

UDP Results for the RC Rat-Only Weight Regression
Starting One Dose Lower Than Estimated LD50
5000 mg/kg Upper Limit
Results for 46 chemicals for the 3T3 NRU and 47 chemicals for the NHK NRU
(see notes to Table 6-5 for chemicals excluded).

Summary of Animals Used by Cell Type

Cell	Sigma	Method	Std. Error	Animals	Difference	P-Value*	% Savings
3T3	0.12	Cyto	0.292	7.11	1.03	0.0075	12.7%
		Default	0.254	8.14			
	0.25	Cyto	0.269	7.91	1.08	0.0042	12.0%
		Default	0.249	8.98			
	0.5	Cyto	0.215	8.66	1.13	0.0003	11.6%
		Default	0.207	9.79			
	1.25	Cyto	0.175	9.26	1.09	<.0001	10.6%
		Default	0.166	10.36			
	2	Cyto	0.150	9.36	0.95	<.0001	9.2%
						Average Animal Difference:	1.06
NHK	0.12	Cyto	0.297	7.25	0.88	0.0158	10.9%
		Default	0.249	8.13			
	0.25	Cyto	0.278	8.03	0.92	0.0093	10.3%
		Default	0.240	8.96			
	0.5	Cyto	0.226	8.83	0.94	0.0012	9.6%
		Default	0.197	9.77			
	1.25	Cyto	0.186	9.40	0.99	<.0001	9.5%
		Default	0.155	10.39			
	2	Cyto	0.166	9.50	0.81	<.0001	7.9%
						Average Animal Difference:	0.91

Summary of Animal Deaths by Cell Type

Cell Type	Sigma	Method	3 Animals at Limit Dose	5 Reversals	Likelihood Ratio	Max Animals	Animals Used	Animals Dead	% Deaths
3T3	0.12	Cyto	23.8%	49.5%	24.1%	2.7%	7.11	3.24	45.6%
		Default	23.3%	51.6%	21.5%	3.6%	8.14	3.44	42.3%
	0.25	Cyto	22.9%	29.8%	41.9%	5.4%	7.91	3.56	45.0%
		Default	22.5%	31.7%	38.3%	7.5%	8.98	3.79	42.2%
	0.5	Cyto	20.2%	18.4%	52.1%	9.2%	8.66	3.91	45.2%
		Default	19.6%	19.1%	47.7%	13.6%	9.79	4.18	42.6%
	1.25	Cyto	14.3%	13.0%	59.4%	13.4%	9.26	4.35	47.0%
		Default	13.3%	13.3%	53.0%	20.5%	10.36	4.63	44.7%
	2	Cyto	12.0%	12.1%	61.9%	14.0%	9.36	4.47	47.8%
						20.6%	10.31	4.73	45.9%
NHK	0.12	Cyto	25.3%	49.2%	22.7%	2.8%	7.25	3.24	44.7%
		Default	25.0%	50.5%	20.9%	3.6%	8.13	3.39	41.7%
	0.25	Cyto	24.3%	29.5%	40.6%	5.5%	8.03	3.56	44.3%
		Default	24.0%	31.2%	37.5%	7.3%	8.96	3.72	41.6%
	0.5	Cyto	21.6%	18.3%	50.2%	9.9%	8.83	3.93	44.5%
		Default	21.1%	18.8%	46.9%	13.3%	9.77	4.11	42.0%
	1.25	Cyto	15.0%	12.8%	57.8%	14.5%	9.40	4.37	46.4%
		Default	13.9%	13.2%	52.4%	20.6%	10.39	4.60	44.3%
	2	Cyto	12.1%	12.1%	60.8%	15.1%	9.50	4.50	47.4%
						20.8%	10.32	4.70	45.6%

Summary of Animals Used by GHS Toxicity Category and Cell Type

Toxcat	Cell	Sigma	Method	Std. Error	Animals	Difference	P-Value*	% Savings
1	3T3	0.12	Cyto	0.711	9.93	0.73	0.3538	6.8%
			Default	0.478	10.66			
		0.25	Cyto	0.665	10.47	0.80	0.3538	7.1%
			Default	0.297	11.27			
		0.5	Cyto	0.610	10.85	0.89	0.2285	7.6%
			Default	0.159	11.75			
		1.25	Cyto	0.528	11.21	0.85	0.1354	7.1%
			Default	0.124	12.06			
		2	Cyto	0.444	11.05	0.80	0.1627	6.8%
			Default	0.125	11.85			
Average Animal Difference:						0.81		
2	NHK	0.12	Cyto	0.529	10.59	0.07	0.5000	0.6%
			Default	0.478	10.66			
		0.25	Cyto	0.490	11.20	-0.09	0.1937	-0.8%
			Default	0.339	11.12			
		0.5	Cyto	0.437	11.66	-0.08	0.2285	-0.7%
			Default	0.228	11.58			
		1.25	Cyto	0.400	11.92	0.05	0.2285	0.4%
			Default	0.153	11.97			
		2	Cyto	0.391	11.71	0.00	0.2670	0.0%
			Default	0.139	11.71			
Average Animal Difference:						-0.01		
3	3T3	0.12	Cyto	0.591	7.76	0.36	0.1618	4.47%
			Default	0.268	8.12			
		0.25	Cyto	0.472	8.32	0.30	0.0888	3.5%
			Default	0.140	8.62			
		0.5	Cyto	0.535	8.80	0.34	0.0888	3.7%
			Default	0.169	9.14			
		1.25	Cyto	0.482	9.32	0.24	0.0888	2.5%
			Default	0.141	9.56			
		2	Cyto	0.361	9.60	0.05	0.0888	0.6%
			Default	0.087	9.66			
Average Animal Difference:						0.26		
4	NHK	0.12	Cyto	0.375	7.36	0.84	0.1208	10.3%
			Default	0.311	8.20			
		0.25	Cyto	0.222	7.96	0.82	0.0167	9.3%
			Default	0.185	8.78			
		0.5	Cyto	0.266	8.39	0.94	0.0645	10.1%
			Default	0.264	9.33			
		1.25	Cyto	0.204	8.92	0.85	0.0236	8.7%
			Default	0.206	9.77			
		2	Cyto	0.111	9.25	0.53	0.0331	5.4%
			Default	0.130	9.78			
Average Animal Difference:						0.80		

Summary of Animals Used by GHS Toxicity Category and Cell Type

Toxcat	Cell	Sigma	Method	Std. Error	Animals	Difference	P-Value*	% Savings
3	3T3	0.12	Cyto	0.226	6.66	0.05	0.5000	0.8%
			Default	0.324	6.71			
		0.25	Cyto	0.185	6.98	0.04	0.5000	0.5%
			Default	0.294	7.02			
		0.5	Cyto	0.101	7.60	0.15	0.4073	1.9%
			Default	0.216	7.75			
		1.25	Cyto	0.056	8.66	0.01	0.4688	0.2%
			Default	0.096	8.67			
		2	Cyto	0.027	9.13	0.01	0.4688	0.1%
			Default	0.077	9.14			
	Average Animal Difference:					0.05		
	NHK	0.12	Cyto	0.410	7.09	-0.15	0.4377	-2.2%
			Default	0.370	6.94			
		0.25	Cyto	0.340	7.34	-0.09	0.4688	-1.2%
			Default	0.326	7.26			
		0.5	Cyto	0.254	7.93	-0.09	0.4073	-1.1%
			Default	0.211	7.84			
		1.25	Cyto	0.130	8.81	-0.05	0.4073	-0.5%
			Default	0.124	8.77			
		2	Cyto	0.095	9.21	-0.04	0.4688	-0.5%
			Default	0.059	9.17			
	Average Animal Difference:					-0.08		
4	3T3	0.12	Cyto	0.211	6.68	0.61	0.1118	8.4%
			Default	0.349	7.29			
		0.25	Cyto	0.124	7.40	0.65	0.1118	8.1%
			Default	0.323	8.05			
		0.5	Cyto	0.074	7.89	0.86	0.0485	9.8%
			Default	0.330	8.75			
		1.25	Cyto	0.059	8.64	0.64	0.0309	6.9%
			Default	0.206	9.28			
		2	Cyto	0.058	8.97	0.51	0.0120	5.4%
			Default	0.139	9.48			
	Average Animal Difference:					0.65		
	NHK	0.12	Cyto	0.234	6.71	0.60	0.1118	8.2%
			Default	0.339	7.31			
		0.25	Cyto	0.129	7.43	0.63	0.1118	7.8%
			Default	0.313	8.06			
		0.5	Cyto	0.064	7.92	0.82	0.0917	9.3%
			Default	0.335	8.74			
		1.25	Cyto	0.047	8.66	0.65	0.0152	6.9%
			Default	0.211	9.31			
		2	Cyto	0.041	9.04	0.43	0.0120	4.6%
			Default	0.133	9.47			
	Average Animal Difference:					0.62		

Summary of Animals Used by GHS Toxicity Category and Cell Type

Toxcat	Cell	Sigma	Method	Std. Error	Animals	Difference	P-Value*	% Savings
5	3T3	0.12	Cyto	0.415	7.48	1.70	0.0105	18.5%
			Default	0.258	9.18			
		0.25	Cyto	0.368	8.42	1.91	0.0015	18.5%
			Default	0.143	10.33			
		0.5	Cyto	0.280	8.90	1.91	0.0004	17.7%
			Default	0.082	10.81			
		1.25	Cyto	0.215	9.01	1.71	0.0004	15.9%
			Default	0.070	10.72			
		2	Cyto	0.169	9.02	1.37	0.0004	13.2%
			Default	0.055	10.40			
Average Animal Difference:						1.72		
6	NHK	0.12	Cyto	0.371	7.64	1.50	0.0059	16.4%
			Default	0.248	9.14			
		0.25	Cyto	0.310	8.55	1.75	0.0010	17.0%
			Default	0.124	10.30			
		0.5	Cyto	0.241	9.07	1.70	0.0004	15.8%
			Default	0.070	10.77			
		1.25	Cyto	0.150	9.07	1.65	0.0004	15.4%
			Default	0.045	10.72			
		2	Cyto	0.109	9.07	1.29	0.0004	12.4%
			Default	0.051	10.35			
Average Animal Difference:						1.58		
6	3T3	0.12	Cyto	0.446	4.96	1.73	0.0086	25.9%
			Default	0.371	6.69			
		0.25	Cyto	0.534	6.26	1.66	0.0458	21.0%
			Default	0.438	7.92			
		0.5	Cyto	0.404	7.96	1.63	0.0102	17.0%
			Default	0.274	9.59			
		1.25	Cyto	0.303	8.93	1.98	0.0007	18.2%
			Default	0.060	10.92			
		2	Cyto	0.274	8.85	1.89	0.0007	17.6%
			Default	0.035	10.74			
Average Animal Difference:						1.78		
6	NHK	0.12	Cyto	0.424	5.09	1.55	0.0159	23.3%
			Default	0.345	6.64			
		0.25	Cyto	0.519	6.30	1.52	0.0578	19.4%
			Default	0.432	7.82			
		0.5	Cyto	0.404	8.07	1.45	0.0209	15.2%
			Default	0.280	9.52			
		1.25	Cyto	0.316	9.15	1.76	0.0004	16.1%
			Default	0.042	10.90			
		2	Cyto	0.315	9.11	1.69	0.0008	15.7%
			Default	0.031	10.80			
Average Animal Difference:						1.59		

Notes:

*P-Value is from one-side Wilcoxon Signed Ranked test for difference in animal use between the default and cytotoxicity methods. **Boldfaced** values are significant values at p < 0.05.

Numbers are numbers of animals unless otherwise specified

Sigma - reciprocal of slope

Cyto= using NRU-determined starting dose

Default - using default starting dose of 175 mg/kg