

APPENDIX D AQUATIC MODELING AND CALCULATIONS

GENEEC2 Output

Glyphosate – Terrestrial Application

RUN No. 1 FOR glyphosate				ON forestry		* INPUT VALUES *		
RATE (#/AC) ONE (MULT)		No.APPS & INTERVAL		SOIL Koc	SOLUBIL (PPM)	APPL TYPE (%DRIFT)	NO-SPRAY (FT)	INCORP (IN)
7.950 (7.950)		1	1	3120.0	12000.0	AERL_B(13.0)	.0	.0
FIELD AND STANDARD POND HALFLIFE VALUES (DAYS)								
METABOLIC (FIELD)	DAYS UNTIL RAIN/RUNOFF	HYDROLYSIS (POND)		PHOTOLYSIS (POND-EFF)		METABOLIC (POND)	COMBINED (POND)	
5.40	2	N/A		.00-		.00	21.00	21.00
GENERIC EECs (IN MICROGRAMS/LITER (PPB))						Version 2.0 Aug 1, 2001		
PEAK GEEC	MAX 4 DAY AVG GEEC		MAX 21 DAY AVG GEEC		MAX 60 DAY AVG GEEC		MAX 90 DAY AVG GEEC	
86.90	84.29		68.77		45.59		34.98	

Simple Dilution Calculations

EEC ($\mu\text{g/L}$) =

$$\begin{aligned}
 & \frac{[\text{Application rate (lb/A)} * 1.12 \text{ kg ha}^{-1}/\text{lb A}^{-1} * 1 \text{ ha/pond}]}{[20,000,000 \text{ L/pond}]} * [10^9 \mu\text{g/kg}] \\
 & = \text{Application rate (lb/A)} * 56 \mu\text{g A lb}^{-1} \text{ L}^{-1}
 \end{aligned}$$

Glyphosate – Aquatic Applications

$$\text{EEC} = (3.75 \text{ lb ae/L}) * (56 \mu\text{g A lb}^{-1} \text{ L}^{-1}) = \mathbf{210 \mu\text{g ae/L}}$$

Formulation – Aquatic Applications

$$\text{EEC} = (32.9 \text{ lb form./L}) * (56 \mu\text{g A lb}^{-1} \text{ L}^{-1}) = \mathbf{1840 \mu\text{g form./L}}$$

Formulation – Terrestrial Applications

Aquatic application rate (lb/A) = [Terrestrial application rate (lb/A)] * [% drift]

$$\text{EEC} = 34.0 \text{ lb form./L} * (0.05 \text{ drift}) * (56 \mu\text{g A lb}^{-1} \text{ L}^{-1}) = \mathbf{95.2 \mu\text{g form./L}}$$