

Male					
	Treatment Groups (ppm)				
	75	750	75	750	750
	Blood		Fat (Mesenteric)		Liver
C <sub>0min(pred)</sub> (ug/g)	0.202	6.60	14.5	252.0	10.7
Alpha (min^-1)	0.00902	0.0112	0.0196	0.00971	0.0110
t <sub>1/2(Alpha)</sub> (minute)	76.8	62.2	35.4	71.4	63.2
Beta (min^-1)	0.00141	0.00175	0.00233	0.00298	
t <sub>1/2(Beta)</sub> (minute)	493.0	397.0	297.0	233	
AUC <sub>inf</sub> (ug*min/g)	40.8	870.0	3160.0	57800	1090

**Experiment Number:** S0636  
**Route:** Whole Body Respiratory Exposure  
**Species/Strain:** Rat/Fischer 344/N

**Toxicokinetics Data Summary**  
**Test Compound:** Ethylbenzene  
**CAS Number:** 100-41-4

**Date Report Requested:** 12/05/2016  
**Time Report Requested:** 16:02:10  
**Lab:** Battelle Northwest Laboratory

Male		
	Treatment Groups (ppm)	
	75	750
Lung		
C <sub>0min(pred)</sub> (ug/g)	0.611	6.77
Alpha (min <sup>-1</sup> )	0.0141	0.0154
t <sub>1/2(Alpha)</sub> (minute)	49.0	44.9
Beta (min <sup>-1</sup> )	0.00208	0.00163
t <sub>1/2(Beta)</sub> (minute)	334.0	426.0
AUC <sub>inf</sub> (ug*min/g)	103.0	861.0

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Female					
	Treatment Groups (ppm)				
	75	750	75	750	750
	Blood		Fat (Mesenteric)		Liver
C <sub>0min(pred)</sub> (ug/g)	0.155	12.6	9.83	445.0	27.5
Alpha (min <sup>-1</sup> )	0.0102	0.0117	0.0101	0.00974	0.0128
t <sub>1/2(Alpha)</sub> (minute)	68.1	59.3	68.6	71.2	54.2
Beta (min <sup>-1</sup> )	0.00175	0.00204	0.00102	0.00256	
t <sub>1/2(Beta)</sub> (minute)	396.0	340.0	682.0	271.0	
AUC <sub>inf</sub> (ug*min/g)	31.9	1502.0	3850	75400	2400

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**Female**

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	Treatment Groups (ppm)	
	75	750
	Lung	
C <sub>0min(pred)</sub> (ug/g)	0.926	11.1
Alpha (min <sup>-1</sup> )	0.0298	0.0151
t <sub>1/2(Alpha)</sub> (minute)	23.3	46.0
Beta (min <sup>-1</sup> )	0.00143	0.00213
t <sub>1/2(Beta)</sub> (minute)	484.0	326.0
AUC <sub>inf</sub> (ug*min/g)	67.3	1270.0

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**Route:** Whole Body Respiratory Exposure

**Species/Strain:** Rat/Fischer 344/N

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### LEGEND

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Data are displayed as a mean value

#### MODELING METHOD & BEST FIT MODEL

SAS PROC NLIN; SAS Institute, Inc., Cary, NC which is a nonlinear least-squares fitting program; Toxicokinetic parameters were determined by fitting  $C(t)$  equals  $A_0e^{-\alpha t}$  plus  $B_0e^{-\beta t}$  to the data using a nonlinear least-squares fitting program. Where  $C(t)$  is the tissue concentration of ethylbenzene at any postexposure time ( $t$ ), Alpha and Beta are the the hybrid rate constants ( $\text{min}^{-1}$ ) obtained from the fit, and  $A_0$  and  $B_0$  are the intercepts on the ordinate (concentration) axis of the extrapolated initial and terminal phases, respectively.

#### ANALYTE

Ethylbenzene

#### TK PARAMETERS

$C_{0\text{min}(\text{pred})}$  = Fitted plasma concentration at time zero (IV only)

Alpha = Hybrid rate constant of the alpha phase

$t_{1/2(\text{alpha})}$  = Half-life for the alpha phase

Beta = Hybrid rate constant of the beta phase

$t_{1/2(\text{beta})}$  = Half-life for the beta phase

$AUC_{\text{inf}}$  = Area under the plasma concentration versus time curve, AUC, extrapolated to time equals infinity

**\*\* END OF REPORT \*\***