

Appendix F

Monte Carlo Simulation Result Graphics

Appendix F
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Crystal Ball Report - Full

Simulation started on 3/31/2006 at 7:15:34

Simulation stopped on 3/31/2006 at 7:23:41

Run preferences:

Number of trials run	1,000
Monte Carlo	
Random seed	
Precision control on	
Confidence level	95.00%

Run statistics:

Total running time (sec)	487.37
Trials/second (average)	2
Random numbers per sec	35

Crystal Ball data:

Assumptions	17
Correlations	0
Correlated groups	0
Decision variables	0
Forecasts	4

Forecasts

Worksheet: [VarDp-Dep monte5.xls]Monte

Forecast: Ingestion Dose

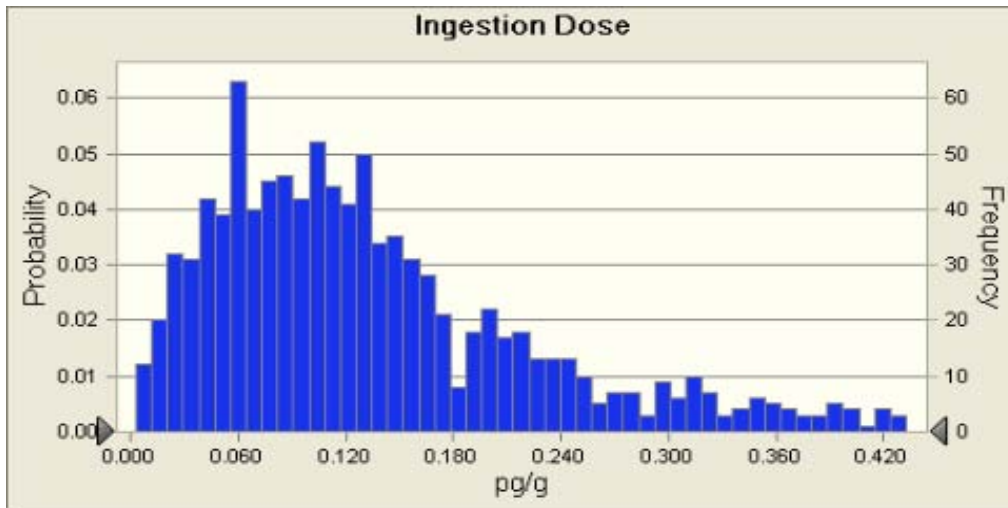
Cell: C53

Summary:

Entire range is from 0.003 to 0.730

Base case is 0.058

After 1,000 trials, the std. error of the mean is 0.003



Statistics:	Forecast values
Trials	1,000
Mean	0.141
Median	0.115
Mode	---
Standard Deviation	0.104
Variance	0.011
Skewness	1.56
Kurtosis	6.04
Coeff. of Variability	0.74
Minimum	0.003
Maximum	0.730
Range Width	0.727
Mean Std. Error	0.003

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Forecast: Ingestion Dose (cont'd)

Cell: C53

Percentiles:	Forecast values
0%	0.003
10%	0.039
20%	0.059
30%	0.077
40%	0.097
50%	0.115
60%	0.135
70%	0.161
80%	0.207
90%	0.284
100%	0.730

Forecast: Inhalation Dose

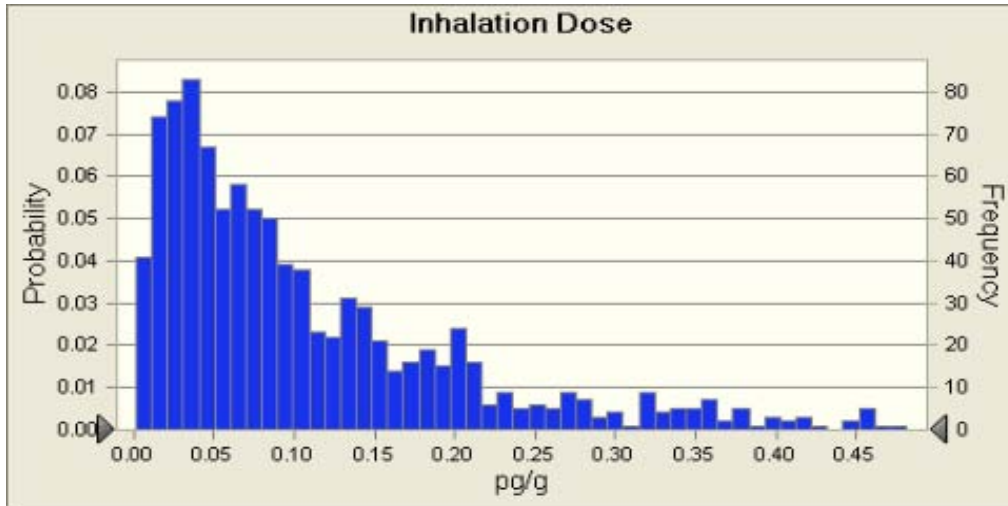
Cell: C83

Summary:

Entire range is from 0.00 to 1.05

Base case is 0.04

After 1,000 trials, the std. error of the mean is 0.00



Statistics:

Forecast values

Trials	1,000
Mean	0.12
Median	0.08
Mode	---
Standard Deviation	0.13
Variance	0.02
Skewness	2.51
Kurtosis	11.75
Coeff. of Variability	1.07
Minimum	0.00
Maximum	1.05
Range Width	1.05
Mean Std. Error	0.00

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Forecast: Inhalation Dose (cont'd)

Cell: C83

Percentiles:	Forecast values
0%	0.00
10%	0.02
20%	0.03
30%	0.04
40%	0.06
50%	0.08
60%	0.10
70%	0.14
80%	0.18
90%	0.27
100%	1.05

Forecast: Total Dermal Dose

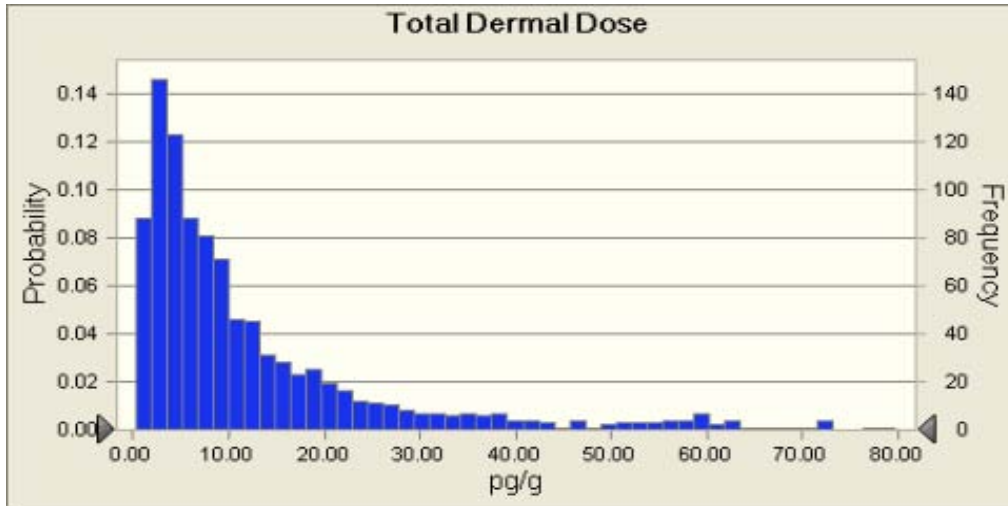
Cell: C45

Summary:

Entire range is from 0.27 to 217.51

Base case is 10.91

After 1,000 trials, the std. error of the mean is 0.72



Statistics:

Forecast values

Trials	1,000
Mean	15.50
Median	7.92
Mode	---
Standard Deviation	22.91
Variance	524.87
Skewness	3.67
Kurtosis	20.69
Coeff. of Variability	1.48
Minimum	0.27
Maximum	217.51
Range Width	217.24
Mean Std. Error	0.72

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Forecast: Total Dermal Dose (cont'd)

Cell: C45

Percentiles:	Forecast values
0%	0.27
10%	2.02
20%	3.16
30%	4.29
40%	5.90
50%	7.92
60%	10.08
70%	14.09
80%	20.03
90%	36.15
100%	217.51

Forecast: Total Dose

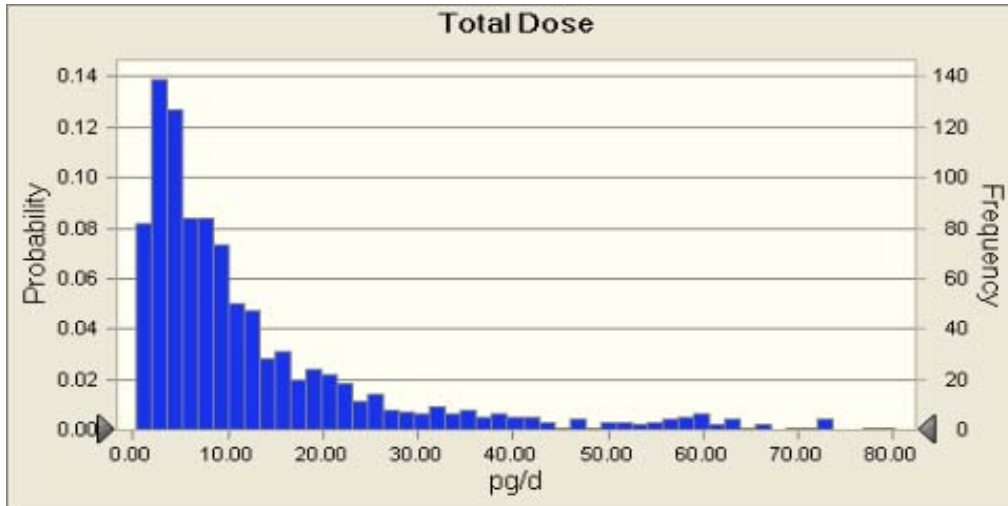
Cell: C86

Summary:

Entire range is from 0.28 to 219.14

Base case is 11.01

After 1,000 trials, the std. error of the mean is 0.73



Statistics:

Forecast values

Trials	1,000
Mean	15.76
Median	8.12
Mode	---
Standard Deviation	23.01
Variance	529.38
Skewness	3.66
Kurtosis	20.67
Coeff. of Variability	1.46
Minimum	0.28
Maximum	219.14
Range Width	218.86
Mean Std. Error	0.73

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Forecast: Total Dose (cont'd)

Cell: C86

Percentiles:	Forecast values
0%	0.28
10%	2.15
20%	3.32
30%	4.51
40%	6.15
50%	8.12
60%	10.39
70%	14.44
80%	20.58
90%	36.63
100%	219.14

End of Forecasts

Assumptions

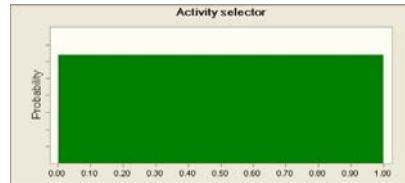
Worksheet: [VarDp-Dep monte5.xls]Monte

Assumption: Activity selector

Cell: C56

Uniform distribution with parameters:

Minimum 0.00
Maximum 1.00

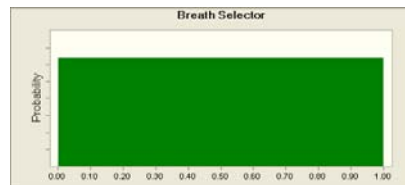


Assumption: Breath Selector

Cell: C61

Uniform distribution with parameters:

Minimum 0.00
Maximum 1.00

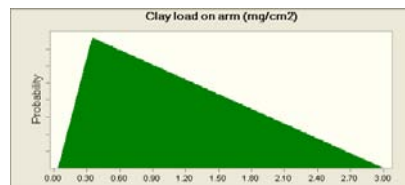


Assumption: Clay load on arm (mg/cm2)

Cell: C22

Triangular distribution with parameters:

Minimum 0.04
Likeliest 0.35
Maximum 3.00

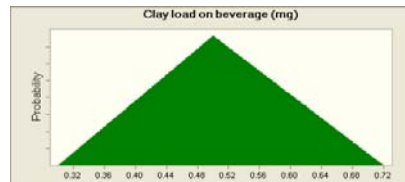


Assumption: Clay load on beverage (mg)

Cell: C51

Triangular distribution with parameters:

Minimum 0.30
Likeliest 0.50
Maximum 0.72



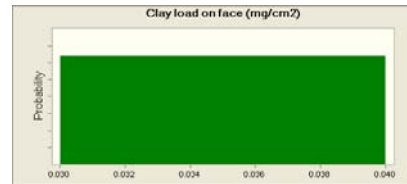
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Assumption: Clay load on face (mg/cm²)

Cell: C40

Uniform distribution with parameters:

Minimum 0.030
Maximum 0.040

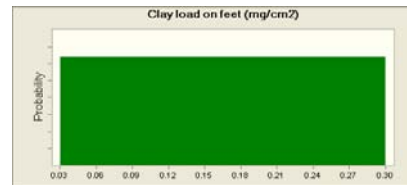


Assumption: Clay load on feet (mg/cm²)

Cell: C34

Uniform distribution with parameters:

Minimum 0.03
Maximum 0.30

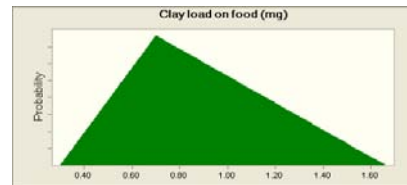


Assumption: Clay load on food (mg)

Cell: C49

Triangular distribution with parameters:

Minimum 0.30
Likeliest 0.70
Maximum 1.66

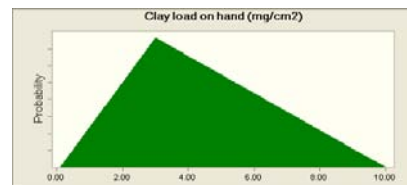


Assumption: Clay load on hand (mg/cm²)

Cell: C17

Triangular distribution with parameters:

Minimum 0.10
Likeliest 3.00
Maximum 10.00



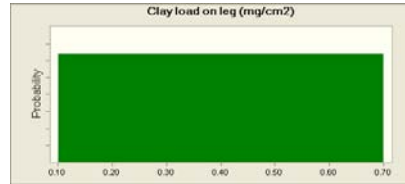
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Assumption: Clay load on leg (mg/cm²)

Cell: C28

Uniform distribution with parameters:

Minimum 0.10
Maximum 0.70

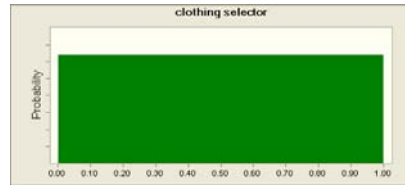


Assumption: clothing selector

Cell: C9

Uniform distribution with parameters:

Minimum 0.00
Maximum 1.00

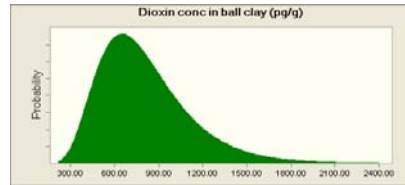


Assumption: Dioxin conc in ball clay (pg/g)

Cell: C5

Lognormal distribution with parameters:

Mean 808.00
Std. Dev. 318.00

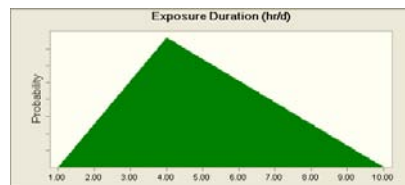


Assumption: Exposure Duration (hr/d)

Cell: C7

Triangular distribution with parameters:

Minimum 1.00
Likeliest 4.00
Maximum 10.00



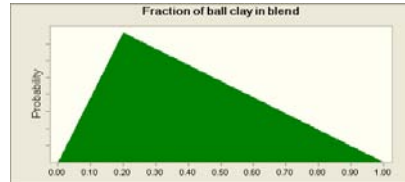
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Assumption: Fraction of ball clay in blend

Cell: C6

Triangular distribution with parameters:

Minimum	0.00
Likeliest	0.20
Maximum	1.00

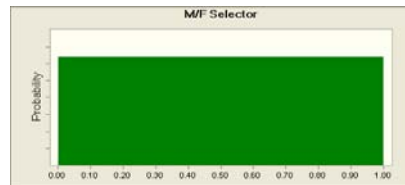


Assumption: M/F Selector

Cell: C62

Uniform distribution with parameters:

Minimum	0.00
Maximum	1.00

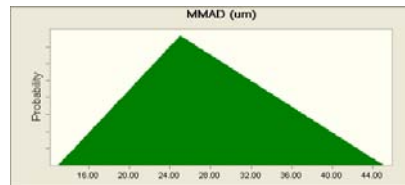


Assumption: MMAD (um)

Cell: C60

Triangular distribution with parameters:

Minimum	13.00
Likeliest	25.00
Maximum	45.00

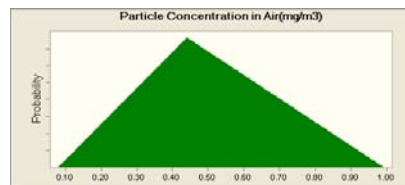


Assumption: Particle Concentration in Air(mg/m3)

Cell: C59

Triangular distribution with parameters:

Minimum	0.08
Likeliest	0.44
Maximum	0.99

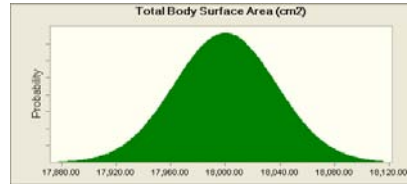


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Assumption: Total Body Surface Area (cm²)

Cell: C8

Lognormal distribution with parameters:
Mean 18,000.00
Std. Dev. 37.40



End of Assumptions