

APPENDIX A

Table 7

DEFAULT VALUES FOR CALCULATING MEDIUM-SPECIFIC CONCENTRATIONS FOR LEAD

[Input Values Used in UBK Model for Lead (for residential exposure scenario)]			
Geometric Standard Deviation (GSD)	1.42 (default)	Drinking water intake	Model default
Outdoor air lead concentration	0.2 µg/m³ (default)	Soil lead level	495 µg/g
Indoor air lead concentration (% of outdoor)	30	Indoor dust lead level	495 µg/g
Time spent outdoors	Model default	Soil/dust ingestion weighting factor (%)	45
Ventilation rate	Model default	Paint lead intake	Model default
Lung absorption	Model default	Maternal contribution method	Infant model
Dietary lead intake	Model default	Mother's blood lead at birth	7.5 µg/dL blood (model default)
GI method/bioavailability	Non-linear	Target blood lead level	10 µg/dL blood
Lead concentration in drinking water	4.00 µg/L (default)]		

[Input Values Used in SEGH Equation (for nonresidential exposure scenario)]	
Concentration of lead in soil (S)	987 µg/g
Target blood lead level in adults (T)	20 µg/dL blood
Geometric standard deviation of blood lead distribution (G)	1.4
Baseline blood lead level in target population (B)	4 µg/dL blood
Number of standard deviations corresponding to degree of protection required for the target population (n)	1.645 (for 95% of population)
Slope of blood lead to soil lead relationship (δ)	7.5 µg/dL blood per µg/g soil]

[REFERENCE

WIXSON, B.G. (1991). The Society for Environmental Geochemistry and Health (SEGH) Task Force Approach to the Assessment of Lead in Soil. Trace Substances in Environmental Health . 11-20.]

<u>Input Values Used in IEUBK Model for Lead</u> <u>(for residential exposure scenario)</u>		
<u>Parameter</u>	<u>Value</u>	
<u>Outdoor Air Pb Concentration ($\mu\text{g}/\text{m}^3$)</u>	<u>Constant Value: 0.1</u>	
<u>Dietary Lead Intake ($\mu\text{g}/\text{day}$)</u>	<u>Age (Years)</u>	<u>Input</u>
	<u>0-1</u>	<u>2.66</u>
	<u>1-2</u>	<u>5.03</u>
	<u>2-3</u>	<u>5.21</u>
	<u>3-4</u>	<u>5.38</u>
	<u>4-5</u>	<u>5.64</u>
	<u>5-6</u>	<u>6.04</u>
	<u>6-7</u>	<u>5.95</u>
<u>Water Consumption (L/day)</u>	<u>Age (Years)</u>	<u>Input</u>
	<u>0-1</u>	<u>0.4</u>
	<u>1-2</u>	<u>0.43</u>
	<u>2-3</u>	<u>0.51</u>
	<u>3-4</u>	<u>0.54</u>
	<u>4-5</u>	<u>0.57</u>
	<u>5-6</u>	<u>0.6</u>
	<u>6-7</u>	<u>0.63</u>
<u>Use Alternate Water Value?</u>	<u>NO</u>	
<u>Lead concentration in drinking water ($\mu\text{g}/\text{L}$)</u>	<u>0.9</u>	
<u>MEDIA</u>	<u>ABSORPTION FRACTION</u> <u>PERCENT</u>	
<u>Soil</u>	<u>30</u>	
<u>Dust</u>	<u>30</u>	
<u>Water</u>	<u>50</u>	
<u>Diet</u>	<u>50</u>	
<u>Alternate</u>	<u>0</u>	
<u>Calculate PRG</u>		
<u>Select Age Group for Graph</u>	<u>0 to 84 months</u>	
<u>Change Cutoff</u>	<u>5</u>	
<u>Change GSD</u>	<u>1.6</u>	
<u>Probability of Exceeding the Cutoff</u>	<u>5</u>	

Note: Change Cutoff is the Target Blood Lead Level

<u>Input Values Used in the Adult Lead Model (ALM)</u> <u>(for non-residential exposure scenario)</u>			
<u>Variable</u>	<u>Description of Variable</u>	<u>Units</u>	<u>Value</u>
<u>PbB_{fetal, 0.95}</u>	<u>Target PbB in fetus</u>	<u>µg/dL</u>	<u>5</u>
<u>R_{fetal/maternal}</u>	<u>Fetal/maternal PbB ratio</u>	<u>--</u>	<u>0.9</u>
<u>BKSF</u>	<u>Biokinetic Slope Factor</u>	<u>µg/dL per µg/day</u>	<u>0.4</u>
<u>GSD_i</u>	<u>Geometric standard deviation PbB</u>	<u>--</u>	<u>1.8</u>
<u>PbB₀</u>	<u>Baseline PbB</u>	<u>µg/dL</u>	<u>0.6</u>
<u>IR_s</u>	<u>Soil ingestion rate</u>	<u>g/day</u>	<u>0.050</u>
<u>AF_{s, D}</u>	<u>Absorption fraction</u>	<u>--</u>	<u>0.12</u>
<u>EF_{s, D}</u>	<u>Exposure frequency</u>	<u>days/yr</u>	<u>219</u>
<u>AT_{s, D}</u>	<u>Averaging time</u>	<u>days/yr</u>	<u>365</u>