

TABLE 2.—SUMMARY OF TOXICOLOGICAL DOSE AND ENDPOINTS FOR SETHOXYDIM FOR USE IN HUMAN RISK ASSESSMENT—Continued

Exposure Scenario	Dose Used in Risk Assessment, UF	Special FQPA SF* and Level of Concern for Risk Assessment ^k	Study and Toxicological Effects
Short-term dermal (1 to 30 days)	Dermal (or oral) study NOAEL= NA	<i>Residential</i> LOC for MOE = NA	Quantification of dermal exposure risk assessment is not required because of lack of dermal and pre-natal toxicity in rabbits, and the low dermal absorption physical and chemical properties of sethoxydim
Intermedia-term dermal (1 to 6 months)	Dermal (or oral) study NOAEL = NA	<i>Residential</i> LOC for MOE = NA	Quantification of dermal exposure risk assessment is not required because of lack of dermal and prenatal toxicity in rabbits, and the low dermal absorption physical and chemical properties of sethoxydim
Long-term dermal > 6 months)	Dermal (or oral) study NOAEL= NA	<i>Residential</i> LOC for MOE = NA	Quantification of dermal exposure risk assessment is not required because of lack of dermal and prenatal toxicity in rabbits, and the low dermal absorption physical and chemical properties of sethoxydim
Short-term Inhalation (1 to 30 days)	Inhalation study NOAEL= 81 mg/kg/day	<i>Residential</i> LOC for MOE = 1,000	28-Day rat inhalation LOAEL = 651 mg/kg/day based on increased liver weight, clinical chemistry (increased total serum bilirubin), and liver histopathology
Intermediate-term Inhalation (1 to 6 months)	Inhalation study NOAEL = 81 mg/kg/day	<i>Residential</i> LOC for MOE = 1,000	28-Day rat inhalation LOAEL = 651 mg/kg/day based on increased liver weight, clinical chemistry (increased total serum bilirubin), and liver histopathology
Cancer (oral, dermal, inhalation)	"Not likely human carcinogen" based on the lack of evidence of carcinogenicity in rats and mice		

UF = uncertainty factor, FQPA SF = Special FQPA safety factor, NOAEL = no-observed-adverse-effect-level, LOAEL = lowest-observed-adverse-effect-level, PAD = population-adjusted dose (a = acute, c = chronic) RfD = reference dose, MOE = margin of exposure, LOC = level of concern, NA = Not Applicable.

C. Exposure Assessment

1. *Dietary exposure from food and feed uses.* Tolerances have been established (40 CFR 180.412) for the combined residues of sethoxydim and its metabolites, in or on a variety of raw agricultural commodities. Tolerances are also currently established for secondary residues in meat, fat, and meat byproducts of cattle, goats, hogs, horses, poultry, and sheep at 0.2 ppm (except 2.0 ppm in poultry meat byproducts); eggs at 2.0 ppm, and milk at 0.05 ppm. Time limited tolerances (to expire by 12/31/03) are established for residues in milk at 0.5 ppm and the meat byproducts of cattle, goats, hogs, horses, and sheep at 1.0 ppm. Risk assessments were conducted by EPA to assess dietary exposures from sethoxydim in food as follows:

i. *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 1 day or single exposure. This acute assessment used tolerance level residues for most of the crops but limited refinement was obtained though the incorporation of field trial data and experimental processing factors for some of the crops expected to be more highly associated with dietary exposure to sethoxydim. Specifically, field trial data were incorporated for apples, pears, and other pome fruits, grapes, oranges, potatoes, strawberries, peaches, succulent green peas, succulent green beans, and succulent lima beans. Empirical processing data for apples, grapes, tomatoes, potatoes and oranges were also used. The processing data for orange juice was also translated to other citrus juices. Percent crop treated (PCT) information was available for most crops and was used wherever possible to refine the assessment. Tolerance level residues were used for meat, poultry, milk and eggs. With the refinements

incorporated in this assessment, the acute dietary analyses for sethoxydim show that the estimated risks from acute dietary exposure to sethoxydim are below <100% aPAD for the U.S. population.

ii. *Chronic exposure.* In conducting this chronic dietary risk assessment the Dietary Exposure Evaluation Model (DEEMTM) analysis evaluated the individual food consumption as reported by respondents in the U.S. Department of Agriculture (USDA) 1989–1992 Nationwide Continuing Surveys of Food Intake by Individuals (CSFII) and accumulated exposure to the chemical for each commodity. The following assumptions were made for the chronic exposure assessments: The chronic analyses (limited refined dietary risk assessment) used tolerance level residues for all crops and the PCT for many crops. For the chronic analyses, refinement was obtained by calculation of anticipated residues for meat and