

Study Number: C08004-03

Test Type: TOX

Route: Dosing in Water

Species/Strain: Rat/Harlan Sprague Dawley

Study Number:

Study Gender:

PWG Approval Date:

Version:

PA41: Clinical Chemistry Summary

Test Compound: Vanadyl sulfate

CAS Number: 27774-13-6

C08004-03

Both

See web page for date of PWG Approval

v1.1.7

Date Report Requested: 01/25/2021

Time Report Requested: 08:36:07

Lab: Battelle

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Lab: Battelle

F1 Male: F1 Core Animals

	Phase Day	Treatment Groups (mg/L)				
		0	21	41.9	83.8	168
Urea Nitrogen (mg/dL)	PND 120 - 123	16.5 ± 0.3 (10) **	16.1 ± 0.3 (10)	17.3 ± 0.8 (10)	16.9 ± 0.5 (10)	17.3 ± 0.4 (10)
Percent of Control			97.6	104.8	102.4	104.8
Creatinine (mg/dL)	PND 120 - 123	0.40 ± 0.00 (10)	0.39 ± 0.01 (10)	0.40 ± 0.01 (10)	0.39 ± 0.02 (10)	0.38 ± 0.01 (10)
Percent of Control			97.5	100.0	97.5	95.0
Glucose (mg/dL)	PND 120 - 123	132.9 ± 5.2 (10)	125.7 ± 1.5 (10)	125.4 ± 2.5 (10)	123.2 ± 7.3 (10)	126.9 ± 2.7 (10)
Percent of Control			94.6	94.4	92.7	95.5
Total Protein (g/dL)	PND 120 - 123	6.79 ± 0.10 (10)	6.79 ± 0.07 (10)	6.74 ± 0.05 (10)	6.84 ± 0.09 (10)	6.64 ± 0.11 (10)
Percent of Control			100.0	99.3	100.7	97.8
Globulin (g/dL)	PND 120 - 123	2.66 ± 0.05 (10)	2.63 ± 0.04 (10)	2.61 ± 0.06 (10)	2.65 ± 0.06 (10)	2.54 ± 0.05 (10)
Percent of Control			98.9	98.1	99.6	95.5
A/G Ratio	PND 120 - 123	1.56 ± 0.03 (10)	1.59 ± 0.03 (10)	1.59 ± 0.05 (10)	1.59 ± 0.03 (10)	1.62 ± 0.02 (10)
Percent of Control			101.9	102.3	102.0	103.9
Albumin (g/dL)	PND 120 - 123	4.13 ± 0.06 (10)	4.16 ± 0.06 (10)	4.13 ± 0.05 (10)	4.19 ± 0.04 (10)	4.10 ± 0.07 (10)
Percent of Control			100.7	100.0	101.5	99.3
Cholesterol (mg/dL)	PND 120 - 123	144.5 ± 5.3 (10) *	139.9 ± 5.1 (10)	139.2 ± 5.4 (10)	133.7 ± 3.7 (10)	135.6 ± 5.2 (10)
Percent of Control			96.8	96.3	92.5	93.8
Triglyceride (mg/dL)	PND 120 - 123	143.3 ± 8.9 (10)	140.9 ± 15.6 (10)	163.7 ± 9.6 (10)	131.6 ± 8.8 (10)	144.6 ± 14.4 (10)
Percent of Control			98.3	114.2	91.8	100.9

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F1 Male: F1 Core Animals

	Phase Day	Treatment Groups (mg/L)				
		0	21	41.9	83.8	168
Alanine Aminotransferase (IU/L)	PND 120 - 123	49.8 ± 3.2 (10) **	40.4 ± 1.9 (10)	43.2 ± 1.2 (10)	46.0 ± 2.0 (10)	47.4 ± 1.9 (10)
Percent of Control			81.1	86.7	92.4	95.2
Alkaline Phosphatase (IU/L)	PND 120 - 123	175.7 ± 6.9 (10)	159.2 ± 4.2 (10)	149.4 ± 9.0 (10)	177.2 ± 9.3 (10)	160.8 ± 6.1 (10)
Percent of Control			90.6	85.0	100.9	91.5
Creatine Kinase (IU/L)	PND 120 - 123	477.7 ± 127.2 (10)	204.2 ± 30.2 (10)	365.9 ± 155.2 (10)	582.8 ± 184.0 (10)	290.5 ± 55.9 (10)
Percent of Control			42.7	76.6	122.0	60.8
Sorbitol Dehydrogenase (IU/L)	PND 120 - 123	11.5 ± 2.0 (10)	8.2 ± 0.6 (10)	8.5 ± 1.0 (10)	9.7 ± 1.1 (9)	8.0 ± 0.9 (10)
Percent of Control			71.7	73.8	84.8	69.8
Bile salt/acids (µmol/L)	PND 120 - 123	39.7 ± 5.1 (10)	41.2 ± 4.6 (10)	35.7 ± 2.6 (10)	47.9 ± 5.7 (10)	42.7 ± 3.8 (10)
Percent of Control			103.8	89.9	120.7	107.6

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F1 Male: F1 Core Animals

	Phase Day	Treatment Groups
		335
Urea Nitrogen (mg/dL)	PND 120 - 123	18.5 ± 0.6 (10) *
Percent of Control		112.1
Creatinine (mg/dL)	PND 120 - 123	0.38 ± 0.01 (10)
Percent of Control		95.0
Glucose (mg/dL)	PND 120 - 123	120.9 ± 3.3 (10)
Percent of Control		91.0
Total Protein (g/dL)	PND 120 - 123	6.85 ± 0.06 (10)
Percent of Control		100.9
Globulin (g/dL)	PND 120 - 123	2.66 ± 0.03 (10)
Percent of Control		100.0
A/G Ratio	PND 120 - 123	1.58 ± 0.03 (10)
Percent of Control		101.4
Albumin (g/dL)	PND 120 - 123	4.19 ± 0.06 (10)
Percent of Control		101.5
Cholesterol (mg/dL)	PND 120 - 123	125.6 ± 5.2 (10)
Percent of Control		86.9
Triglyceride (mg/dL)	PND 120 - 123	130.1 ± 8.7 (10)
Percent of Control		90.8

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F1 Male: F1 Core Animals

	Phase Day	Treatment Groups
		335
Alanine Aminotransferase (IU/L)	PND 120 - 123	54.4 ± 1.6 (10)
Percent of Control		109.2
Alkaline Phosphatase (IU/L)	PND 120 - 123	155.9 ± 7.4 (10)
Percent of Control		88.7
Creatine Kinase (IU/L)	PND 120 - 123	260.1 ± 34.0 (10)
Percent of Control		54.4
Sorbitol Dehydrogenase (IU/L)	PND 120 - 123	9.1 ± 0.8 (10)
Percent of Control		79.5
Bile salt/acids (µmol/L)	PND 120 - 123	34.3 ± 2.5 (10)
Percent of Control		86.4

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Lab: Battelle

F1 Female: F1 Core Animals

		Treatment Groups (mg/L)				
	Phase Day	0	21	41.9	83.8	168
Urea Nitrogen (mg/dL)	PND 119 - 121	15.6 ± 0.7 (10)	16.3 ± 0.6 (10)	17.1 ± 0.6 (10)	15.0 ± 0.6 (10)	15.2 ± 0.6 (10)
Percent of Control			104.5	109.6	96.2	97.4
Creatinine (mg/dL)	PND 119 - 121	0.42 ± 0.02 (10)	0.44 ± 0.02 (10)	0.44 ± 0.02 (10)	0.41 ± 0.02 (10)	0.41 ± 0.01 (10)
Percent of Control			104.8	104.8	97.6	97.6
Glucose (mg/dL)	PND 119 - 121	152.2 ± 10.8 (10)	132.9 ± 5.5 (10)	141.0 ± 13.2 (10)	135.5 ± 10.0 (10)	134.2 ± 4.6 (10)
Percent of Control			87.3	92.6	89.0	88.2
Total Protein (g/dL)	PND 119 - 121	6.63 ± 0.07 (10)	6.96 ± 0.12 (10)	6.73 ± 0.08 (10)	6.86 ± 0.09 (10)	6.59 ± 0.08 (10)
Percent of Control			105.0	101.5	103.5	99.4
Globulin (g/dL)	PND 119 - 121	2.11 ± 0.05 (10)	2.24 ± 0.06 (10)	2.21 ± 0.06 (10)	2.20 ± 0.03 (10)	2.09 ± 0.04 (10)
Percent of Control			106.2	104.7	104.3	99.1
A/G Ratio	PND 119 - 121	2.16 ± 0.07 (10)	2.12 ± 0.05 (10)	2.06 ± 0.05 (10)	2.12 ± 0.02 (10)	2.16 ± 0.03 (10)
Percent of Control			98.1	95.5	98.3	100.0
Albumin (g/dL)	PND 119 - 121	4.52 ± 0.05 (10)	4.72 ± 0.08 (10)	4.52 ± 0.03 (10)	4.66 ± 0.07 (10)	4.50 ± 0.05 (10)
Percent of Control			104.4	100.0	103.1	99.6
Cholesterol (mg/dL)	PND 119 - 121	129.1 ± 4.7 (10)	113.7 ± 6.5 (10)	131.9 ± 2.7 (10)	123.1 ± 6.4 (10)	110.2 ± 4.4 (10)
Percent of Control			88.1	102.2	95.4	85.4
Triglyceride (mg/dL)	PND 119 - 121	64.8 ± 7.9 (10)	78.8 ± 6.7 (10)	89.9 ± 10.5 (10)	59.9 ± 4.2 (10)	66.4 ± 7.0 (10)
Percent of Control			121.6	138.7	92.4	102.5

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F1 Female: F1 Core Animals

	Phase Day	Treatment Groups (mg/L)				
		0	21	41.9	83.8	168
Alanine Aminotransferase (IU/L)	PND 119 - 121	46.0 ± 2.6 (10) *	43.0 ± 1.4 (10)	47.3 ± 2.3 (10)	42.1 ± 2.0 (10)	48.8 ± 2.1 (10)
Percent of Control			93.5	102.8	91.5	106.1
Alkaline Phosphatase (IU/L)	PND 119 - 121	122.2 ± 11.9 (10)	126.1 ± 6.1 (10)	125.1 ± 11.6 (10)	125.9 ± 10.2 (10)	113.9 ± 5.7 (10)
Percent of Control			103.2	102.4	103.0	93.2
Creatine Kinase (IU/L)	PND 119 - 121	206.0 ± 34.3 (10)	185.6 ± 17.8 (10)	192.3 ± 28.9 (10)	151.0 ± 20.1 (10)	256.7 ± 40.4 (10)
Percent of Control			90.1	93.3	73.3	124.6
Sorbitol Dehydrogenase (IU/L)	PND 119 - 121	11.1 ± 1.4 (10)	9.7 ± 0.9 (10)	8.9 ± 1.1 (10)	9.1 ± 0.6 (10)	8.3 ± 1.0 (10)
Percent of Control			87.6	80.6	82.3	75.0
Bile salt/acids (µmol/L)	PND 119 - 121	43.8 ± 13.2 (10)	41.1 ± 9.4 (10)	45.6 ± 5.1 (10)	32.5 ± 4.9 (10)	28.6 ± 7.3 (10)
Percent of Control			93.8	104.1	74.2	65.3

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	Phase Day	Treatment Groups
		335
Urea Nitrogen (mg/dL)	PND 119 - 121	17.8 ± 0.9 (10)
Percent of Control		114.1
Creatinine (mg/dL)	PND 119 - 121	0.42 ± 0.02 (10)
Percent of Control		100.0
Glucose (mg/dL)	PND 119 - 121	141.8 ± 13.4 (10)
Percent of Control		93.2
Total Protein (g/dL)	PND 119 - 121	6.71 ± 0.13 (10)
Percent of Control		101.2
Globulin (g/dL)	PND 119 - 121	2.11 ± 0.06 (10)
Percent of Control		100.0
A/G Ratio	PND 119 - 121	2.19 ± 0.04 (10)
Percent of Control		101.5
Albumin (g/dL)	PND 119 - 121	4.60 ± 0.08 (10)
Percent of Control		101.8
Cholesterol (mg/dL)	PND 119 - 121	115.9 ± 6.3 (10)
Percent of Control		89.8
Triglyceride (mg/dL)	PND 119 - 121	78.3 ± 6.8 (10)
Percent of Control		120.8

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F1 Female: F1 Core Animals

	Phase Day	Treatment Groups
		335
Alanine Aminotransferase (IU/L)	PND 119 - 121	52.5 ± 2.9 (10)
Percent of Control		114.1
Alkaline Phosphatase (IU/L)	PND 119 - 121	118.0 ± 12.6 (10)
Percent of Control		96.6
Creatine Kinase (IU/L)	PND 119 - 121	191.8 ± 24.4 (10)
Percent of Control		93.1
Sorbitol Dehydrogenase (IU/L)	PND 119 - 121	8.6 ± 0.8 (10)
Percent of Control		78.2
Bile salt/acids (µmol/L)	PND 119 - 121	25.9 ± 4.8 (10)
Percent of Control		59.1

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LEGEND

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

PND - Postnatal Day, adults post-weaning

Statistical analysis were 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 $P \leq 0.01$

Total bilirubin values were not reported due to data issues.

One sorbitol dehydrogenase value for an 83.8 mg/L male was excluded from the analysis as an outlier.

**** END OF REPORT ****