Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Custom Rpt (Litter-Based) -- 0-300, 150-300

NTP Study Number: C20614

Lock Date: 01/10/2012

Cage Range: ALL

Date Range: ALL

Reasons For Removal: 25021 TSAC 25020 NATD 25019 MSAC

25016 Aborted

Removal Date Range: ALL

Treatment Groups: Include 004 0/300 ppm Include 006 150/300 ppm

Study Gender: Both

TDMSE Version: 2.5.0.0_SFH

PWG Approval Date: 07/25/2018

Test Type: CHRONIC Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

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Lab: BAT

FOR ALL DOSES THE TUMOR RATES IN THE FOLLOWING TISSUES/ORGANS ARE BASED ON NUMBER OF TISSUES EXAMINED. IN OTHER TISSUES/ORGANS RATES ARE BASED ON THE NUMBER OF ANIMALS NECROPSIED.

Adrenal Cortex Adrenal Medulla Pituitary Gland Thyroid Gland Uterus

Test Type: CHRONIC **Route:** DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

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Lab: BAT

SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS IN THE ANALYSIS OF PERFLUOROOCTANOIC ACID

FEMALE RATS

Organ Morphology

Mammary Gland All Organs Fibroadenoma Malignant and Benign Tumors

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Adrenal Cortex			
Adenoma			
TUMOR RATES			
OVERALL (a)	2/50 (4%)	1/50 (2%)	
LITTERS (b)	2/29 (7%)	1/29 (3%)	
POLY-3 RATE (c)	2/41.88	1/41.44	
POLY-3 PERCENT (g)	4.8%	2.4%	
TERMINAL (d)	2/28 (7%)	1/32 (3%)	
FIRST INCIDENCE	744 (T)	744 (T)	
STATISTICAL TESTS			
POLY 3		P=0.504N	
POLY 1.5		P=0.506N	
POLY 6		P=0.494N	
RAO-SCOTT		P=0.491N	
LITTER C-A/FISHERS		P=0.500N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Adrenal Medulla			
Pheochromocytoma Benign	1		
TUMOR RATES			
OVERALL (a)	3/50 (6%)	4/50 (8%)	
LITTERS (b)	3/29 (10%)	4/29 (14%)	
POLY-3 RATE (c)	3/41.90	4/41.44	
POLY-3 PERCENT (g)	7.2%	9.7%	
TERMINAL (d)	2/28 (7%)	4/32 (13%)	
FIRST INCIDENCE	737	744 (T)	
STATISTICAL TESTS			
POLY 3		P=0.494	
POLY 1.5		P=0.491	
POLY 6		P=0.508	
RAO-SCOTT		P=0.472	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Mammary Gland			
Carcinoma			
TUMOR RATES	#	#	
OVERALL (a)	4/50 (8%)	5/50 (10%)	
LITTERS (b)	4/29 (14%)	4/29 (14%)	
POLY-3 RATE (c)	4/42.27	5/43.37	
POLY-3 PERCENT (g)	9.5%	11.5%	
TERMINAL (d)	1/28 (4%)	1/32 (3%)	
FIRST INCIDENCE	695	351	
STATISTICAL TESTS			
POLY 3		P=0.516	
POLY 1.5		P=0.505	
POLY 6		P=0.538	
RAO-SCOTT		P=0.523	
LITTER C-A/FISHERS		P=0.647	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Mammary Gland Carcinoma or Adenoma			
TUMOR RATES	#	#	
OVERALL (a)	5/50 (10%)	6/50 (12%)	
LITTERS (b)	5/29 (17%)	5/29 (17%)	
POLY-3 RATE (c)	5/42.27	6/43.37	
POLY-3 PERCENT (g)	11.8%	13.8%	
TERMINAL (d)	2/28 (7%)	2/32 (6%)	
FIRST INCIDENCE	695	351	
STATISTICAL TESTS			
POLY 3		P=0.518	
POLY 1.5		P=0.505	
POLY 6		P=0.543	
RAO-SCOTT		P=0.518	
LITTER C-A/FISHERS		P=0.635	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Mammary Gland			
Fibroadenoma			
TUMOR RATES	#	#	
OVERALL (a)	19/50 (38%)	27/50 (54%)	
LITTERS (b)	14/29 (48%)	20/29 (69%)	
POLY-3 RATE (c)	19/46.79	27/45.18	
POLY-3 PERCENT (g)	40.6%	59.8%	
TERMINAL (d)	8/28 (29%)	17/32 (53%)	
FIRST INCIDENCE	470	322	
STATISTICAL TESTS			
POLY 3		P=0.048*	
POLY 1.5		P=0.055	
POLY 6		P=0.048*	
RAO-SCOTT		P=0.074	
LITTER C-A/FISHERS		P=0.091	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Mammary Gland Fibroma, Fibroadenoma or	Adenoma		
TUMOR RATES	#	#	
OVERALL (a)	20/50 (40%)	27/50 (54%)	
LITTERS (b)	15/29 (52%)	20/29 (69%)	
POLY-3 RATE (c)	20/46.79	27/45.18	
POLY-3 PERCENT (g)	42.7%	59.8%	
TERMINAL (d)	9/28 (32%)	17/32 (53%)	
FIRST INCIDENCE	470	322	
STATISTICAL TESTS			
POLY 3		P=0.073	
POLY 1.5		P=0.082	
POLY 6		P=0.073	
RAO-SCOTT		P=0.100	
LITTER C-A/FISHERS		P=0.141	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Mammary Gland Fibroma, Fibroadenoma, Ca	arcinoma, or Adenoma		
TUMOR RATES	#	#	
OVERALL (a)	23/50 (46%)	31/50 (62%)	
LITTERS (b)	18/29 (62%)	22/29 (76%)	
POLY-3 RATE (c)	23/47.01	31/47.08	
POLY-3 PERCENT (g)	48.9%	65.8%	
TERMINAL (d)	10/28 (36%)	18/32 (56%)	
FIRST INCIDENCE	470	322	
STATISTICAL TESTS			
POLY 3		P=0.070	
POLY 1.5		P=0.069	
POLY 6		P=0.078	
RAO-SCOTT		P=0.085	
LITTER C-A/FISHERS		P=0.197	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Pituitary Gland: Pars Distal Adenoma	is or Unspecified Site			
TUMOR RATES				
OVERALL (a)	11/50 (22%)	13/50 (26%)		
LITTERS (b)	9/29 (31%)	11/29 (38%)		
POLY-3 RATE (c)	11/42.88	13/42.16		
POLY-3 PERCENT (g)	25.7%	30.8%		
TERMINAL (d)	6/28 (21%)	9/32 (28%)		
FIRST INCIDENCE	676	622		
STATISTICAL TESTS				
POLY 3		P=0.386		
POLY 1.5		P=0.384		
POLY 6		P=0.405		
RAO-SCOTT		P=0.389		
LITTER C-A/FISHERS		P=0.391		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Thyroid Gland: C-Cell			
Adenoma			
TUMOR RATES			
OVERALL (a)	11/50 (22%)	8/50 (16%)	
LITTERS (b)	10/29 (34%)	8/29 (28%)	
POLY-3 RATE (c)	11/42.99	8/41.46	
POLY-3 PERCENT (g)	25.6%	19.3%	
TERMINAL (d)	8/28 (29%)	7/32 (22%)	
FIRST INCIDENCE	470	739	
STATISTICAL TESTS			
POLY 3		P=0.333N	
POLY 1.5		P=0.331N	
POLY 6		P=0.319N	
RAO-SCOTT		P=0.326N	
LITTER C-A/FISHERS		P=0.389N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Thyroid Gland: C-Cell Carcinoma or Adenoma			
TUMOR RATES			
OVERALL (a)	11/50 (22%)	9/50 (18%)	
LITTERS (b)	10/29 (34%)	9/29 (31%)	
POLY-3 RATE (c)	11/42.99	9/41.46	
POLY-3 PERCENT (g)	25.6%	21.7%	
TERMINAL (d)	8/28 (29%)	8/32 (25%)	
FIRST INCIDENCE	470	739	
STATISTICAL TESTS			
POLY 3		P=0.435N	
POLY 1.5		P=0.432N	
POLY 6		P=0.421N	
RAO-SCOTT		P=0.423N	
LITTER C-A/FISHERS		P=0.500N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Uterus Carcinoma			
TUMOR RATES			
OVERALL (a)	1/49 (2%)	2/50 (4%)	
LITTERS (b)	1/29 (3%)	2/29 (7%)	
POLY-3 RATE (c)	1/40.88	2/42.01	
POLY-3 PERCENT (g)	2.5%	4.8%	
TERMINAL (d)	1/27 (4%)	1/32 (3%)	
FIRST INCIDENCE	744 (T)	564	
STATISTICAL TESTS			
POLY 3		P=0.510	
POLY 1.5		P=0.505	
POLY 6		P=0.522	
RAO-SCOTT		P=0.497	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Uterus				
Polyp Stromal				
TUMOR RATES				
OVERALL (a)	4/49 (8%)	4/50 (8%)		
LITTERS (b)	4/29 (14%)	4/29 (14%)		
POLY-3 RATE (c)	4/41.06	4/41.81		
POLY-3 PERCENT (g)	9.7%	9.6%		
TERMINAL (d)	3/27 (11%)	3/32 (9%)		
FIRST INCIDENCE	695	638		
STATISTICAL TESTS				
POLY 3		P=0.634N		
POLY 1.5		P=0.639N		
POLY 6		P=0.617N		
RAO-SCOTT		P=0.612N		
LITTER C-A/FISHERS		P=0.647		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Females				
DOSE	0/300 ppm	150/300 ppm		
All Organs				
Benign Tumors				
TUMOR RATES	#	#		
OVERALL (a)	35/50 (70%)	37/50 (74%)		
LITTERS (b)	24/29 (83%)	26/29 (90%)		
POLY-3 RATE (c)	35/48.42	37/45.69		
POLY-3 PERCENT (g)	72.3%	81%		
TERMINAL (d)	19/28 (68%)	25/32 (78%)		
FIRST INCIDENCE	250	322		
STATISTICAL TESTS				
POLY 3		P=0.220		
POLY 1.5		P=0.263		
POLY 6		P=0.212		
RAO-SCOTT		P=0.227		
LITTER C-A/FISHERS		P=0.353		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Females				
DOSE	0/300 ppm	150/300 ppm		
All Organs Malignant Tumors				
TUMOR RATES	#	#		
OVERALL (a)	10/50 (20%)	9/50 (18%)		
LITTERS (b)	10/29 (34%)	8/29 (28%)		
POLY-3 RATE (c)	10/42.99	9/44.05		
POLY-3 PERCENT (g)	23.3%	20.4%		
TERMINAL (d)	5/28 (18%)	3/32 (9%)		
FIRST INCIDENCE	589	351		
STATISTICAL TESTS				
POLY 3		P=0.476N		
POLY 1.5		P=0.493N		
POLY 6		P=0.444N		
RAO-SCOTT		P=0.466N		
LITTER C-A/FISHERS		P=0.389N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 03/13/2022 Time Report Requested: 11:25:00 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Females				
DOSE	0/300 ppm	150/300 ppm		
All Organs Malignant and Benign Tumo	ors			
TUMOR RATES	#	#		
OVERALL (a)	38/50 (76%)	43/50 (86%)		
LITTERS (b)	24/29 (83%)	29/29 (100%)		
POLY-3 RATE (c)	38/49.14	43/48.17		
POLY-3 PERCENT (g)	77.3%	89.3%		
TERMINAL (d)	20/28 (71%)	27/32 (84%)		
FIRST INCIDENCE	250	322		
STATISTICAL TESTS				
POLY 3		P=0.091		
POLY 1.5		P=0.096		
POLY 6		P=0.105		
RAO-SCOTT		P=0.122		
LITTER C-A/FISHERS		P=0.026*		

Test Type: CHRONIC **Route:** DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid CAS Number: 335-67-1

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Lab: BAT

LEGEND

(a)	Number of tumor-bearing animals/number of animals examined at site.

- (b) Number of litters with tumor-bearing animals/number of litters examined at site
- (c) Number of tumor-bearing animals/Poly-3 number
- (d) Observed incidence at terminal kill.
- (e) Value of statistic cannot be computed.
- (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group.
- (g) Poly-3 adjusted lifetime tumor incidence.
- (I) Interim sacrifice
- (T) Terminal sacrifice
- # Tumor rates based on numbers of animals necropsied.
- * To the right of any statistical result, indicates significance at (P<=0.05).
- ** To the right of any statistical result, indicates significance at (P<=0.01).
- N Indicates a negative trend for all tests
 - The Rao-Scott statistic performs the Poly-3 test with an adjustment for within-litter correlation.
 - The Litter C-A/Fishers statistic compares directly the litter incidence rates.

*** END OF REPORT ***