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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 28 1989

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

Feb 17, 1989

SUBJECT: Sencor, Review of Dermal Absorption Study in Rats

TO: Steve Dapson Ph.D. Stephen C. Dapson 7/11/89
Review Section I
Toxicology Branch ~~II~~ HED

FROM: Robert P. Zendzian Ph.D.
Senior Pharmacologist
SACB, HED (TS-769)

Action Requested

Review the following study:

Dermal absorption of ^{14}C-Sencor® in rats, G.P. Bond Mobay Corporation, Health, Environment and Safety, Corporate Toxicology Department, Study Number 86-721-01, Toxicology report number 762, Report #93101 June 27, 1986, MRID 263761

Conclusions

The study is unacceptable in and of itself and the report is also unreviewable.

In this study ^{14}C-Sencor® was dissolved in ethanol and administered dermally to rats. The end use product of Sencor is the most concentrated form of the pesticide to which the applicator is exposed and must be used in a dermal absorption study. This is clearly specified in the EPA "Procedure for Studying Dermal" which is included in the report. A copy of the page from the procedure which was included in the report is attached. The portion refering to the form in which the test material must be applied has been underlined by this reviewer. The dermal absorption of a pesticide is strongly effected by the state in which it is applied to the skin. One can expect a solution of an organic compound in an organic solvent to much more easily penetrate the skin than the same pesticide applied as a dry powder or suspended in water.

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The data as reported is unreviewable. Aside from a few incomplete summary tables, all datar are provided in complex computer generated tables which are impossible to review. The tables appear to heve been generated for the sole purpose of getting the greatest amount of numbers on a single page. It should be noted that since the experimental group consists of four animals statistical evaluation is worthless and only adds further confusion to tne tables. Since the data was computerized it should be relatively easy to generate tables for human consumption. The DER recommends tables to be used for studies of this type and contains examples.

Attachment

DER

Data Evaluation Report

Compound Sencor® (Metribuzin)

Citation

Dermal absorption of ^{14}C-Sencor® in rats, G.P. Bond Mobay Corporation, Health, Environment and Safety, Corporate Toxicology Department, Study Number 86-721-01, Toxicology report number 762, Report #93101 June 27, 1986, MRID 263761

Reviewed by Robert P. Zendzian PhD 3/17/89
Senior Pharmacologist

Core Classification Unacceptable

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Summary tables (All values to be means of apropriate groups, use either one or two tables to present mass and percent of applied dose where applicable)

Concentrations in dosing solutions
Nominal and actual doses (mg/cm^2)*

3

*apply doses as mg/cm2 NOT mg/kg

Dose distribution, for each dose by duration, recovery from application device, in wash fluid, in/on skin, in blood, in carcass, in urine, in feces, in thyroids, total recovered and portion absorbed. (see attached example, Table X)

Individual data tables. (two sets of tables as mass and counts)

Concentrations in dosing solutions

Dose distribution, for each dose by duration, recovery from application device, in wash fluid, in/on skin, in blood, in carcass, in urine, in feces, total recovered and quantity absorbed. (see attached example, Table Y)

Table X. Dose recovery, milligrams, following a single dermal dose of 0.01 mg/cm^2.
(or counts)

Duration of Exposure (hours)	Animal Number	Application Device	Skin Wash	Skin	Blood	Urine	Feces	Carcass	Total Recovery
0.5	0001								
	0002								
	0004								
	0004								
	Mean								
1	0005								
	0006								
	0007								
	0008								
	Mean								
2	0009								
	0010								
	0011								
	0012								
	Mean								
4	0013								
	0014								
	0015								
	0016								
	Mean								
10	0017								
	0018								
	0019								
	0020								
	Mean								
24	0021								
	0022								
	0023								
	0024								
	Mean								

Table Y. Dose distribution, as percent of dose, following a single dermal dose of 0.01 mg/cm^2. All values are means of four animals.

Duration of Exposure (hours)	Application Device	Skin Wash	Skin	Blood	Urine	Feces	Carcass	Total Recovery	Absorbed	
									Indirect[1]	Direct[2]
0.5										
1										
2										
4										
10										
24										

1. Dose applied less quantity recovered from application device and skin wash.
2. Total of quantity recovered from skin, blood, carcass, urine and feces.

METRIBUZIN

RIN: 3187-91

Page 7 is not included in this copy.

Pages _____ through _____ are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

____ Description of the product manufacturing process.

____ Description of quality control procedures.

____ Identity of the source of product ingredients.

____ Sales or other commercial/financial information.

____ A draft product label.

____ The product confidential statement of formula.

____ Information about a pending registration action.

__✓__ FIFRA registration data.

____ The document is a duplicate of page(s) _____.

____ The document is not responsive to the request.

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