

1. *Acute risk.* Using the exposure assumptions discussed in this unit for acute exposure, the acute dietary exposure from food to glufosinate ammonium will occupy 48% of the

aPAD for females 13 years and older. In addition, there is potential for acute dietary exposure to glufosinate ammonium in drinking water. After calculating DWLOCs and comparing

them to the EECs for surface water and groundwater, EPA does not expect the aggregate exposure to exceed 100% of the aPAD, as shown in Table 5 of this unit:

TABLE 5.—AGGREGATE RISK ASSESSMENT FOR ACUTE EXPOSURE TO GLUFOSINATE AMMONIUM

Population Subgroup	aPAD (mg/kg)	% aPAD (Food)	Surface Water EEC (µg/liter)	Ground Water EEC (µg/liter)	Acute DWLOC (µg/liter)
Females (13–50 years old)	0.0063	48	94	9	98

2. *Chronic risk.* Using the exposure assumptions described in this unit for chronic exposure, EPA has concluded that exposure to glufosinate ammonium from food will utilize 10% of the cPAD for the U.S. population, 20% of the cPAD for all infants and 27% of the

cPAD for children (1–2 years old). Based on the use pattern, chronic residential exposure to residues of glufosinate ammonium is not expected. In addition, there is potential for chronic dietary exposure to glufosinate ammonium in drinking water. After calculating

DWLOCs and comparing them to the EECs for surface water and groundwater, EPA does not expect the aggregate exposure to exceed 100% of the cPAD, as shown in Table 6 of this unit:

TABLE 6.—AGGREGATE RISK ASSESSMENT FOR CHRONIC (NON-CANCER) EXPOSURE TO GLUFOSINATE AMMONIUM

Population Subgroup	cPAD mg/kg/day	% cPAD (Food)	Surface Water EEC (µg/liter)	Ground Water EEC (µg/liter)	Chronic DWLOC (µg/liter)
U.S. Population	0.006	10	43	9	189
Youth (13–19 years old)	0.006	9	43	9	164
Females (13–50 years old)	0.006	7	43	9	167
Adults (20–49)	0.006	8	43	9	194

3. *Short-term risk.* Short-term aggregate exposure takes into account residential exposure plus chronic exposure to food and water (considered to be a background exposure level).

Glufosinate ammonium is currently registered for use that could result in short-term residential exposure and the Agency has determined that it is appropriate to aggregate chronic food and water and short-term exposures.

Using the exposure assumptions described in this unit for short-term

exposures, EPA has concluded that food and residential exposures aggregated result in aggregate risk index (ARI) of 5.42 for the U.S. population, 6.35 for females (13–49 years old) and 5.75 for youth (13–19 years old). The registered spot treatment of weeds is expected to result in residential exposure only to adults. Therefore, short-term aggregate assessments were not conducted for infants and children. These aggregate ARIs do not exceed the Agency's level

of concern of less than 1 for aggregate exposure to food and residential uses. In addition, short-term DWLOCs were calculated and compared to the EECs for chronic exposure of glufosinate ammonium in groundwater and surface water. After calculating DWLOCs and comparing them to the EECs for surface and ground water, EPA does not expect short-term aggregate exposure to exceed the Agency's level of concern, as shown in Table 7 of this unit:

TABLE 7.—AGGREGATE RISK ASSESSMENT FOR SHORT-TERM EXPOSURE TO GLUFOSINATE AMMONIUM

Population Subgroup	Aggregate ARI <sup>1</sup> (Food + Residential)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Short-Term DWLOC (ppb)
U.S. Population	5.42	43	9	180
Females (13–49 years old)	6.35	43	9	159
Youths (13–19 years old)	5.75	43	9	156

<sup>1</sup> ARI = MOE<sub>calculated</sub> ( i.e., food, dermal, inhalation ) ÷ MOE<sub>acceptable</sub>

4. *Aggregate cancer risk for U.S. population.* No evidence of carcinogenicity at doses tested were observed in the mouse and rat

carcinogenicity studies. Therefore, no cancer risk is expected.

5. *Determination of safety.* Based on these risk assessments, EPA concludes that there is a reasonable certainty that

no harm will result to the general population, and to infants and children from aggregate exposure to glufosinate ammonium residues.