

Since the models used are considered to be screening tools in the risk assessment process, the Agency does not use estimated environmental concentrations (EECs) from these models to quantify drinking water exposure and risk as a %RfD or %PAD. Instead, drinking water levels of comparison (DWLOCs) are calculated and used as a point of comparison against the model estimates of a pesticide's concentration in water. DWLOCs are theoretical upper limits on a pesticide's concentration in drinking water in light of total aggregate exposure to a pesticide in food, and from residential uses. Since DWLOCs address total aggregate exposure to azoxystrobin they are further discussed in the aggregate risk section in Unit III.E.

Although moderately persistent in soils and stable to hydrolysis, the likelihood of azoxystrobin moving into ground and surface water is low due to high soil/water partitioning coefficients and low single application rates. However, with multiple applications and repeated usage, azoxystrobin and especially its degradate ("compound 2", (E)-2-2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]-3-methoxyacrylic acid) may eventually build up in environmental compartments and move into drinking water resources.

Based on the Tier I modeling results using the FQPA Index Reservoir Screening Tool (FIRST) model, azoxystrobin EECs in surface water are not likely to exceed 170 parts per billion (ppb) for the acute (peak) concentration or 33 ppb for the chronic (365-day) concentration. These values represent upper-bound estimates of the concentrations that might be found in surface water which result from the use of azoxystrobin on turf.

The SCI-GROW screening model developed in the Agency estimates potential ground water concentrations under hydrologically vulnerable conditions. Based on the highest use rate (turf use, nine applications per year, 10-day interval, and 0.55 lb ai/A/application), the upper-bound concentration of azoxystrobin was estimated at 3.1 ppb. This value was used for both acute and chronic risk assessments. This value represents upper-bound estimates of the concentrations that might be found in ground water which result from the use of azoxystrobin on turf.

3. *From non-dietary exposure.* The term "residential exposure" is used in this document to refer to non-occupational, non-dietary exposure (e.g., for lawn and garden pest control, indoor pest control, termiticides, and flea and tick control on pets).

Azoxystrobin is currently registered for use on residential non-dietary sites (turf and ornamentals). The risk assessment was conducted using the following residential exposure assumptions: There is a potential for short-term dermal and inhalation exposures to homeowners who apply products containing azoxystrobin; however, EPA did not identify dermal endpoints for azoxystrobin. Because no dermal endpoints could be identified, EPA expects no risk from dermal exposure to azoxystrobin. There is also potential for non-dietary, oral exposure following lawn treatment. Short- and intermediate-term non-dietary, oral exposure assessments were included for toddlers, since EPA selected toxicology endpoints for these exposures and there is a potential for hand-to-mouth and object-to-mouth transfer of residues from treated turfgrass and incidental ingestion of soil from treated turfgrass.

Postapplication exposures from various activities following lawn treatment are considered to be the most common and significant in residential settings. The exposure via incidental ingestion of other plant material may occur but is considered negligible. The residential exposure and risk assessment was conducted using the application for turf because it is the highest single use rate. Azoxystrobin may be applied to turf at rates of up to 0.9516 active ingredient (a.i.) per acre five times per year (i.e., not to exceed 5 lb/ai/acre/year).

4. *Cumulative exposure to substances with a common mechanism of toxicity.* Section 408(b)(2)(D)(v) of the FFDCA requires that, when considering whether to establish, modify, or revoke a tolerance, the Agency consider "available information" concerning the cumulative effects of a particular pesticide's residues and "other substances that have a common mechanism of toxicity."

EPA does not have, at this time, available data to determine whether azoxystrobin has a common mechanism of toxicity with other substances. Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as to azoxystrobin and any other substances and azoxystrobin does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, EPA has not assumed that azoxystrobin has a common mechanism of toxicity with other substances. For information regarding EPA's efforts to determine which chemicals have a common

mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see the policy statements released by EPA's Office of Pesticide Programs concerning common mechanism determinations and procedures for cumulating effects from substances found to have a common mechanism on EPA's Web site at <http://www.epa.gov/pesticides/cumulative/>.

D. Safety Factor for Infants and Children

1. *In general.* Section 408 of the FFDCA provides that EPA shall apply an additional tenfold margin of safety for infants and children in the case of threshold effects to account for prenatal and postnatal toxicity and the completeness of the data base on toxicity and exposure unless EPA determines that a different margin of safety will be safe for infants and children. Margins of safety are incorporated into EPA risk assessments either directly through use of a MOE analysis or through using uncertainty (safety) factors in calculating a dose level that poses no appreciable risk to humans.

2. *Prenatal and postnatal sensitivity.* Azoxystrobin studies have indicated no increased susceptibility of rats or rabbits to *in utero* and/or postnatal exposure to azoxystrobin.

3. *Conclusion.* There is a complete toxicity data base for azoxystrobin and exposure data are complete or are estimated based on data that reasonably accounts for potential exposures. EPA determined that the 10-fold safety factor for increased susceptibility of infants and children be removed (i.e., reduced to 1X). The FQPA factor is removed because:

- The toxicology data base is complete
- The developmental and reproductive toxicity data did not indicate increased susceptibility of rats or rabbits to *in utero* and/or postnatal exposure
- Unrefined chronic dietary exposure estimates (assuming all commodities contain tolerance level residues) will overestimate dietary exposure
- Modeling data are used for ground and surface source drinking water exposure assessments resulting in estimates considered to be upper-bound concentrations

E. Aggregate Risks and Determination of Safety

To estimate total aggregate exposure to a pesticide from food, drinking water, and residential uses, the Agency calculates DWLOCs which are used as a