PA48: Blood and Tissue Concentration

Study Number: 108020005
Test Type: 5-Day Toxicity
Route: Whole-Body Inhalation
Species/Strain: Mouse/B6D2F1/Crl

Test Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-7
DTXSID: DTXSID1020431

Date: 10 Oct 2025
Time: 9:55:33 AM

Female SD 4

	Treatment Group (ppm)					
	0	1	10	50	150	400
Blood						
Blood Concentration (ng/mL)	BD	16.9 ± 2.75[3]	263 ± 28.7[3]	4940 ± 260[2]	11800 ± 1380[3]	93900 ± 12700[3]
Normalized Blood Concentration ((ng/mL)/(mg/kg))	NA	6.89 ± 1.12[3]	10.7 ± 1.17[3]	40.2 ± 2.12[2]	32.0 ± 3.74[3]	95.6 ± 12.9[3]
Normalized Blood Concentration ((ng/mL)/ppm)	NA	16.9 ± 2.75[3]	26.3 ± 2.87[3]	98.8 ± 5.20[2]	78.4 ± 9.18[3]	235 ± 31.7[3]
Liver						
Liver Concentration (ng/g)	BD	9.43 ± 0.558[3]	248 ± 19.5[3]	5910 ± 335[2]	18900 ± 1940[3]	141000 ± 23100[3]
Normalized Liver Concentration ((ng/g)/(mg/kg))	NA	3.84 ± 0.227[3]	10.1 ± 0.792[3]	48.1 ± 2.73[2]	51.3 ± 5.28[3]	143 ± 23.6[3]
Normalized Liver Concentration ((ng/g)/ppm)	NA	9.43 ± 0.558[3]	24.8 ± 1.95[3]	118 ± 6.70[2]	126 ± 13.0[3]	352 ± 57.8[3]
Lung						
Lung Concentration (ng/g)	BD	10.7 ± 1.85[3]	58.1 ± 3.30[2]	14600 ± 5200[2]	14100 ± 4000[3]	205000 ± 72700[3]
Normalized Lung Concentration ((ng/g)/(mg/kg))	NA	4.37 ± 0.755[3]	2.36 ± 0.134[2]	119 ± 42.3[2]	38.3 ± 10.9[3]	209 ± 74.1[3]
Normalized Lung Concentration ((ng/g)/ppm)	NA	10.7 ± 1.85[3]	5.81 ± 0.330[2]	292 ± 104[2]	94.0 ± 26.7[3]	513 ± 182[3]

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Female SD 5

	Treatment Group (ppm)					
	0	1	10	50	150	400
Blood						
Blood Concentration (ng/mL)	BD	0.0983 ± 0.0252[3]	0.492 ± 0.264[3]	2.24 ± 1.02[3]	20.1 ± 8.44[3]	23.8 ± 17.3[3]
Normalized Blood Concentration ((ng/mL)/(mg/kg))	NA	0.0400 ± 0.0102[3]	0.0200 ± 0.0107[3]	0.0182 ± 0.00826[3]	0.0545 ± 0.0229[3]	0.0242 ± 0.0176[3]
Normalized Blood Concentration ((ng/mL)/ppm)	NA	0.0983 ± 0.0252[3]	0.0492 ± 0.0264[3]	0.0447 ± 0.0203[3]	0.134 ± 0.0563[3]	0.0595 ± 0.0433[3]
Liver						
Liver Concentration (ng/g)	BD	BD	0.656 ± 0.193[3]	3.97 ± 0.833[3]	27.3 ± 9.22[3]	25.8 ± 12.1[3]
Normalized Liver Concentration ((ng/g)/(mg/kg))	NA	BD	0.0267 ± 0.00786[3]	0.0323 ± 0.00678[3]	0.0742 ± 0.0250[3]	0.0263 ± 0.0123[3]
Normalized Liver Concentration ((ng/g)/ppm)	NA	BD	0.0656 ± 0.0193[3]	0.0793 ± 0.0167[3]	0.182 ± 0.0614[3]	0.0646 ± 0.0303[3]
Lung						
Lung Concentration (ng/g)	BD	BD	0.713 ± 0.414[3]	1.27 ± 0.330[3]	15.6 ± 3.46[3]	27.0 ± 22.6[3]
Normalized Lung Concentration ((ng/g)/(mg/kg))	NA	BD	0.0290 ± 0.0168[3]	0.0103 ± 0.00269[3]	0.0423 ± 0.00941[3]	0.0275 ± 0.0230[3]
Normalized Lung Concentration ((ng/g)/ppm)	NA	BD	0.0713 ± 0.0414[3]	0.0254 ± 0.00661[3]	0.104 ± 0.0231[3]	0.0676 ± 0.0565[3]

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LEGEND

Theoretical doses estimated for 1, 10, 50, 150, and 400 ppm exposure concentrations are 2.46, 24.58, 122.86, 368.16, and 982.02 mg/kg, respectively.

Data are displayed as mean ± SEM (N) unless otherwise noted.

SD = Study Day

If over 20% of the animals in a group were above the limit of detection, then 1/2 the limit of detection value was substituted for values that were below the limit of detection.

When the control group did not have over 20% of its values above the limit of detection, no mean or standard error were calculated and no statistical analysis was done for the endpoint.

Normalized values were calculated by dividing the absolute measurement by either inhaled dose (mg/kg/day) or nominal exposure concentration (ppm). No statistical analysis was performed on normalized endpoints.

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 $p \leq 0.01$

One Lung 1,4-DCB Concentration in the 10 ppm group on SD 4, one Blood 1,4-DCB Concentration in the control group on SD 5, and one Lung 1,4-DCB Concentration in the control group on SD 5, and their associated normalized endpoints, were excluded from analysis as outliers.

BD - Group did not have over 20% of its values above the limit of detection.

NA - Not Available.

** END OF REPORT **