

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

Population Subgroup	cPAD mg/ kg/day	% cPAD (Food)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Chronic DWLOC (ppb)
All Infants (< 1 year old)	0.218	24	25.6	0.571	1,700
Children 1-2 years old	0.218	35	25.6	0.571	1,400
Females 13-49 years old	0.218	5	25.6	0.571	6,200
Adults 50+ years old	0.218	6	25.6	0.571	7,200

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).

Boscalid is proposed 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 boscalid.

Using the exposure assumptions described in this unit for short-term exposures, EPA has concluded that food and residential exposures aggregated result in an aggregate MOE of 1,200 for the general population. The short-term

aggregate risk assessment takes into account average exposures estimates from dietary consumption of boscalid (food and drinking water) and residential uses. Postapplication exposures from the proposed use on golf course is considered a short term activity and applies to adults and youth. The Agency concluded that exposure from turf grass is needed to be included in the aggregate assessment. Table 4 summarizes the results. For the general population the MOE from food and residential exposure was 1,200. This MOE is also representative of the risk for youth playing golf for the reasons stated in Unit III.C.3. and the dietary

exposure for youth (13-19 years old) being less than the general population. These aggregate MOEs do not exceed the Agency's level of concern for aggregate exposure to food and residential uses. In addition, a short-term DWLOC was calculated and compared to the EECs for chronic exposure of boscalid in ground and surface water. The calculated short term DWLOC is 6,000 ppb. After calculating the DWLOC and comparing it 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 BOSCALID

Population Subgroup	Aggregate MOE (Food + Residen- tial)	Aggregate Level of Concern (LOC)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Short-Term DWLOC (ppb)
General population	1,200	100	25.60	0.571	6,000

#### 4. *Intermediate-term risk.*

Intermediate-term aggregate exposure takes into account residential exposure plus chronic exposure to food and water (considered to be a background exposure level). Boscalid is not registered for use on any sites that would result in intermediate-term residential exposure. Therefore, the aggregate risk is the sum of the risk from food and water, which does not exceed the Agency's level of concern.

5. *Aggregate cancer risk for U.S. population.* The Agency has classified boscalid as, "suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential," and, therefore, the quantification of human cancer risk is not recommended. See Unit III.C.iii of this document for additional details explaining why a cancer risk assessment was not required.

6. *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 boscalid residues.

#### IV. Other Considerations

##### A. *Analytical Enforcement Methodology*

Analytical Enforcement Method for Plants. (Method D0008; MRID 45405028). This method determines residues of boscalid. Residues are extracted using an aqueous organic solvent mixture followed by liquid/liquid partitioning and column clean-up. Quantitation is by gas chromatography/mass spectrometry (GC/MS) using selected ion monitoring. The reported limit of quantitation (LOQ) is 0.05 ppm for residues of boscalid in plant matrices.

Analytical Enforcement Method for Livestock. (Method DFG S19; MRID 45405103). This method determines residues of boscalid and two metabolites 2-chloro-N-(4'-chloro-5-hydroxy-biphenyl-2-yl)nicotinamide (M510F01) and glucuronic acid conjugate of 2-chloro-N-(4'-chloro-5-hydroxy-biphenyl-2-yl)nicotinamide (M510F02)] in or on

the following food commodities (as 2-chloro-N-(4'-chloro-5-hydroxy-biphenyl-2-yl)nicotinamide). Residues are extracted with methanol. The extract is treated with enzymes to release M510F02 to free M510F01. Residues are isolated by liquid/liquid partition followed by column chromatography. Total M510F01 is acetylated followed by a column clean-up. Parent and acetylated M510F01 are quantitated by GC/ECD (electron capture). The reported LOQ for each analyte is 0.01 ppm in milk and 0.025 ppm in other animal matrices.

Adequate enforcement methodology (GC/MS and GC/ECD) is available to enforce the tolerance expression. The method may be requested from: Chief, Analytical Chemistry Branch, Environmental Science Center, 701 Mapes Rd., Ft. Meade, MD 20755-3550; telephone number: (410) 305-2905; e-mail address: [residuemethods@epa.gov](mailto:residuemethods@epa.gov).