

EPA concluded that there is no qualitative or quantitative evidence of increased susceptibility in the developmental toxicity study conducted in rats. Qualitative evidence of increased susceptibility is demonstrated in the rabbit developmental toxicity study since fetal deaths were observed in the presence of lesser maternal toxicity at the same dose. There is also quantitative evidence of increased susceptibility in the rat 2-generation reproduction study. In this study, a decrease in the number of viable pups was observed in the absence of parental toxicity at any dose. Since there is qualitative evidence of increased susceptibility of the young following exposure to glufosinate ammonium, EPA performed a degree of concern analysis to: (1) Determine the level of concern for the effects observed when considered in the context of all available toxicity data; and (2) identify any residual uncertainties after establishing toxicity endpoints and traditional uncertainty factors to be used in the risk assessment of this chemical. Based on the data gaps listed above, the EPA did not identify any other residual uncertainties. The established endpoints are protective of pre-/postnatal toxicity following acute and chronic exposures.

The Notice of Filing (NOF) published in the **Federal Register** of July 24, 2002 (67 FR 48465)(FRL-7184-6) represents a summary of the petition prepared by the petitioner and represents the views of the petitioner. As such, and in this case, discrepancies may arise between what is stated in the NOF and the procedures/conclusions employed by EPA when assessing human health risk. For instance, the toxicological data base for glufosinate ammonium has been reevaluated by EPA since July 2002, and some of the conclusions presented in the NOF concerning the toxicity of glufosinate ammonium do not reflect current EPA conclusions.

10. *Comment—cumulative effects section 408(b)(2)(D)(v).* We are deeply concerned about the potential for cumulative effects of glufosinate and its metabolites, and therefore request that EPA not approve the Aventis tolerance petition unless or until peer-reviewed confirming scientific evidence is available that glufosinate and its metabolites do not cause any cumulative effects. It is not acceptable public health policy to dismiss cumulative effects of glufosinate and its metabolites because of lack of scientific evidence and lack of any studies. Law requires that, when considering whether to establish, modify, or revoke a tolerance, the EPA must consider “available information” concerning the

cumulative effects of a particular pesticide’s residues and “other substances that have a common mechanism of toxicity.” EPA has indicated that, at this time, the Agency does not have available data to determine whether glufosinate ammonium 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, EPA suggests that glufosinate ammonium does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance petition, therefore, it has not been assumed that glufosinate ammonium has a common mechanism of toxicity with other substances. We disagree with EPA’s illogical and unscientific assumption that glufosinate ammonium has a common mechanism of toxicity with other substances. We propose that further study is necessary to conclusively confirm such an assumption.

Agency response. 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, sufficient data to determine whether glufosinate ammonium 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 (i.e., organophosphates), EPA has not made a common mechanism of toxicity finding as to glufosinate ammonium and any other substances and glufosinate ammonium 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 glufosinate ammonium 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/>.

11. *Comment—safety determination U.S. population.* We believe that EPA has not done an adequate scientific job with respect to its safety determination for the U.S. population. By using what EPA claims (and may be a flawed set of assumptions) are the conservative assumptions described above and based on the completeness and reliability of the toxicity data, it is concluded that chronic dietary exposure to the registered and proposed uses of glufosinate ammonium will utilize at most 25% of the chronic RfD for the U.S. population. We disagree with EPA’s assumption that the actual exposure is likely to be significantly less than predicted by this analysis as data and models that are more realistic are developed. We disagree with EPA’s assumption that exposures below 100% of the reference dose (RfD) are generally assumed to be of no concern because the RfD represents the level at or below which daily aggregate exposure over a lifetime will not pose appreciable risk to human health. We dispute that the acute population of concern, female 13+ utilizes 34% of the acute RfD. We disagree with EPA’s assumption that this is a Tier One highly conservative assessment and actual exposure is likely to be far less. Drinking water levels of comparison based on dietary exposures are greater than highly conservative estimated levels, and would be expected to be well below the 100% level of the RfD, if they occur at all, assuming that EPA’s set of assumptions are reasonably accurate which they may not be. We believe that EPA has erroneously concluded that it is not appropriate to aggregate non-dietary exposures with dietary exposures in a risk assessment because the toxicity end-points are different. We strongly dispute EPA’s concluding assumption that there is a reasonable certainty that no harm will occur to the U.S. population from aggregate exposure (food, drinking water and nonresidential) to residues of glufosinate ammonium and metabolites.

Agency response. Contrary to what was written in the Notice of Filing prepared by the petitioner, EPA did aggregate dietary (food + drinking water) and residential exposures. Glufosinate ammonium is currently registered for application in the residential setting for lawn renovation and spot treatment purposes. Since the lawn renovation use resulted in exposures greater than EPA’s level of concern, revocation of this use was recommended. Therefore, aggregate exposures were conducted by combining dietary exposure and residential exposure resulting from the spot treatment use. The resulting