

Calculation:	Potential Doses and Margins of Exposure
Scenario:	Occupational - Routine Exposure
Pathway:	Dermal Contact with Herbicide
Herbicide:	Diquat
Program:	Aquatic

Calculation: Potential Doses and Margins of Exposure
 Scenario: Occupational - Routine Exposure
 Pathway: Dermal Contact with Herbicide
 Herbicide: Diquat
 Program: Aquatic

Scenario	Application Type	Application Vehicle	Application Method	Receptor	Rate (lb a.i./acre)	Dermal Unit Exposure (mg/lb a.i.)	Acres Treated per Hour	Hours Per Day	Dermal Abs. Factor	Body Weight (kg)	Dermal NOAELs (mg/kg-day)			Margin of Exposure (unitless)			
											Dermal Dose (mg/kg-day)	Short Int	Long Short Int	Long Short Int	Long Short Int	Long Short Int	
Max	Aerial	Plane	FW	P	4	0.0022	500	6	0.041	70	1.55E-02	1	0.5	0.5	6.47E+01	3.23E+01	3.23E+01
Max	Aerial	Plane	M/L	P	4	0.023	500	6	0.041	70	1.62E-01	1	0.5	0.5	6.19E+00	3.09E+00	3.09E+00
Max	Aerial	Helicopter	Rotary	P	4	0.0022	200	6	0.041	70	6.19E-03	1	0.5	0.5	1.62E+02	8.08E+01	8.08E+01
Max	Aerial	Helicopter	Rotary	M/L	4	0.023	200	6	0.041	70	6.47E-02	1	0.5	0.5	1.55E+01	7.73E+00	7.73E+00
Max	Ground	Human	Bpack	A/M/L	4	2.5	0.4	6	0.041	70	1.41E-02	1	0.5	0.5	7.11E+01	3.56E+01	3.56E+01
Max	Ground	Human	Hback	A	4	0.39	1	8	0.041	70	7.31E-03	1	0.5	0.5	1.37E+02	6.84E+01	6.84E+01
Max	Ground	Human	Hback	M/L	4	0.023	1	8	0.041	70	4.31E-04	1	0.5	0.5	2.32E+03	1.16E+03	1.16E+03
Max	Ground	Human	Hback	A/M/L	4	0.413	1	8	0.041	70	7.74E-03	1	0.5	0.5	1.29E+02	6.46E+01	6.46E+01
Max	Ground	ATV	Spot	A	4	0.39	0.5	9	0.041	70	4.11E-03	1	0.5	0.5	2.43E+02	1.22E+02	1.22E+02
Max	Ground	ATV	Spot	M/L	4	0.023	0.5	6	0.041	70	1.62E-04	1	0.5	0.5	6.19E+03	3.09E+03	3.09E+03
Max	Ground	ATV	Spot	A/M/L	4	0.413	0.5	9	0.041	70	4.35E-03	1	0.5	0.5	2.30E+02	1.15E+02	1.15E+02
Max	Ground	ATV	Spot	A	4	0.014	1.6	9	0.041	70	4.72E-04	1	0.5	0.5	2.12E+03	1.06E+03	1.06E+03
Max	Ground	ATV	Spot	M/L	4	0.023	1.6	5	0.041	70	4.31E-04	1	0.5	0.5	2.32E+03	1.16E+03	1.16E+03
Max	Ground	ATV	Spot	A/M/L	4	0.037	1.6	9	0.041	70	1.25E-03	1	0.5	0.5	8.01E+02	4.01E+02	4.01E+02
Max	Ground	Truck Mount	Spot	A	4	0.39	1	10	0.041	70	9.14E-03	1	0.5	0.5	1.09E+02	5.47E+01	5.47E+01
Max	Ground	Truck Mount	Spot	M/L	4	0.023	1	8	0.041	70	4.31E-04	1	0.5	0.5	2.32E+03	1.16E+03	1.16E+03
Max	Ground	Truck Mount	Spot	A/M/L	4	0.413	1	10	0.041	70	9.68E-03	1	0.5	0.5	1.03E+02	5.17E+01	5.17E+01
Max	Ground	Truck Mount	Spot	A	4	0.014	2.25	8	0.041	70	5.90E-04	1	0.5	0.5	1.69E+03	8.47E+02	8.47E+02
Max	Ground	Truck Mount	Spot	M/L	4	0.023	2.25	6	0.041	70	7.27E-04	1	0.5	0.5	1.37E+03	6.87E+02	6.87E+02
Max	Ground	Truck Mount	Spot	A/M/L	4	0.037	2.25	8	0.041	70	1.56E-03	1	0.5	0.5	6.41E+02	3.20E+02	3.20E+02
Max	Aquatic	Boat	Spot	A	4	0.17	2	6	0.041	70	5.97E-04	1	0.5	0.5	1.67E+03	8.37E+02	8.37E+02
Max	Aquatic	Boat	Spot	M/L	4	0.47	2	2	0.041	70	5.51E-04	1	0.5	0.5	1.82E+03	9.08E+02	9.08E+02
Max	Aquatic	Boat	Spot	A/M/L	4	0.64	2	6	0.041	70	2.25E-03	1	0.5	0.5	4.45E+02	2.22E+02	2.22E+02
Max	Aquatic	Boat	Spot	B/B	4	0.17	3	6	0.041	70	5.97E-04	1	0.5	0.5	1.67E+03	8.37E+02	8.37E+02
Max	Aquatic	Boat	Spot	M/L	4	0.47	3	2	0.041	70	5.51E-04	1	0.5	0.5	1.82E+03	9.08E+02	9.08E+02
Max	Aquatic	Boat	Spot	A/B	4	0.64	3	6	0.041	70	2.25E-03	1	0.5	0.5	4.45E+02	2.22E+02	2.22E+02

Notes:

(a) - Unit Exposure is in mg/hour. Dose equation is therefore: Unit Exposure (mg/hr) * Exposure Time (hours/day) * DAF / Body Weight (kg)

Calculation: Potential Doses and Margins of Exposure
 Scenario: Occupational - Routine Exposure
 Pathway: Inhalation of Herbicide
 Herbicide: Diquat
 Program: Aquatic

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		
												Short Int	Long Int	Short Int	Long Int	Short Int	Long Int
Typical	Aerial	Plane	FW	P	1	0.000068	250	4	1	70	9.71E-04	0.024	0.02	2.47E+01	2.47E+01	2.47E+01	
Typical	Aerial	Plane	FW	M/L	1	0.0012	250	4	1	70	1.71E-02	0.024	0.02	1.40E+00	1.40E+00	1.40E+00	
Typical	Aerial	Helicopter	Rotary	P	1	0.000068	100	4	1	70	3.89E-04	0.024	0.02	6.18E+01	6.18E+01	6.18E+01	
Typical	Aerial	Helicopter	Rotary	M/L	1	0.0012	100	4	1	70	6.86E-03	0.024	0.02	3.50E+00	3.50E+00	3.50E+00	
Typical	Ground	Human	Bpack	A/M/L	1	0.03	0.2	3	1	70	2.57E-04	0.024	0.02	9.33E+01	9.33E+01	9.33E+01	
Typical	Ground	Human	Hback	A	1	0.0039	0.75	6	1	70	2.51E-04	0.024	0.02	9.57E+01	9.57E+01	9.57E+01	
Typical	Ground	Human	Hback	M/L	1	0.0012	0.75	6	1	70	7.71E-05	0.024	0.02	3.11E+02	3.11E+02	3.11E+02	
Typical	Ground	Human	Hback	A/M/L	1	0.0051	0.75	6	1	70	3.28E-04	0.024	0.02	7.32E+01	7.32E+01	7.32E+01	
Typical	Ground	ATV	Spot	A	1	0.0039	0.25	5	1	70	6.96E-05	0.024	0.02	3.45E+02	3.45E+02	3.45E+02	
Typical	Ground	ATV	Spot	M/L	1	0.0012	0.25	3	1	70	1.29E-05	0.024	0.02	1.87E+03	1.87E+03	1.87E+03	
Typical	Ground	ATV	Spot	A/M/L	1	0.0051	0.25	5	1	70	9.11E-05	0.024	0.02	2.64E+02	2.64E+02	2.64E+02	
Typical	Ground	ATV	Spot	A	1	0.00074	0.8	5	1	70	4.23E-05	0.024	0.02	5.68E+02	5.68E+02	5.68E+02	
Typical	Ground	ATV	Spot	M/L	1	0.0012	0.8	3	1	70	4.11E-05	0.024	0.02	5.83E+02	5.83E+02	5.83E+02	
Typical	Ground	ATV	Spot	A/M/L	1	0.00194	0.8	5	1	70	1.11E-04	0.024	0.02	2.16E+02	2.16E+02	2.16E+02	
Typical	Ground	Truck Mount	Spot	A	1	0.0039	0.38	6	1	70	1.27E-04	0.024	0.02	1.89E+02	1.89E+02	1.89E+02	
Typical	Ground	Truck Mount	Spot	M/L	1	0.0012	0.38	4	1	70	2.61E-05	0.024	0.02	9.21E+02	9.21E+02	9.21E+02	
Typical	Ground	Truck Mount	Spot	A/M/L	1	0.0051	0.38	6	1	70	1.66E-04	0.024	0.02	1.44E+02	1.44E+02	1.44E+02	
Typical	Ground	Truck Mount	Spot	A	1	0.00074	1.5	5	1	70	7.93E-05	0.024	0.02	3.03E+02	3.03E+02	3.03E+02	
Typical	Ground	Truck Mount	Spot	M/L	1	0.0012	1.5	3	1	70	1.11E-04	0.024	0.02	2.16E+02	2.16E+02	2.16E+02	
Typical	Ground	Truck Mount	Spot	A/M/L	1	0.00194	1.5	5	1	70	7.71E-05	0.024	0.02	3.11E+02	3.11E+02	3.11E+02	
Typical	Aquatic	Boat	Spot	A	1	NA	0.63	4	1	70	2.08E-04	0.024	0.02	1.15E+02	1.15E+02	1.15E+02	
Typical	Aquatic	Boat	Spot	M/L	1	NA	0.63	1	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	A/M/L	1	NA	0.63	4	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	A	1	NA	1.3	4	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	M/L	1	NA	1.3	1	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	A/B	1	NA	1.3	4	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	B/B	1	NA	1.3	4	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	A/M/L	1	NA	1.3	4	1	70	--	0.024	0.02	NC	NC	NC	
Typical	Aquatic	Boat	Spot	B/B	1	NA	1.3	1	1	70	--	0.024	0.02	NC	NC	NC	

Calculation: Potential Doses and Margins of Exposure
 Scenario: Occupational - Routine Exposure
 Pathway: Inhalation of Herbicide
 Herbicide: Diquat
 Program: Aquatic

Scenario	Application Type	Application Vehicle	Application Method	Receptor	Rate (lb a.i./acre)	Inhalation Unit Exposure (mg/lb a.i.)	Acres Treated per Hour	Hours Per Day	Inhalation Body Weight Factor	Inhalation Dose (mg/kg/day)			Inhalation NOAELs (mg/kg-day)			Margin of Exposure (unitless)		
										Short	Int	Long	Short	Int	Long	Short	Int	Long
Max	Aerial	Plane	FW	P	4	0.000068	500	6	1	70	1.17E-02	0.024	0.02	2.06E+00	2.06E+00	2.06E+00		
Max	Aerial	Plane	FW	M/L	4	0.0012	500	6	1	70	2.06E-01	0.024	0.02	1.17E-01	1.17E-01	1.17E-01		
Max	Aerial	Helicopter	Rotary	P	4	0.000068	200	6	1	70	4.66E-03	0.024	0.02	5.15E+00	5.15E+00	5.15E+00		
Max	Aerial	Helicopter	Rotary	M/L	4	0.0012	200	6	1	70	8.23E-02	0.024	0.02	2.92E-01	2.92E-01	2.92E-01		
Max	Ground	Human	Bpack	A/M/L	4	0.03	0.4	6	1	70	4.11E-03	0.024	0.02	5.83E+00	5.83E+00	5.83E+00		
Max	Ground	Human	Hback	A	4	0.0039	1	1	70	1.78E-03	0.024	0.02	1.35E+01	1.35E+01	1.35E+01			
Max	Ground	Human	Hback	M/L	4	0.0012	1	8	1	70	5.49E-04	0.024	0.02	4.38E+01	4.38E+01	4.38E+01		
Max	Ground	Human	Hback	A/M/L	4	0.0051	1	8	1	70	2.33E-03	0.024	0.02	1.03E+01	1.03E+01	1.03E+01		
Max	Ground	ATV	Spot	A	4	0.0039	0.5	9	1	70	1.00E-03	0.024	0.02	2.39E+01	2.39E+01	2.39E+01		
Max	Ground	ATV	Spot	M/L	4	0.0012	0.5	6	1	70	2.06E-04	0.024	0.02	1.17E+02	1.17E+02	1.17E+02		
Max	Ground	ATV	Spot	A/M/L	4	0.0051	0.5	9	1	70	1.31E-03	0.024	0.02	1.83E+01	1.83E+01	1.83E+01		
Max	Ground	ATV	Spot	A	4	0.00074	1.6	9	1	70	6.09E-04	0.024	0.02	3.94E+01	3.94E+01	3.94E+01		
Max	Ground	ATV	Spot	M/L	4	0.0012	1.6	5	1	70	5.49E-04	0.024	0.02	4.38E+01	4.38E+01	4.38E+01		
Max	Ground	ATV	Spot	A/M/L	4	0.00194	1.6	9	1	70	1.60E-03	0.024	0.02	1.50E+01	1.50E+01	1.50E+01		
Max	Ground	Truck Mount	Spot	A	4	0.0039	1	10	1	70	2.23E-03	0.024	0.02	1.08E+01	1.08E+01	1.08E+01		
Max	Ground	Truck Mount	Spot	M/L	4	0.0012	1	8	1	70	5.49E-04	0.024	0.02	4.38E+01	4.38E+01	4.38E+01		
Max	Ground	Truck Mount	Spot	A/M/L	4	0.0051	1	10	1	70	2.91E-03	0.024	0.02	8.24E+00	8.24E+00	8.24E+00		
Max	Ground	Truck Mount	Spot	A	4	0.00074	2.25	8	1	70	7.61E-04	0.024	0.02	3.15E+01	3.15E+01	3.15E+01		
Max	Ground	Truck Mount	B/B	M/L	4	0.0012	2.25	6	1	70	9.26E-04	0.024	0.02	2.59E+01	2.59E+01	2.59E+01		
Max	Ground	Truck Mount	B/B	A/M/L	4	0.00194	2.25	8	1	70	2.00E-03	0.024	0.02	1.20E+01	1.20E+01	1.20E+01		
Max	Aquatic	Boat	Spot	A	4	NA	2	6	1	70	--	0.024	0.02	NC	NC	NC		
Max	Aquatic	Boat	Spot	M/L	4	NA	2	6	1	70	--	0.024	0.02	NC	NC	NC		
Max	Aquatic	Boat	Spot	A/M/L	4	NA	2	6	1	70	--	0.024	0.02	NC	NC	NC		
Max	Aquatic	Boat	Spot	A	4	NA	3	6	1	70	--	0.024	0.02	NC	NC	NC		
Max	Aquatic	Boat	Spot	M/L	4	NA	3	2	1	70	--	0.024	0.02	NC	NC	NC		
Max	Aquatic	Boat	Spot	A/M/L	4	NA	3	6	1	70	--	0.024	0.02	NC	NC	NC		

