

taken into account in more refined screening-level and quantitative drinking water exposure assessments. Different populations will have different DWLOCs. Generally, a DWLOC is calculated for each type of risk assessment used: Acute, short-term, intermediate-term, chronic, and cancer.

When EECs for surface water and groundwater are less than the calculated DWLOCs, OPP concludes with reasonable certainty that exposures to the pesticide in drinking water (when considered along with other sources of exposure for which OPP has reliable data) would not result in unacceptable levels of aggregate human health risk at this time. Because OPP considers the aggregate risk resulting from multiple

exposure pathways associated with a pesticide's uses, levels of comparison in drinking water may vary as those uses change. If new uses are added in the future, OPP will reassess the potential impacts of residues of the pesticide in drinking water as a part of the aggregate risk assessment process.

1. *Acute exposure.* Acute dietary risk assessments are performed for a food-use pesticide if a toxicological study has indicated the possibility of an effect of concern occurring as a result of a one day or single exposure. Bifenazate is not expected to pose an acute risk to humans.

2. *Chronic risk.* Using the exposure assumptions described in this unit for chronic exposure, EPA has concluded

that exposure to bifenazate from food will utilize 24% of the cPAD for the U.S. population, 59% of the cPAD for all infants < 1 year old, 85% of the cPAD for children 1–2 years old (the most highly exposed population subgroup), and 17% of the cPAD for females 13–49 years old. Based on the use pattern, chronic residential exposure to residues of bifenazate is not expected. In addition, there is potential for chronic dietary exposure to bifenazate in drinking water. After calculating DWLOCs and comparing them to the EECs for surface and ground water, EPA does not expect the aggregate exposure to exceed 100% of the cPAD, as shown in Table 3 of this unit:

TABLE 3.—AGGREGATE RISK ASSESSMENT FOR CHRONIC (NON-CANCER) EXPOSURE TO BIFENAZATE

Population Subgroup	cPAD mg/kg/day	% cPAD (Food)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Chronic DWLOC (ppb)
U.S. population	0.01	24	6.4	<0.001	260
All Infants (<1 year old)	0.01	59	6.4	<0.001	40
Children (1–2 years old)	0.01	85	6.4	<0.001	15
Females (13–49 years old)	0.01	17	6.4	<0.001	250

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). In its objections to a separate bifenazate tolerance action, NRDC claims that residential short- and intermediate-term risk assessments are data gaps for bifenazate. In the current risk assessment, EPA calculated short-term residential risks to homeowner applicators. However, the Agency concluded that no significant post-application exposure is anticipated from landscape ornamentals; therefore, no residential post-application

assessment was conducted. In addition, intermediate-term aggregate exposure (30 days to 6 months) is not expected since homeowner exposure is not expected to exceed 1 to 30 days.

Bifenazate 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 for bifenazate.

Using the exposure assumptions described in this unit for short-term exposures, EPA has concluded that food and residential exposures aggregated result in aggregate MOEs of 2,069 for the U.S. population; 2,418 for youth 13–19

years old; 2,429 for adults 20–49 years old; 2,467 for females 13–49 years old; and 2,377 for adults 50+ years old. These aggregate MOEs do not exceed the Agency's level of concern for aggregate exposure to food and residential uses. In addition, short-term DWLOCs were calculated and compared to the EECs for chronic exposure of bifenazate in ground 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 4 of this unit:

TABLE 4.—AGGREGATE RISK ASSESSMENT FOR SHORT-TERM EXPOSURE TO BIFENAZATE

Population Subgroup	Aggregate MOE (Food + Residential)	Aggregate Level of Concern (LOC)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Short-Term DWLOC (ppb)
U.S. population	2,100	100	6.4	<0.001	3,300
Youth 13–19 years old	2,400	100	6.4	<0.001	2,900
Adults 20–49 years old	2,400	100	6.4	<0.001	3,400
Females 13–49 year old	2,500	100	6.4	<0.001	2,900
Adults 50+ years old	2,400	100	6.4	<0.001	3,400