

Experiment Number: S0636
Route: Whole Body Respiratory Exposure
Species/Strain: Mouse/B6C3F1

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

Date Report Requested: 11/09/2016
Time Report Requested: 14:06:35
Lab: Battelle Northwest Laboratory

Male

Treatment Groups (ppm)

	75	750	750	750	750
	Blood		Fat (Mesenteric)	Liver	Lung
$C_{0min(pred)}$ (ug/g)	0.0967	5.24	266.0	5.70	16.7
Alpha (min ⁻¹)	0.0596	0.0296	0.0179	0.0574	0.0930
$t_{1/2(Alpha)}$ (minute)	11.6	23.5	38.7	12.1	7.45
Beta (min ⁻¹)		0.00794		0.00300	
$t_{1/2(Beta)}$ (minute)		87.2		231.0	
AUC _{inf} (ug*min/g)	1.95	213.0	18800	112	223

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Treatment Groups (ppm)

	75	750	750	750	750
	Blood		Fat (Mesenteric)	Liver	Lung
$C_{0min(pred)}$ (ug/g)	0.188	14.9	645.0	30.6	21.3
Alpha (min ⁻¹)	0.109	0.0358	0.0321	0.0696	0.105
$t_{1/2(Alpha)}$ (minute)	6.36	19.4	21.6	9.96	6.63
Beta (min ⁻¹)		0.00532			
$t_{1/2(Beta)}$ (minute)		130.0			
AUC _{inf} (ug*min/g)	2.44	466.0	21900	491	282

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LEGEND

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 (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_{inf} = Area under the plasma concentration versus time curve, AUC, extrapolated to time equals infinity

**** END OF REPORT ****