

US EPA ARCHIVE DOCUMENT

PB-314  
TXR-124

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: APR 3 1980

001324

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SUBJECT: Section 18 Emergency Use of Pirimicarb on Alfalfa Hay and Seed to control Aphids in Nevada.

FROM: Robert B. Jaeger *RBJ* 4/27/80  
Toxicology Branch, HED (TS-769)

TO: Don Stubbs  
Emergency Response Section

THRU: M. Adrian Gross, Chief *MAG* 4/11/80  
Toxicology Branch, HED (TS-769)

The State of Nevada has requested an emergency exemption for the use of Pirimor 50W on alfalfa hay and seed for control of aphids.

The product involved is Pirimor 50W, EPA Reg. No. 10182-7, containing 2-(dimethylamino)-5,6-dimethyl-4-pyrimidinyl dimethylcarbamate, pirimicarb. The inert ingredients have been cleared under 40 CFR 180.1001.

Rate of Application: 2-6 ozs/acre (0.0625 to 0.1875 lb a.i./acre)

Duration of Application: April 1 to August 15

Frequency of Application: Repeat every 7 to 10 days

Method of Application: Mainly by air (some ground)

Residue Chemistry Branch has concluded previously (Section 24(c) for Alfalfa in Oregon, Idaho, Washington, Nevada and California, 7/24/79), that alfalfa grown for seed is a food use since treated seed may be directed to animal feed. On that basis, Residue Chemistry Branch recommended a tolerance be requested. Toxicology Branch does not consider such usage to contribute to the human dietary directly. It could contribute via residues in meat, fat, meat by-products of cattle, hogs, horses, sheep, poultry, eggs, and milk.

Residue Chemistry Branch has determined that such an emergency usage will not result in residues exceeding 0.05 ppm in any of these animal products. Toxicology Branch finds the toxicity data sufficient to support such a limited usage of pirimicarb.

ADI = 0.004 mg/kg/day (based on 2 year dog feeding study, NOEL 0.4 mg/kg)

MPI = 0.24 mg/day/60 kg	TMRC	% ADI
Meat (incl. poultry) 0.05 (13.85%) =	.0103875	4.32
Milk 0.05 (28.62%) =	.021465	8.94
Eggs 0.05 (2.77%) =	.0020775	0.86
		14.12
(Published) potatoes		3.37
Total =		17.49%

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(2)

Residue Chemistry Branch has raised the question of the significance of possible residue of nitrosamine from such a usage and has deferred to Toxicology Branch to address this issue. The following is determined (See Toxicology Branch review 2/22/80, PP#9F2235; Residue Chemistry Branch review 10/12/79, PP#7F1915 and 2/6/80 letter from Chief, Toxicology Branch to Director, Hazard Evaluation Division, Subject: Risk Analysis for Carcinogenicity of Nitroso Prowl.):

< 0.01 ppb DEN = 0.00001 mg/kg (cattle)

< 0.002 ppb DEN = 0.00002 mg/day (poultry)

cattle = 7.18% diet

poultry = 2.94% diet

Taking the worse case (cattle), we find:

1.5 kg X 0.0718 = .1077 kg

$\frac{0.1077 \text{ kg} \times 0.00001 \text{ mg/kg}}{60 \text{ kg}} = \frac{.000001077}{60}$

or

0.000,000,017,9 mg/kg/day

Log-Probit Model

Upper Limit on Risk

Less than 1/100,000,000

One-Hit Model

Upper Limit on Risk

1/100,000,000

Between

5/100,000,000

**BEST AVAILABLE COPY**

Virtually Safe Level  
of DEN (mg/kg/day)

0.000,000,083

Virtually Safe Level  
of DEN (mg/kg/day)

0,00,000,007,42

0.000,000,037,1

Therefore, dependent upon the model selected, the worse case possible (as presented by Residue Chemistry Branch), cattle, the risk is either less than 1/100,000,000 (Log-Probit Model) or between 1/100,000,000 and 5/100,000,000 (One-Hit Model).

TOX/HED:th:Initial CFRICK:3-27-80

*e. Frick*  
3/27/80

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Tox Chem No. 356

EPA

Accession No.

Material

Results

TOX Category

CORE Grade

Acute Oral - Rat

50% WP

097847

LD50 = 200 mg/kg (male)  
= 173 mg/kg (female)

II

Minimum

Acute Dermal - Rabbit

50% WP

097847

LD50 = 1000 mg/kg (highest level tested)

II

Minimum

Acute Dermal Irritation - Rabbit

50% WP

097847

Slight to mild edema & erythema

IV

Minimum

Acute Eye Irritation - Rabbit

50% WP

097847

mild irritation

III

Minimum

Delayed Neurotoxicity - Hen

097847

negative at 25 mg/kg (highest level fed)

Supplementary

Teratology - Rabbit

negative at 25 mg/kg (highest level fed)

Minimum

3-Generation Reproduction - Rat

NEL = 750 ppm (reproduction effects)  
LEL = 250 ppm (systemic - growth depression in adult)

Minimum

Oncogenic - Mouse

negative at 1500 ppm (highest level fed)

Minimum

Dominant Lethal - Mouse

negative at 20 mg/kg/day (highest level fed)

2-Year Feeding - Rat

NEL = 175 ppm  
LEL = 250 ppm (growth depression)  
NEL = 750 ppm (oncogenic - highest fed level)

Minimum

2-Year Feeding - Dog

NEL = 1.8 mg/kg *changed 6/30/80 pef*  
LEL = 4.0 mg/kg (hemolytic anemia and erythropoiesis)

Minimum

90/180-Day Oral - Dog

NEL = 1.8 mg/kg *changed 6/30/80 pef*  
LEL = 4.0 mg/kg (hemolytic anemia and erythropoiesis)

Minimum

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