

Unit III.B. of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

C. Exposure Assessment

1. *Dietary exposure from food and feed uses.* Tolerances have been established (40 CFR 180.532) for the residues of cyprodinil, in or on a variety of raw agricultural commodities. Acute, and chronic exposure assessments conducted by EPA to assess dietary exposures from cyprodinil are discussed in Unit III.C.1 of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

2. *Dietary exposure from drinking water.* PRZM/EXAMS and SCI-GROW model estimated environmental concentrations (EECs) for cyprodinil for acute and chronic exposures are discussed in Unit III.C.2 of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

3. *From non-dietary exposure.* Cyprodinil is not registered for use on any sites that would result in residential exposure.

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 cyprodinil has a common mechanism of toxicity with other substances or how to include this pesticide in a cumulative risk assessment. Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, cyprodinil 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 cyprodinil 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 final rule for Bifenthrin Pesticide Tolerances (62 FR 62961, November 26, 1997) (FRL-5754-7).

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.* Prenatal and postnatal sensitivity are discussed in Unit III.D.1.(ii) of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

3. *Conclusion.* There is a complete toxicity data base for cyprodinil and exposure data are complete or are estimated based on data that reasonably accounts for potential exposures. EPA determined that the 10X safety factor to protect infants and children should be reduced to 1X. For further discussion, see Unit III.D.1.(iii) of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

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 point of comparison against the model estimates of a pesticide's concentration in water (EECs). DWLOC values are not regulatory standards for drinking 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 residential uses. In calculating a DWLOC, the Agency determines how much of the acceptable exposure (i.e., the PAD) is available for exposure through drinking water e.g., allowable chronic water exposure (mg/kg/day) = cPAD - (average food + residential exposure). This allowable exposure through drinking water is used to calculate a DWLOC.

A DWLOC will vary depending on the toxic endpoint, drinking water consumption, and body weights. Default body weights and consumption values as used by the USEPA Office of Water

are used to calculate DWLOCs: 2 liter (L)/70 kg (adult male), 2L/60 kg (adult female), and 1L/10 kg (child). Default body weights and drinking water consumption values vary on an individual basis. This variation will be 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 risk.* The acute risk assessment for cyprodinil is discussed in Unit III.E.1 of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

2. *Chronic risk.* The chronic risk assessment for cyprodinil is discussed in Unit III.E.2 of the final rule on Cyprodinil Time-Limited Pesticide Tolerance published in the **Federal Register** of June 22, 2001 (66 FR 33478) (FRL-6778-7).

3. *Aggregate cancer risk for U.S. population.* Based on the lack of evidence of carcinogenicity in mice and rats at doses that were judged to be adequate to assess the carcinogenic potential, cyprodinil was classified as not likely to be carcinogenic to humans. Therefore, cyprodinil is not expected to pose a cancer risk to humans.

4. *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 cyprodinil residues.

IV. Other Considerations

A. Analytical Enforcement Methodology

The results of Multiresidue Method testing of cyprodinil and its metabolite