

Calculation: Potential Doses and Margins of Exposure

Scenario: Occupational - Routine Exposure

Pathway: Dermal Contact with Herbicide

Herbicide: Dicamba

Program: Rangeland, Energy/Mineral, Rights-of-Way, Recreation/Cultural

Scenario	Application Type	Application Vehicle	Application Method	Receptor	Rate (lb a.i./acre)	Dermal Unit Exposure (mg/lb ai)	Acres Treated per Hour	Hours Per Day	Dermal Absorption Factor	Body Weight (kg)	Dermal Dose (mg/kg-day)	Dermal NOAELs (mg/kg-day)			Margin of Exposure (unitless)		
												Short	Int	Long	Short	Int	Long
Typical	Ground	Human	Bpack	A/M/L	0.1875	2.5	0.2	3	0.15	70	6.03E-04	45	45	45	7.47E+04	7.47E+04	7.47E+04
Typical	Ground	Human	Hback	A	0.1875	0.39	0.75	6	0.15	70	7.05E-04	45	45	45	6.38E+04	6.38E+04	6.38E+04
Typical	Ground	Human	Hback	M/L	0.1875	0.023	0.75	6	0.15	70	4.16E-05	45	45	45	1.08E+06	1.08E+06	1.08E+06
Typical	Ground	Human	Hback	A/M/L	0.1875	0.413	0.75	6	0.15	70	7.47E-04	45	45	45	6.03E+04	6.03E+04	6.03E+04
Typical	Ground	ATV	Spot	A	0.1875	0.39	0.25	5	0.15	70	1.96E-04	45	45	45	2.30E+05	2.30E+05	2.30E+05
Typical	Ground	ATV	Spot	M/L	0.1875	0.023	0.25	3	0.15	70	6.93E-06	45	45	45	6.49E+06	6.49E+06	6.49E+06
Typical	Ground	ATV	Spot	A/M/L	0.1875	0.413	0.25	5	0.15	70	2.07E-04	45	45	45	2.17E+05	2.17E+05	2.17E+05
Typical	Ground	ATV	B/B	A	0.1875	0.014	0.8	5	0.15	70	2.25E-05	45	45	45	2.00E+06	2.00E+06	2.00E+06
Typical	Ground	ATV	B/B	M/L	0.1875	0.023	0.8	3	0.15	70	2.22E-05	45	45	45	2.03E+06	2.03E+06	2.03E+06
Typical	Ground	ATV	B/B	A/M/L	0.1875	0.037	0.8	5	0.15	70	5.95E-05	45	45	45	7.57E+05	7.57E+05	7.57E+05
Typical	Ground	Truck Mount	Spot	A	0.1875	0.39	0.38	6	0.15	70	3.57E-04	45	45	45	1.26E+05	1.26E+05	1.26E+05
Typical	Ground	Truck Mount	Spot	M/L	0.1875	0.023	0.38	4	0.15	70	1.40E-05	45	45	45	3.20E+06	3.20E+06	3.20E+06
Typical	Ground	Truck Mount	Spot	A/M/L	0.1875	0.413	0.38	6	0.15	70	3.78E-04	45	45	45	1.19E+05	1.19E+05	1.19E+05
Typical	Ground	Truck Mount	B/B	A	0.1875	0.014	1.5	5	0.15	70	4.22E-05	45	45	45	1.07E+06	1.07E+06	1.07E+06
Typical	Ground	Truck Mount	B/B	M/L	0.1875	0.023	1.5	3	0.15	70	4.16E-05	45	45	45	1.08E+06	1.08E+06	1.08E+06
Typical	Ground	Truck Mount	B/B	A/M/L	0.1875	0.037	1.5	5	0.15	70	1.11E-04	45	45	45	4.04E+05	4.04E+05	4.04E+05
Max	Ground	Human	Bpack	A/M/L	0.25	2.5	0.4	6	0.15	70	3.21E-03	45	45	45	1.40E+04	1.40E+04	1.40E+04
Max	Ground	Human	Hback	A	0.25	0.39	1	8	0.15	70	1.67E-03	45	45	45	2.69E+04	2.69E+04	2.69E+04
Max	Ground	Human	Hback	M/L	0.25	0.023	1	8	0.15	70	9.86E-05	45	45	45	4.57E+05	4.57E+05	4.57E+05
Max	Ground	Human	Hback	A/M/L	0.25	0.413	1	8	0.15	70	1.77E-03	45	45	45	2.54E+04	2.54E+04	2.54E+04
Max	Ground	ATV	Spot	A	0.25	0.39	0.5	9	0.15	70	9.40E-04	45	45	45	4.79E+04	4.79E+04	4.79E+04
Max	Ground	ATV	Spot	M/L	0.25	0.023	0.5	6	0.15	70	3.70E-05	45	45	45	1.22E+06	1.22E+06	1.22E+06
Max	Ground	ATV	Spot	A/M/L	0.25	0.413	0.5	9	0.15	70	9.96E-04	45	45	45	4.52E+04	4.52E+04	4.52E+04
Max	Ground	ATV	B/B	A	0.25	0.014	1.6	9	0.15	70	1.08E-04	45	45	45	4.17E+05	4.17E+05	4.17E+05
Max	Ground	ATV	B/B	M/L	0.25	0.023	1.6	5	0.15	70	9.86E-05	45	45	45	4.57E+05	4.57E+05	4.57E+05
Max	Ground	ATV	B/B	A/M/L	0.25	0.037	1.6	9	0.15	70	2.85E-04	45	45	45	1.58E+05	1.58E+05	1.58E+05
Max	Ground	Truck Mount	Spot	A	0.25	0.39	1	10	0.15	70	2.09E-03	45	45	45	2.15E+04	2.15E+04	2.15E+04
Max	Ground	Truck Mount	Spot	M/L	0.25	0.023	1	8	0.15	70	9.86E-05	45	45	45	4.57E+05	4.57E+05	4.57E+05
Max	Ground	Truck Mount	Spot	A/M/L	0.25	0.413	1	10	0.15	70	2.21E-03	45	45	45	2.03E+04	2.03E+04	2.03E+04
Max	Ground	Truck Mount	B/B	A	0.25	0.014	2.25	8	0.15	70	1.35E-04	45	45	45	3.33E+05	3.33E+05	3.33E+05
Max	Ground	Truck Mount	B/B	M/L	0.25	0.023	2.25	6	0.15	70	1.66E-04	45	45	45	2.71E+05	2.71E+05	2.71E+05
Max	Ground	Truck Mount	B/B	A/M/L	0.25	0.037	2.25	8	0.15	70	3.57E-04	45	45	45	1.26E+05	1.26E+05	1.26E+05

Notes:

Calculation: Potential Doses and Margins of Exposure

Scenario: Occupational - Routine Exposure

Pathway: Inhalation of Herbicide

Herbicide: Dicamba

Program: Rangeland, Energy/Mineral, Rights-of-Way, Recreation/Cultural

Scenario	Application Type	Application Vehicle	Application Method	Receptor	Rate (lb a.i./acre)	Inhalation Unit Exposure (mg/lb ai)	Acres Treated per Hour	Hours Per Day	Inhalation Absorption Factor	Body Weight (kg)	Inhalation Dose (mg/kg-day)	Inhalation NOAELs (mg/kg-day)		Margin of Exposure (unitless)	
												Short	Long	Short	Long
Typical	Ground	Human	Bpack	A/M/L	0.1875	0.03	0.2	3	1	70	4.82E-05	45	45	9.33E+05	9.33E+05
Typical	Ground	Human	Hback	A	0.1875	0.0039	0.75	6	1	70	4.70E-05	45	45	9.57E+05	9.57E+05
Typical	Ground	Human	Hback	M/L	0.1875	0.0012	0.75	6	1	70	1.45E-05	45	45	3.11E+06	3.11E+06
Typical	Ground	Human	Hback	A/M/L	0.1875	0.0051	0.75	6	1	70	6.15E-05	45	45	7.32E+05	7.32E+05
Typical	Ground	ATV	Spot	A	0.1875	0.0039	0.25	5	1	70	1.31E-05	45	45	3.45E+06	3.45E+06
Typical	Ground	ATV	Spot	M/L	0.1875	0.0012	0.25	3	1	70	2.41E-06	45	45	1.87E+07	1.87E+07
Typical	Ground	ATV	Spot	A/M/L	0.1875	0.0051	0.25	5	1	70	1.71E-05	45	45	2.64E+06	2.64E+06
Typical	Ground	ATV	B/B	A	0.1875	0.0074	0.8	5	1	70	7.93E-06	45	45	5.68E+06	5.68E+06
Typical	Ground	ATV	B/B	M/L	0.1875	0.0012	0.8	3	1	70	7.71E-06	45	45	5.83E+06	5.83E+06
Typical	Ground	ATV	B/B	A/M/L	0.1875	0.00194	0.8	5	1	70	2.08E-05	45	45	2.16E+06	2.16E+06
Typical	Ground	Truck Mount	Spot	A	0.1875	0.0039	0.38	6	1	70	2.38E-05	45	45	1.89E+06	1.89E+06
Typical	Ground	Truck Mount	Spot	M/L	0.1875	0.0012	0.38	4	1	70	4.89E-06	45	45	9.21E+06	9.21E+06
Typical	Ground	Truck Mount	Spot	A/M/L	0.1875	0.0051	0.38	6	1	70	3.11E-05	45	45	1.44E+06	1.44E+06
Typical	Ground	Truck Mount	B/B	A	0.1875	0.0074	1.5	5	1	70	1.49E-05	45	45	3.03E+06	3.03E+06
Typical	Ground	Truck Mount	B/B	M/L	0.1875	0.0012	1.5	3	1	70	1.45E-05	45	45	3.11E+06	3.11E+06
Typical	Ground	Truck Mount	B/B	A/M/L	0.1875	0.00194	1.5	5	1	70	3.90E-05	45	45	1.15E+06	1.15E+06
Max	Ground	Human	Bpack	A/M/L	0.25	0.03	0.4	6	1	70	2.57E-04	45	45	1.75E+05	1.75E+05
Max	Ground	Human	Hback	A	0.25	0.0039	1	8	1	70	1.11E-04	45	45	4.04E+05	4.04E+05
Max	Ground	Human	Hback	M/L	0.25	0.0012	1	8	1	70	3.43E-05	45	45	1.31E+06	1.31E+06
Max	Ground	Human	Hback	A/M/L	0.25	0.0051	1	8	1	70	1.46E-04	45	45	3.09E+05	3.09E+05
Max	Ground	ATV	Spot	A	0.25	0.0039	0.5	9	1	70	6.27E-05	45	45	7.18E+05	7.18E+05
Max	Ground	ATV	Spot	M/L	0.25	0.0012	0.5	6	1	70	1.29E-05	45	45	3.50E+06	3.50E+06
Max	Ground	ATV	Spot	A/M/L	0.25	0.0051	0.5	9	1	70	8.20E-05	45	45	5.49E+05	5.49E+05
Max	Ground	ATV	B/B	A	0.25	0.0074	1.6	9	1	70	3.81E-05	45	45	1.18E+06	1.18E+06
Max	Ground	ATV	B/B	M/L	0.25	0.0012	1.6	5	1	70	3.43E-05	45	45	1.31E+06	1.31E+06
Max	Ground	ATV	B/B	A/M/L	0.25	0.00194	1.6	9	1	70	9.98E-05	45	45	4.51E+05	4.51E+05
Max	Ground	Truck Mount	Spot	A	0.25	0.0039	1	10	1	70	1.39E-04	45	45	3.23E+05	3.23E+05
Max	Ground	Truck Mount	Spot	M/L	0.25	0.0012	1	8	1	70	3.43E-05	45	45	1.31E+06	1.31E+06
Max	Ground	Truck Mount	Spot	A/M/L	0.25	0.0051	1	10	1	70	1.82E-04	45	45	2.47E+05	2.47E+05
Max	Ground	Truck Mount	B/B	A	0.25	0.0074	2.25	8	1	70	4.76E-05	45	45	9.46E+05	9.46E+05
Max	Ground	Truck Mount	B/B	M/L	0.25	0.0012	2.25	6	1	70	5.79E-05	45	45	7.78E+05	7.78E+05
Max	Ground	Truck Mount	B/B	A/M/L	0.25	0.00194	2.25	8	1	70	1.25E-04	45	45	3.61E+05	3.61E+05

Notes:

Calculation: Aggregate Risk Level
 Scenario: Occupational - Routine Exposure
 Pathway: Dermal Contact with and Inhalation of Herbicide
 Herbicide: Dicamba
 Program: Rangeland, Energy/Mineral, Rights-of-Way, Recreation/Cultural

Scenario	Application Type	Application Vehicle	Application Method	Receptor	Margin of Exposure Dermal Exposure (unitless)			Margin of Exposure Inhalation Exposure (unitless)			Target Margin of Exposure			Aggregate Risk Index		
					Short	Int	Long	Short	Int	Long	Dermal	Inhalation	Short	Int	Long	
Typical	Ground	Human	Bpack	A/M/L	7.47E+04	7.47E+04	7.47E+04	9.33E+05	9.33E+05	9.33E+05	100	100	6.91E+02	6.91E+02	6.91E+02	
Typical	Ground	Human	Hback	A	6.38E+04	6.38E+04	6.38E+04	9.57E+05	9.57E+05	9.57E+05	100	100	5.98E+02	5.98E+02	5.98E+02	
Typical	Ground	Human	Hback	M/L	1.08E+06	1.08E+06	1.08E+06	3.11E+06	3.11E+06	3.11E+06	100	100	8.03E+03	8.03E+03	8.03E+03	
Typical	Ground	Human	Hback	A/M/L	6.03E+04	6.03E+04	6.03E+04	7.32E+05	7.32E+05	7.32E+05	100	100	5.57E+02	5.57E+02	5.57E+02	
Typical	Ground	ATV	Spot	A	2.30E+05	2.30E+05	2.30E+05	3.45E+06	3.45E+06	3.45E+06	100	100	2.15E+03	2.15E+03	2.15E+03	
Typical	Ground	ATV	Spot	M/L	6.49E+06	6.49E+06	6.49E+06	1.87E+07	1.87E+07	1.87E+07	100	100	4.82E+04	4.82E+04	4.82E+04	
Typical	Ground	ATV	Spot	A/M/L	2.17E+05	2.17E+05	2.17E+05	2.64E+06	2.64E+06	2.64E+06	100	100	2.00E+03	2.00E+03	2.00E+03	
Typical	Ground	ATV	B/B	A	2.00E+06	2.00E+06	2.00E+06	5.68E+06	5.68E+06	5.68E+06	100	100	1.48E+04	1.48E+04	1.48E+04	
Typical	Ground	ATV	B/B	M/L	2.03E+06	2.03E+06	2.03E+06	5.83E+06	5.83E+06	5.83E+06	100	100	1.51E+04	1.51E+04	1.51E+04	
Typical	Ground	ATV	B/B	A/M/L	7.57E+05	7.57E+05	7.57E+05	2.16E+06	2.16E+06	2.16E+06	100	100	5.61E+03	5.61E+03	5.61E+03	
Typical	Ground	Truck Mount	Spot	A	1.26E+05	1.26E+05	1.26E+05	1.89E+06	1.89E+06	1.89E+06	100	100	1.18E+03	1.18E+03	1.18E+03	
Typical	Ground	Truck Mount	Spot	M/L	3.20E+06	3.20E+06	3.20E+06	9.21E+06	9.21E+06	9.21E+06	100	100	2.38E+04	2.38E+04	2.38E+04	
Typical	Ground	Truck Mount	Spot	A/M/L	1.19E+05	1.19E+05	1.19E+05	1.44E+06	1.44E+06	1.44E+06	100	100	1.10E+03	1.10E+03	1.10E+03	
Typical	Ground	Truck Mount	B/B	A	1.07E+06	1.07E+06	1.07E+06	3.03E+06	3.03E+06	3.03E+06	100	100	7.89E+03	7.89E+03	7.89E+03	
Typical	Ground	Truck Mount	B/B	M/L	1.08E+06	1.08E+06	1.08E+06	3.11E+06	3.11E+06	3.11E+06	100	100	8.03E+03	8.03E+03	8.03E+03	
Typical	Ground	Truck Mount	B/B	A/M/L	4.04E+05	4.04E+05	4.04E+05	1.15E+06	1.15E+06	1.15E+06	100	100	2.99E+03	2.99E+03	2.99E+03	
Max	Ground	Human	Bpack	A/M/L	1.40E+04	1.40E+04	1.40E+04	1.75E+05	1.75E+05	1.75E+05	100	100	1.30E+02	1.30E+02	1.30E+02	
Max	Ground	Human	Hback	A	2.69E+04	2.69E+04	2.69E+04	4.04E+05	4.04E+05	4.04E+05	100	100	2.52E+02	2.52E+02	2.52E+02	
Max	Ground	Human	Hback	M/L	4.57E+05	4.57E+05	4.57E+05	1.31E+06	1.31E+06	1.31E+06	100	100	3.39E+03	3.39E+03	3.39E+03	
Max	Ground	Human	Hback	A/M/L	2.54E+04	2.54E+04	2.54E+04	3.09E+05	3.09E+05	3.09E+05	100	100	2.35E+02	2.35E+02	2.35E+02	
Max	Ground	ATV	Spot	A	4.79E+04	4.79E+04	4.79E+04	7.18E+05	7.18E+05	7.18E+05	100	100	4.49E+02	4.49E+02	4.49E+02	
Max	Ground	ATV	Spot	M/L	1.22E+06	1.22E+06	1.22E+06	3.50E+06	3.50E+06	3.50E+06	100	100	9.03E+03	9.03E+03	9.03E+03	
Max	Ground	ATV	Spot	A/M/L	4.52E+04	4.52E+04	4.52E+04	5.49E+05	5.49E+05	5.49E+05	100	100	4.18E+02	4.18E+02	4.18E+02	
Max	Ground	ATV	B/B	A	4.17E+05	4.17E+05	4.17E+05	1.18E+06	1.18E+06	1.18E+06	100	100	3.08E+03	3.08E+03	3.08E+03	
Max	Ground	ATV	B/B	M/L	4.57E+05	4.57E+05	4.57E+05	1.31E+06	1.31E+06	1.31E+06	100	100	3.39E+03	3.39E+03	3.39E+03	
Max	Ground	ATV	B/B	A/M/L	1.58E+05	1.58E+05	1.58E+05	4.51E+05	4.51E+05	4.51E+05	100	100	1.17E+03	1.17E+03	1.17E+03	
Max	Ground	Truck Mount	Spot	A	2.15E+04	2.15E+04	2.15E+04	3.23E+05	3.23E+05	3.23E+05	100	100	2.02E+02	2.02E+02	2.02E+02	
Max	Ground	Truck Mount	Spot	M/L	4.57E+05	4.57E+05	4.57E+05	1.31E+06	1.31E+06	1.31E+06	100	100	3.39E+03	3.39E+03	3.39E+03	
Max	Ground	Truck Mount	Spot	A/M/L	2.03E+04	2.03E+04	2.03E+04	2.47E+05	2.47E+05	2.47E+05	100	100	1.88E+02	1.88E+02	1.88E+02	
Max	Ground	Truck Mount	B/B	A	3.33E+05	3.33E+05	3.33E+05	9.46E+05	9.46E+05	9.46E+05	100	100	2.46E+03	2.46E+03	2.46E+03	
Max	Ground	Truck Mount	B/B	M/L	2.71E+05	2.71E+05	2.71E+05	7.78E+05	7.78E+05	7.78E+05	100	100	2.01E+03	2.01E+03	2.01E+03	
Max	Ground	Truck Mount	B/B	A/M/L	1.26E+05	1.26E+05	1.26E+05	3.61E+05	3.61E+05	3.61E+05	100	100	9.35E+02	9.35E+02	9.35E+02	

Notes: