C Number:	R88007B
Study Gender:	Both
PWG Approval Date	See web page for date of PWG Approval

Study Number: R88007B
Test Type: RACB
Route: Dosing in Feed
Species/Strain: Rat/Sprague-Dawley

R06: Andrology Summary
Test Compound: Butyl Paraben
CAS Number: 94-26-8

Date Report Requested: 12/06/2018
Time Report Requested: 15:15:06
Lab: RTI

Male

Generation	Litter ID	Terminal Sac	Cohort		Treatment Groups (ppm)			
					0	5000	15000	40000
F0		SD 224 - 226		No. Examined	20	21	21	22
				Testis Weight (g)	2.029 ± 0.033	2.075 ± 0.035	2.102 ± 0.021	2.064 ± 0.026
				Spermatid Head Count (millions)	349.8 ± 9.5	327.4 ± 10.1	353.4 ± 15.8	340.7 ± 5.7
				Spermatid Head Concentration (millions/gram tissue)	172.8 ± 4.4	158.8 ± 5.5	167.4 ± 6.5	165.6 ± 3.4
				Percent Motile Sperm	80.5 ± 2.0	80.4 ± 1.8	80.0 ± 2.2	78.2 ± 2.0
				Percent Progressively Motile Sperm	65.1 ± 1.9	66.0 ± 1.9	65.7 ± 2.1	64.3 ± 2.0
				Epididymis Weight (g)	0.667 ± 0.010	0.688 ± 0.011	0.684 ± 0.009	0.684 ± 0.009
				Cauda Epididymis Weight (g)	0.272 ± 0.006	0.286 ± 0.007	0.283 ± 0.005	0.283 ± 0.007
				Cauda Epididymis Sperm Count (millions)	222.9 ± 10.3	218.3 ± 9.8	224.9 ± 9.4	224.3 ± 8.2
				Cauda Epididymis Sperm Concentration (millions/gram tissue)	817.4 ± 29.2	764.0 ± 30.8	790.3 ± 26.0	791.0 ± 23.9

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Male

Generation	Litter ID	Terminal Sac	Cohort		Treatment Groups (ppm)			
					0	5000	15000	40000
F1	C	PND 90 - 92	F1c NonParent Males	No. Examined (Litters)	43 (16)	34 (12)	46 (18)	6 (5)
				Testis Weight (g)	1.925 ± 0.064 *	1.962 ± 0.029	1.953 ± 0.021	1.714 ± 0.101 *
				Spermatid Head Count (millions)	251.2 ± 9.8	275.1 ± 10.2	267.8 ± 7.6	222.0 ± 11.1
				Spermatid Head Concentration (millions/gram tissue)	131.4 ± 4.1	140.3 ± 5.2	137.4 ± 4.1	131.5 ± 12.3
				Percent Motile Sperm	69.3 ± 2.2	67.4 ± 2.6	69.4 ± 2.1	74.9 ± 3.0
				Percent Progressively Motile Sperm	54.5 ± 2.1	53.6 ± 2.1	55.5 ± 1.7	61.1 ± 4.4
				Epididymis Weight (g)	0.556 ± 0.015 **	0.561 ± 0.011	0.556 ± 0.007	0.464 ± 0.030 **
				Cauda Epididymis Weight (g)	0.220 ± 0.007 **	0.220 ± 0.005	0.216 ± 0.004	0.185 ± 0.013 *
				Cauda Epididymis Sperm Count (millions)	180.3 ± 9.5	177.5 ± 5.8	181.9 ± 6.1	150.8 ± 15.8
				Cauda Epididymis Sperm Concentration (millions/gram tissue)	815.5 ± 23.5	808.6 ± 20.6	841.9 ± 20.6	818.8 ± 71.4

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Male

Generation	Litter ID	Terminal Sac	Cohort		Treatment Groups (ppm)			
					0	5000	15000	40000
F1	C	PND 207 - 213	F1c Parental Males	No. Examined (Litters)	39 (19)	37 (13)	39 (18)	26 (7)
				Testis Weight (g)	2.111 ± 0.058	2.182 ± 0.047	2.160 ± 0.027	2.021 ± 0.037
				Spermatid Head Count (millions)	372.2 ± 13.1	389.5 ± 6.2	386.5 ± 7.8	366.8 ± 9.2
				Spermatid Head Concentration (millions/gram tissue)	176.5 ± 4.1	179.1 ± 2.5	179.1 ± 2.9	181.5 ± 2.9
				Percent Motile Sperm	70.2 ± 3.3	68.6 ± 3.0	72.2 ± 1.7	73.3 ± 2.6
				Percent Progressively Motile Sperm	60.1 ± 3.1	60.2 ± 2.8	63.5 ± 1.5	64.9 ± 2.6
				Epididymis Weight (g)	0.689 ± 0.014	0.707 ± 0.013	0.703 ± 0.009	0.673 ± 0.006
				Cauda Epididymis Weight (g)	0.266 ± 0.007	0.278 ± 0.006	0.276 ± 0.005	0.271 ± 0.005
				Cauda Epididymis Sperm Count (millions)	213.8 ± 8.7	222.5 ± 6.5	226.1 ± 6.8	234.2 ± 12.2
				Cauda Epididymis Sperm Concentration (millions/gram tissue)	797.8 ± 19.6	795.8 ± 8.0	819.4 ± 22.1	861.6 ± 31.2

LEGEND

Data are displayed as mean ± SEM for the F0 animals. Data are displayed as the mean of the litter mean ± SEM for the F1 and/or F2 animals.

Statistical analysis for F0 data performed by Jonckheere (trend) and then a pairwise test. Williams/Dunnett pairwise tests are used for organ weights, Shirley/Dunn pairwise tests are used for all other endpoints.

Statistical analysis of F1 and/or F2 organ weight endpoints performed using linear mixed models with the dam ID as the random effect for both trend and pairwise test, and using the Dunnett-Hsu adjustment for multiple comparisons. For all other F1 and/or F2 endpoints, a bootstrapped Jonckheere trend test was used, and pairwise comparisons were done using the Datta-Satten modified Wilcoxon test with Hommel adjustment for multiple comparisons.

* Statistically significant at P <= 0.05

** Statistically significant at P <= 0.01

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

In multiple breeding/littering studies Litter A is the default designation for the first litter; subsequent litters would be B, C etc.

** END OF REPORT **