

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Study Number:

C07040

Study Gender:

Both

PWG Approval Date:

See web page for date of PWG Approval

Version:

v1.3.5

Stat Version:

v2.7.9A

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Male

	Phase Day	Treatment Groups (mg/kg/day)									
		0		62.6		125		250		500	
Urea Nitrogen (mg/dL)	SD 28	18.0 ± 0.6 (9) **	17.8 ± 0.4 (10)	18.6 ± 0.4 (10)	20.0 ± 0.4 (10) **	20.7 ± 1.2 (9) *					
Percent of Control			98.9	103.3	111.1	114.8					
Creatinine (mg/dL)	SD 28	0.74 ± 0.02 (9)	0.75 ± 0.02 (10)	0.74 ± 0.02 (10)	0.74 ± 0.02 (10)	0.71 ± 0.01 (9)					
Percent of Control			100.7	99.4	99.4	95.5					
Glucose (mg/dL)	SD 28	180.6 ± 6.8 (9) *	178.7 ± 10.8 (10)	182.2 ± 10.3 (10)	160.6 ± 7.1 (10)	156.3 ± 4.0 (9)					
Percent of Control			99.0	100.9	88.9	86.6					
Total Protein (g/dL)	SD 28	6.64 ± 0.03 (9) **	6.42 ± 0.07 (10) *	6.40 ± 0.06 (10) **	6.31 ± 0.10 (10) **	5.99 ± 0.06 (9) **					
Percent of Control			96.6	96.3	95.0	90.1					
Globulin (g/dL)	SD 28	2.34 ± 0.02 (9) **	2.25 ± 0.05 (10) *	2.16 ± 0.04 (10) **	2.02 ± 0.08 (10) **	1.67 ± 0.03 (9) **					
Percent of Control			96.0	92.1	86.2	71.1					
A/G Ratio	SD 28	1.84 ± 0.03 (9) **	1.86 ± 0.05 (10)	1.97 ± 0.04 (10) *	2.15 ± 0.08 (10) **	2.60 ± 0.05 (9) **					
Percent of Control			101.4	107.2	117.2	141.7					
Albumin (g/dL)	SD 28	4.30 ± 0.04 (9)	4.17 ± 0.05 (10)	4.24 ± 0.04 (10)	4.29 ± 0.04 (10)	4.32 ± 0.04 (9)					
Percent of Control			97.0	98.6	99.8	100.5					
Total Bilirubin (mg/dL)	SD 28	0.171 ± 0.009 (9)	0.184 ± 0.024 (10)	0.177 ± 0.012 (10)	0.176 ± 0.013 (10)	0.179 ± 0.010 (10)					
Percent of Control			107.4	103.5	102.8	104.4					
Direct Bilirubin (mg/dL)	SD 28	0.022 ± 0.003 (9) **	0.020 ± 0.002 (10)	0.022 ± 0.003 (10)	0.026 ± 0.002 (10)	0.041 ± 0.004 (10) **					
Percent of Control			90.9	100.1	116.5	185.0					
Cholesterol (mg/dL)	SD 28	132.9 ± 6.1 (9) **	109.9 ± 3.8 (10) **	93.0 ± 2.1 (10) **	75.0 ± 4.5 (10) **	33.3 ± 2.1 (9) **					
Percent of Control			82.7	70.0	56.4	25.1					
Triglyceride (mg/dL)	SD 28	110.6 ± 7.6 (9) **	149.0 ± 18.1 (10)	121.0 ± 12.7 (10)	101.2 ± 14.9 (10)	34.3 ± 5.5 (9) **					
Percent of Control			134.8	109.4	91.5	31.1					

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Male

	Phase Day	Treatment Groups (mg/kg/day)														
		0			62.6			125			250			500		
Alanine Aminotransferase (IU/L)	SD 28	59.5	± 1.7	(8) **	59.4	± 2.2	(10)	51.9	± 2.4	(10)	64.8	± 2.2	(10)	90.6	± 7.0	(9) **
Percent of Control					99.8			87.2			108.9			152.2		
Alkaline Phosphatase (IU/L)	SD 28	207.8	± 6.2	(9) **	206.5	± 10.1	(10)	219.8	± 9.0	(10)	239.1	± 9.4	(10) *	297.3	± 14.0	(9) **
Percent of Control					99.4			105.8			115.1			143.1		
Aspartate Aminotransferase (U/L)	SD 28	60.88	± 1.13	(8) **	65.00	± 2.38	(10)	61.50	± 1.75	(10)	65.70	± 1.42	(10)	74.90	± 2.92	(10) **
Percent of Control					106.8			101.0			107.9			123.0		
Creatine Kinase (IU/L)	SD 28	88.2	± 3.3	(9)	94.7	± 9.2	(10)	80.7	± 2.7	(10)	87.3	± 2.9	(10)	91.3	± 2.9	(9)
Percent of Control					107.3			91.5			99.0			103.5		
Sorbitol Dehydrogenase (IU/L)	SD 28	5.1	± 0.6	(8) **	4.9	± 0.9	(10)	5.1	± 0.8	(10)	8.0	± 1.0	(10)	7.9	± 0.7	(9) *
Percent of Control					95.6			99.5			156.1			153.9		
Bile salt/acids (umol/L)	SD 28	16.0	± 3.4	(9) **	14.0	± 2.9	(10)	8.5	± 1.2	(10)	17.5	± 1.4	(10)	30.6	± 4.5	(9) *
Percent of Control					87.5			53.1			109.4			191.0		

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Female

	Phase Day	Treatment Groups (mg/kg/day)																		
		0				62.6				125				250				500		
Urea Nitrogen (mg/dL)	SD 28	17.6	± 0.5	(10)	17.2	± 0.6	(10)	18.4	± 1.1	(10)	17.8	± 0.8	(9)	16.4	± 1.0	(9)				
Percent of Control					97.7			104.5			101.0			93.4						
Creatinine (mg/dL)	SD 28	0.80	± 0.00	(10)	0.79	± 0.02	(10)	0.81	± 0.02	(10)	0.80	± 0.00	(9)	0.80	± 0.02	(9)				
Percent of Control					98.8			101.3			100.0			100.0						
Glucose (mg/dL)	SD 28	233.2	± 12.8	(10)	211.6	± 15.8	(10)	228.9	± 9.9	(10)	207.1	± 10.6	(9)	201.1	± 12.9	(9)				
Percent of Control					90.7			98.2			88.8			86.2						
Total Protein (g/dL)	SD 28	6.49	± 0.09	(10)	6.40	± 0.06	(10)	6.61	± 0.08	(10)	6.67	± 0.08	(9)	6.51	± 0.08	(9)				
Percent of Control					98.6			101.8			102.7			100.3						
Globulin (g/dL)	SD 28	1.98	± 0.07	(10)	1.82	± 0.06	(10)	1.81	± 0.05	(10)	1.91	± 0.06	(9)	1.87	± 0.06	(9)				
Percent of Control					91.9			91.4			96.5			94.3						
A/G Ratio	SD 28	2.30	± 0.08	(10)	2.54	± 0.08	(10)	2.67	± 0.07	(10) *	2.51	± 0.10	(9)	2.51	± 0.09	(9)				
Percent of Control					110.3			115.9			109.1			109.1						
Albumin (g/dL)	SD 28	4.51	± 0.05	(10) *	4.58	± 0.05	(10)	4.80	± 0.06	(10) **	4.76	± 0.05	(9) *	4.64	± 0.06	(9)				
Percent of Control					101.6			106.4			105.4			103.0						
Total Bilirubin (mg/dL)	SD 28	0.147	± 0.008	(10) **	0.144	± 0.006	(10)	0.149	± 0.010	(10)	0.154	± 0.006	(9)	0.189	± 0.008	(9) **				
Percent of Control					97.9			101.3			105.0			128.6						
Direct Bilirubin (mg/dL)	SD 28	0.025	± 0.002	(10) **	0.022	± 0.002	(10)	0.024	± 0.001	(10)	0.027	± 0.001	(9)	0.040	± 0.004	(9) *				
Percent of Control					88.0			96.0			109.3			159.1						
Cholesterol (mg/dL)	SD 28	103.0	± 3.6	(10) *	94.0	± 3.0	(10)	94.1	± 5.1	(10)	105.1	± 7.3	(9)	84.7	± 4.3	(9) *				
Percent of Control					91.3			91.4			102.0			82.2						
Triglyceride (mg/dL)	SD 28	78.1	± 5.2	(10)	91.8	± 9.3	(10)	67.6	± 8.6	(10)	70.3	± 7.1	(9)	73.3	± 9.5	(9)				
Percent of Control					117.5			86.6			90.1			93.9						

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Female

	Phase Day	Treatment Groups (mg/kg/day)																	
		0				62.6				125				250				500	
Alanine Aminotransferase (IU/L)	SD 28	47.7	± 1.4	(10) **	46.0	± 2.4	(10)	48.2	± 3.0	(10)	59.9	± 1.7	(9) **	70.9	± 4.6	(9) **			
Percent of Control						96.4			101.0			125.6			148.6				
Alkaline Phosphatase (IU/L)	SD 28	147.0	± 4.2	(10) **	147.1	± 7.8	(10)	152.8	± 9.8	(10)	167.2	± 10.7	(9)	194.8	± 8.1	(9) **			
Percent of Control						100.1			103.9			113.8			132.5				
Aspartate Aminotransferase (U/L)	SD 28	54.30	± 1.39	(10) **	57.80	± 1.42	(10)	63.10	± 6.80	(10)	58.44	± 1.31	(9)	61.44	± 1.95	(9) **			
Percent of Control						106.4			116.2			107.6			113.2				
Creatine Kinase (IU/L)	SD 28	85.5	± 6.9	(10)	76.2	± 3.9	(10)	82.7	± 4.1	(10)	83.9	± 3.8	(9)	93.0	± 3.6	(9)			
Percent of Control						89.1			96.7			98.1			108.8				
Sorbitol Dehydrogenase (IU/L)	SD 28	5.1	± 0.4	(10)	4.2	± 0.5	(10)	6.9	± 1.8	(10)	4.2	± 0.4	(9)	5.1	± 0.8	(9)			
Percent of Control						82.4			135.3			82.8			100.2				
Bile salt/acids (umol/L)	SD 28	9.8	± 2.3	(10) **	7.6	± 1.0	(10)	14.9	± 3.3	(10)	26.2	± 5.4	(9) **	52.4	± 6.7	(9) **			
Percent of Control						77.6			152.0			267.6			535.1				

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Female

		Treatment Groups	
	Phase Day	1000	
Urea Nitrogen (mg/dL)	SD 28	17.0 (1)	
Percent of Control		96.6	
Creatinine (mg/dL)	SD 28	0.70 (1)	
Percent of Control		87.5	
Glucose (mg/dL)	SD 28	139.0 (1)	
Percent of Control		59.6	
Total Protein (g/dL)	SD 28	7.20 (1)	
Percent of Control		110.9	
Globulin (g/dL)	SD 28	1.90 (1)	
Percent of Control		96.0	
A/G Ratio	SD 28	2.79 (1)	
Percent of Control		121.2	
Albumin (g/dL)	SD 28	5.30 (1)	
Percent of Control		117.5	
Total Bilirubin (mg/dL)	SD 28	0.347 ± 0.088 (2) *	
Percent of Control		236.1	
Direct Bilirubin (mg/dL)	SD 28	0.145 ± 0.082 (2) *	
Percent of Control		578.0	
Cholesterol (mg/dL)	SD 28	27.0 (1)	
Percent of Control		26.2	
Triglyceride (mg/dL)	SD 28	75.0 (1)	
Percent of Control		96.0	

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

Female

		Treatment Groups	
	Phase Day	1000	
Alanine Aminotransferase (IU/L)	SD 28	99.0 (1)	
Percent of Control		207.5	
Alkaline Phosphatase (IU/L)	SD 28	311.0 (1)	
Percent of Control		211.6	
Aspartate Aminotransferase (U/L)	SD 28	400.00 ± 329.00 (2) **	
Percent of Control		736.6	
Creatine Kinase (IU/L)	SD 28	89.0 (1)	
Percent of Control		104.1	
Sorbitol Dehydrogenase (IU/L)	SD 28	2.0 (1)	
Percent of Control		39.2	
Bile salt/acids (umol/L)	SD 28	46.0 (1)	
Percent of Control		469.4	

Study Number: C07040

Test Type: TOX

Route: Oral Gavage

Species/Strain: Rat/Harlan Sprague Dawley

PA41: Clinical Chemistry Summary

Test Compound: Perfluorobutane sulfonate

CAS Number: 375-73-5

Date Report Requested: 01/10/2022

Time Report Requested: 14:53:26

Lab: Battelle

LEGEND

Values given as mean \pm SEM (N) with Percent of Control calculated by (dosed group mean / control group mean) x 100

SD – Study Day; GD – Gestation Day; LD – Lactation Day; PND – Postnatal Day, adults post-weaning

Clinical Chemistry for gestation phase includes pregnant females only

Statistical analysis was performed by Jonckheere (trend) and Shirley or Dunn (pairwise) tests.

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

* Statistically significant at $P \leq 0.05$

** Statistically significant at $P \leq 0.01$

All F1 core animals contained one male or female per litter with the exception of the F1 core animal high-dose group (500 mg/L), where litter-mates ranged from 1-4. Litter-based analysis methods were therefore not applicable to the F1 500 mg/L dose group.

Indirect Bilirubin calculated as Total Bilirubin - Direct Bilirubin.

Decrease in N for Alanine Aminotransferase, Aspartate Aminotransferase, and Sorbitol Dehydrogenase in the 0 mg/kg dose group is due to one male's values being excluded because they were outliers.

**** END OF REPORT ****