitted paper: Princen and Pieterman. 2009. Mechanism of the effect of different PFAS's (PFBS vs PFHS vs PFOS) on lipid and lipoprotein metabolism in APOE*3-Leiden/huCETP transgenic mice.

PFHxS 355-46-4

May 15, 2001 & June 7 2001 (3M)

- Reported results of PFCs measured in stored human serum

September 5, 2001 (3M)

- Giesy and Kannan. 2002. Accumulation of PFOS and related PFCs in marine mammals.

September 24, 2003 (3M)

- Master list of submitted TSCA documents (much is redacted) from 3M

August 26, 2005 (3M)

- Initial Quantitative Screening of Human Serum (obtained in 2004) for Endogenous Fluorochemicals

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals

November 16, 2005 (3M)

- Serum samples of children of two female fluorochemical plant workers

November 25, 2005 (3M)

- Analysis of PFBS, PFHS, PFOS, and PFOA in Water Samples Collected at 3M Guin

December 19, 2005 (3M)

- Definitive Study: Quantitative Screening of Human Serum for Endogenous Fluorochemicals
- PFPeA was a fluorochemicals that was screened

February 16, 2010 (3M)

- Effect of PFOS and PFHS on body weight, food consumption, and serum cholesterol in mice

January 9, 2013 (Taft)

- Submitted the following paper relating human health effects to PFOA and PFCs:
 - Javins, B., et al', "Circulating Maternal Perfluoroalkyl Substances during Pregnancy in the C8 Health Study," Environ. Sci. & Tech. (doi:- 10.1021/es3028082) (on-line Jan. 7, 2013);
 - Dong, G-H., et al, "Serum Polyfluoroalkyl Concentrations, Asthma Outcomes, and Immunological Markers in a Case-Control Study of Taiwanese Children," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205351) (on-line Jan. 8, 2013);
 - 3. Vieira, V.M., et al., "Perfluorooctanoic Acid Exposure and Cancer Outcomes in a Contaminated Community: A Geographic Analysis," Environ. Health Perspec. (dx.doi.org/10.1289/ehp.1205829) (on-line Jan. 8, 2013).

April 14, 2006 (3M)

May 30, 2006 (3M)

November 15, 2006 (3M)

February 26, 2007 (3M)

November 28, 2007 (3M)

March 13, 2008 (3M)

May 28, 2008 (3M)

August 6, 2008 (3M)

- Site related monitoring of groundwater, surface water, wells, soils, fish, etc

PFM0AA 674-13-5

- No Files

PFMOPrA 377-73-1

- No Files

PFM0BA 863090-89-5

- No Files

PFPrOPrA – GenX* 13252-13-6

- Consent Order Available, No Section 8(e) Filings available

PFO2HxA 39492-88-1

- No Files

PFO30A 39492-89-2

- No Files

PFO4DA 39492-90-5

- No Files