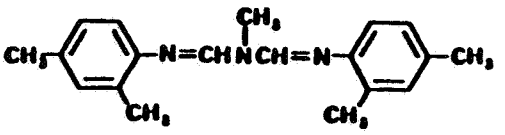
8-30-89



ENVIRONMENTAL : AMITRAZ
PESTICIDE ENVIRO

Common Name: **AMITRAZ** Date: 08/30/89
Chem. Name : N'-(2,4-DIMETHYLPHENYL)-N-§§(2,4-DIMETHYLPHENYL)IMINO†-
: METHYL†-N-METHYLMETHANIMIDAMIDE
Shaugh. # : 106201 CAS Number: 33089-61-1
Type Pest. : INSECTICIDE/ACARICIDE
Formulation: EC (20% AND 12.5%); WP 50%
Uses : VEY EFFECTIVE IN THE CONTROL OF PEAR PSYLLA ON PEARS,
: WHITEFLY ON COTTON, AN ALSO AGAINST TETRANYCHID AND ERIO-
: PHYID MITES ON FRUIT, CITRUS, ORNMENTALS.

Empir. Form: $C_{19}H_{23}N_3$ VP (Torr): 2.6E-6
Mol. Weight: 293.4 Log Kow :
Solub.(ppm): < 1 @ C Henry's :

Hydrolysis (161-1)
pH 5:[*] 2.1 HOURS
pH 7:[*] 22.1 HOURS
pH 9:[*] 25.5 HOURS
pH :[ ]
pH :[ ]
pH :[ ]

Photolysis (161-2, -3, -4)
Air :[ ]
Soil :[*] <30 MINUTES
Water:[#] 7 HRS IN Hg ARC LAMP
:[ ]
:[ ]
:[ ]

MOBILITY STUDIES (163-1)

Soil Partition (Kd)
1.[ ]
2.[ ]
3.[ ]
4.[ ]
5.[ ]
6.[ ]

Rf Factors
1.[*] AGED RESIDUES WERE MOBILE IN
2.[ ] Sd, SdLm, AND ClLm SOILS
3.[#] 0.36 - 0.48 IN SdLm TO CLAY;
4.[ ] 0.91 IN SAND.
5.[ ]
6.[ ]

METABOLISM STUDIES (162-1,2,3,4)

Aerobic Soil (162-1)
1.[*] <1 DAY IN SiLm AND SdLm SOILS
2.[#] 6-12 WEEKS IN LOAM AT 21-26 C
3.[ ] AND 12% MOISTURE.
4.[#] 2-4 HOURS IN 2 JAPANESE SOILS
5.[ ]
6.[ ]
7.[ ]

Anaerobic Soil (162-2)
1.[ ]
2.[ ]
3.[ ]
4.[ ]
5.[ ]
6.[ ]
7.[ ]

Aerobic Aquatic (162-4)
1.[ ]
2.[ ]
3.[ ]
4.[ ]

Anaerobic Aquatic (162-3)
1.[ ]
2.[ ]
3.[ ]
4.[ ]

[*] - Acceptable Study. [#] = Supplemental Study

Common Name: **AMITRAZ** Date: 08/30/89

VOLATILITY STUDIES (163-2,3)

[ ] Laboratory:
[ ] Field:

DISSIPATION STUDIES (164-1,2,3,5)

Terrestrial Field (164-1)
1.[#] T1/2 FOR PARENT COMPOUND = << 1 DAY IN SdClLm SOIL IN
2.[ ] TEXAS; FOR DEGRADATE BTS 27271 IT WAS 110 DAYS, FOR BTS
3.[ ] 27919 IT WAS 150 DAYS.
4.[ ]
5.[ ]
6.[ ]

Aquatic (164-2)
1.[ ]
2.[ ]
3.[ ]
4.[ ]
5.[ ]
6.[ ]

Forestry (164-3)
1.[ ]
2.[ ]

Other (164-5)
1.[ ]
2.[ ]

ACCUMULATION STUDIES (165-1,2,3,4,5)

Confined Rotational Crops (165-1)
1.[ ]
2.[ ]

Field Rotational Crops (165-2)
1.[ ]
2.[ ]

Irrigated Crops (165-3)
1.[ ]
2.[ ]

Fish (165-4)
1.[#] BLUEGILL SUNFISH BCF: 280 X FOR MUSCLE, 2118 X FOR VISCERA,
2.[ ] AND 933 X FOR WHOLE FISH.

Non-Target Organisms (165-5)
1.[ ]
2.[ ]

Common Name: **AMITRAZ** Date: 08/30/89

GROUND WATER STUDIES (158.75)

1.[ ]
2.[ ]
3.[ ]

DEGRADATION PRODUCTS

1. BTS 27919 (VOLATILITY = 2.6E-5) IS MAJOR DEGRADATE
2. BTS 24868 (VOLATILITY = 2E-1)
3.
4.
5.
6.
7.
8.
9.
10.

COMMENTS

SOIL Koc = 1000 (ESTIMATE).

PHOTOLYSIS HALF-LIVES IN SUNLIGHT DAYS OF SUMMER AND FALL RANGE FROM 3.27 DAYS TO 26.4 DAYS.

VOLATILITY VALUES RANGE FROM 3.8E-7 TO 2.6E-6.

AFTER LEACHING 32-CM SdLm COLUMNS WITH 22.5 CM OF .01 M CaCl2,20% OF APPL RADIOACT. WAS BOUND TO THE SOIL IN THE 2.5 CM SOIL SEGMENT ADJACENT TO THE TREATED SEGMENT, AND 3.5% WAS IN THE REMAINDER OF THE SOIL COLUMN.

References: EPA REVIEWS
Writer : J. HANNAN

Figure 3

Hydrolysis of amitraz in aqueous solutions

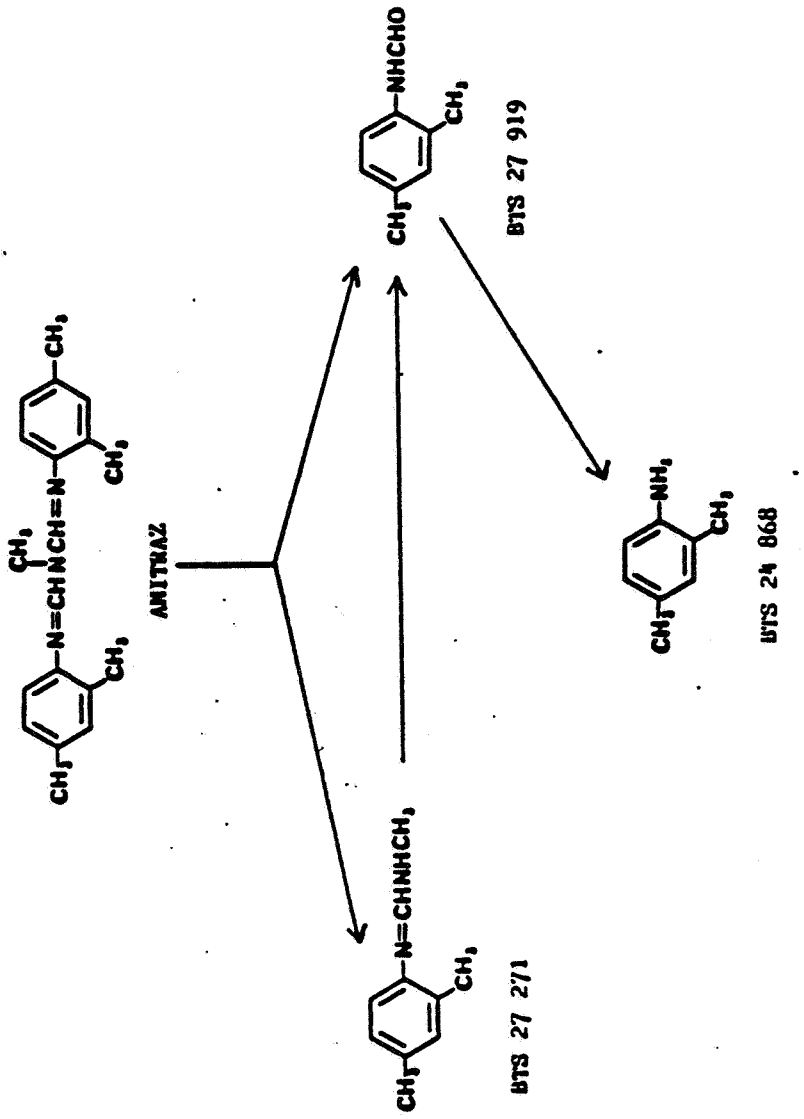
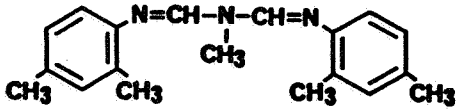
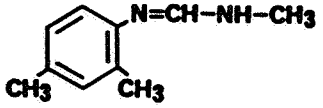
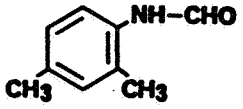
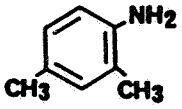
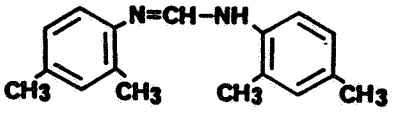


Table 1. Amitraz and its metabolites in plants.

CODE	STRUCTURE	CHEMICAL NAME	ABBREVIATIONS
I		N′-(2,4-dimethylphenyl)-N-[[(2,4-dimethylphenyl)-imino]methyl]-N-methylmethanimidamide	BTS-27,419; RD-27,419; U-36,059
II		N′-(2,4-dimethylphenyl)-N-methylmethanimidamide	BTS-27,271; U-40,481
III		N-(2,4-dimethylphenyl)formamide	BTS-27,919; U-36,893
IV		2,4-dimethylbenzenamine	BTS-24,868
V		N,N′-bis(2,4-dimethylphenyl)methanimidamide	BTS-28,037