

are made by reliance on simulation or modeling taking into account data on the physical characteristics of trifloxystrobin.

The Agency uses the FQPA Index Reservoir Screening Tool (FIRST) or the Pesticide Root Zone model/Exposure Analysis Modeling System (PRZM/EXAMS), to produce estimates of pesticide concentrations in an index reservoir. The screening concentration in ground water (SCI-GROW) model is used to predict pesticide concentrations in shallow ground water. For a screening-level assessment for surface water EPA will use FIRST (a Tier I model) before using PRZM/EXAMS (a Tier II model). The FIRST model is a subset of the PRZM/EXAMS model that uses a specific high-end runoff scenario for pesticides. FIRST and PRZM/EXAMS incorporate an index reservoir environment, and a percent crop area factor as an adjustment to account for the maximum percent crop coverage within a watershed or drainage basin.

None of these models include consideration of the impact processing (mixing, dilution, or treatment) of raw water for distribution as drinking water would likely have on the removal of pesticides from the source water. The primary use of these models by the Agency at this stage is to provide a screen for sorting out pesticides for which it is unlikely that drinking water concentrations would exceed human health LOC.

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 trifloxystrobin they are further discussed in the aggregate risk sections in Unit III.E.

Trifloxystrobin is immobile, and degrades rapidly in soil and aquatic environments to the primary isomer, CGA-321113. EECs were calculated for total trifloxystrobin residues (parent trifloxystrobin plus metabolites) using the FIRST model for surface water and the SCI-GROW model for ground water. EPA's interim method for drinking water estimates for pesticides used in

rice paddies was also used to generate surface water EECs.

Surface water concentrations for total trifloxystrobin residues are 92 parts per billion (ppb) for the peak value (acute) and 50 ppb for the chronic value using the FIRST model for terrestrial uses (turfgrass). To estimate surface water concentrations for use on rice, an interim rice paddy model was used. For surface water concentrations from treated rice, the acute estimate for the parent is 48 ppb, and the chronic estimate for the total parent plus degradate is 140 ppb. The rice estimate is considered to be an overestimate of the true value found in the environment due to the assumptions used in the drinking water model for rice. Further, EPA considers the turfgrass estimate to be a more realistic estimate of drinking water residues. The ground water screening concentration used for both acute and chronic assessments is 3.4 ppb. These values represent upper-bound estimates of the concentrations of total residues of trifloxystrobin that might be found in surface water and ground water from uses on turfgrass at the maximum application rate.

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).

Trifloxystrobin is currently registered for use on the following residential non-dietary sites: Turfgrass and ornamental (Compass™). Postapplication exposures from various activities following lawn treatment are considered to be the most common and significant in residential settings. There is potential for dermal exposure to adults and children and oral exposure to children during postapplication activities. Four postapplication exposure scenarios resulting from lawn treatment were assessed, as follows: (1) Dermal exposure from pesticide residues on lawns, (2) incidental non-dietary ingestion of pesticide residues on lawns from hand- to-mouth transfer, (3) incidental non-dietary ingestion of residues from object-to mouth activities (pesticide-treated turfgrass), and (4) incidental non-dietary ingestion of soil from pesticide-treated residential areas. Exposure via incidental non-dietary ingestion involving plant material may occur but is considered negligible. Since the application of trifloxystrobin on turf grass and ornamental is limited to certified pest control operators, an assessment of dermal or inhalation exposure for residential handlers was not performed.

The MOE for adult dermal risk from postapplication exposure is 1,300 and 800 for children. Children's risk from oral exposures range from 1,600 to 220,000. When incidental oral exposure from all possible residential sources are combined (ingestion of residues on turfgrass from hand-to-mouth activities, mouthing turfgrass and eating soil), the result is an MOE of 1,100. Therefore, postapplication exposure and risk estimates for adults and children are considered to be below EPA's LOC.

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 trifloxystrobin 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 trifloxystrobin and any other substances and trifloxystrobin 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 trifloxystrobin 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 website 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