

## **Appendix A**

### **Product Formulations Containing Multiple Active Ingredients**

The Agency does not routinely include, in its risk assessments, an evaluation of mixtures of active ingredients, either those mixtures of multiple active ingredients in product formulations or those in the applicator's tank. In the case of the product formulations of active ingredients (that is, a registered product containing more than one active ingredient), each active ingredient is subject to an individual risk assessment for regulatory decision regarding the active ingredient on a particular use site. If effects data are available for a formulated product containing more than one active ingredient, they may be used qualitatively or quantitatively<sup>1,2</sup>.

There are no product LD<sub>50</sub> values, with associated 95% Confidence Intervals (CIs) available for oxyfluorfen.

As discussed in USEPA (2000) a quantitative component-based evaluation of mixture toxicity requires data of appropriate quality for each component of a mixture. In this mixture evaluation, an LD<sub>50</sub> with associated 95% CI is needed for the formulated product. The same quality of data is also required for each component of the mixture. Given that the formulated products for oxyfluorfen do not have LD<sub>50</sub> data available, it is not possible to undertake a quantitative or qualitative analysis for potential interactive effects. However, because the active ingredients are not expected to have similar mechanisms of action, metabolites, or toxicokinetic behavior, it is reasonable to conclude that an assumption of dose-addition would be inappropriate. Consequently, an assessment based on the toxicity of oxyfluorfen is the only reasonable approach that employs the available data to address the potential acute risks of the formulated products.

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<sup>1</sup> Overview of the Ecological Risk Assessment Process in the Office of Pesticide Programs, Environmental Protection Agency (January 2004) (Overview Document).

<sup>2</sup> Memorandum to Office of Prevention, Pesticides and Toxic Substance, US EPA conveying an evaluation by the U.S. Fish and Wildlife Service and National Marine Fisheries Service of an approach to assessing the ecological risks of pesticide products (January 2004).

**Pesticide Products Formulated with Oxyfluorfen and Other Pesticide Active Ingredients**

**OXYFLUORFEN PRODUCTS<sup>3,4</sup>**

PRODUCT/TRADE NAME	EPA Reg.No.	% Oxyfluorfen	PRODUCT		ADJUSTED FOR ACTIVE INGREDIENT	
			LD <sub>50</sub> (mg/kg)	CI (mg/kg)	LD <sub>50</sub> (mg/kg)	CI (mg/kg)
KLEENUP SUPER EDGER	000004-00432	0.25	No data	N/A	N/A	N/A
ORTHO FENCE & GRASS EDGER FORMULA II	000239-02516	0.25	>5000	N/A	N/A	N/A
TRIOX VEGETATION KILLER FORMULA II	000239-02622	0.7	>5000	N/A	N/A	N/A
ORTHO SEASON-LONG GRASS & WEED KILLER	000239-02694	1.5	>5000	N/A	N/A	N/A
ORNAMENTAL HERBICIDE II	000538-00172	2	>5000	N/A	N/A	N/A
REGAL O-O HERBICIDE	048234-00010	2	>5000	N/A	N/A	N/A
HARRELL'S GRANULAR HERBICIDE 75	052287-00015	2	>5000	N/A	N/A	N/A
ROUT ORNAMENTAL HERBICIDE	058185-00027	2	>5000	N/A	N/A	N/A
RAWHIDE 4F HERBICIDE	062719-00448	20.3	>5000	N/A	N/A	N/A
SHOWCASE	062719-00516	0.25	>5000	N/A	N/A	N/A
CHIEF 3SC HERBICIDE	066222-00107	21.1	>5000	N/A	N/A	N/A
DOUBLE O E-PRO HERBICIDE	079676-00020	2	>5000	N/A	N/A	N/A
TWO OX E-PRO HERBICIDE	079676-00038	2	>5000	N/A	N/A	N/A
CHEMSICO HERBICIDE CONCENTRATE 4A	009688-00259	1.92	>5000	N/A	N/A	N/A
CHEMSICO HERBICIDE RTU 4A	009688-00264	0.1	>5000	N/A	N/A	N/A
ZOOMER HERBICIDE	066222-00157	3.75	>5000	N/A	N/A	N/A

<sup>3</sup> From registrant submitted data to support registration. Compiled by Office of Pesticide Programs Registration and Health Effects Divisions.

<sup>4</sup> Oxyfluorfen: LD<sub>50</sub>= >5000 mg/kg