

DP Barcode : D226164  
PC Code No :  
EEB Out : / /  
APR 29 1997

To: Robert Taylor  
Product Manager 25  
Registration Division (7505C)

From: Daniel D. Rieder, Acting Chief  
Ecological Effects Branch/EFED (7507C)

Attached, please find the EEB review of...

Reg./File # : 287779  
Chemical Name : Glyphosate  
Type Product : herbicide  
Product Name :  
Company Name :  
Purpose : Review 6(a)(2) information.

Action Code: 405  
Reviewer: Dennis McLane

Date Due: 6/13/97

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1 (A)			72-2 (A)			72-7 (A)		
71-1 (B)			72-2 (B)			72-7 (B)		
71-2 (A)			72-3 (A)			122-1 (A)		
71-2 (B)			72-3 (B)			122-1 (B)		
71-3			72-3 (C)			122-2		
71-4 (A)			72-3 (D)			123-1 (A)		
71-4 (B)			72-3 (E)			123-1 (B)		
71-5 (A)			72-3 (F)			123-2		
71-5 (B)			72-4 (A)			124-1		
72-1 (A)			72-4 (B)			124-2		
72-1 (B)			72-5			141-1		
72-1 (C)			72-6			141-2		
72-1 (D)			70-1	42839601	5	141-5		

Y=Acceptable (Study satisfied Guideline)/Concur

P=Partial (Study partially fulfilled Guideline but additional information is needed)

S=Supplemental (Study provided useful information but Guideline was not satisfied)

N=Unacceptable (Study was rejected)/Nonconcur



2877A  
SCREEN

43839601

GLYPHOSATE

An Australian report on the toxicity of "glyphosate" on amphibians (frogs and tadpoles). The report suggested that it was probably the surfactants in the formulations of glyphosate that resulted in the toxicity.

Specific risk numbers can not be calculated with the available information. This report suggests that amphibians (frogs and tadpoles) may be at risk if certain formulations of glyphosate are applied directly to very shallow water (approx 2") where these organisms occur. Such a scenario may occur if shallow, probably temporary puddles form within treated fields, are populated by frogs/tadpoles, and are subsequently sprayed directly. Since the LC50's all were 10 ppm and higher (translated to glyphosate ai), even with the surfactant present, it is not probable that runoff or drift (at 5%) would result in hazardous exposure. But frogs and tadpoles could inhabit shallow puddles within and immediately adjacent to fields that could be treated with herbicides.

The significant thing to note that since the adverse effects seem to be related to the formulation (which contains surfactants) the report admitted the surfactants are significantly involved in the observed toxicity. This raises a broader question for risk assessment scientists and risk managers.

If we are to consider this report in assessing risk to glyphosate (a scientifically sound thing to do), we must assume that is likely we are missing similar risks with other herbicides which are also formulated with surfactants (also scientifically feasible). Other surfactants may also cause adverse effects to amphibians. Note that we rarely look at formulation toxicity (except where direct application is likely to natural waters where fish and invertebrates occur). Further, we almost never get toxicity data on amphibians.

So, from a policy perspective, it could be viewed as unfair to address this issue with glyphosate only while not exploring it for virtually all pesticides (not just herbicides).

**IS THE OPP INTERESTED IN PURSUING RISK TO AMPHIBIANS?**

Such a course would require additional FTE's in establishing guidance for testing, meeting with and explaining/justifying such testing to management and registrants, reviewing the data, and doing additional risk assessments for these organisms. This would also require developing additional risk assessment tools. To date, the Agency has assumed that risk to amphibians is more or less "covered" by risk to fish and invertebrates. Often surfactants and other carriers used in pesticide formulations are either toxic themselves, or increase the toxicity of the ai to aquatic organisms.

This report should be sent to EFED for nonexpedited review with a 12 month due date. The request should be aimed at the broader question of what this means for herbicides or even all pesticides in general with regard to potential risk to amphibians. Not new data are triggered based on this report.