

ENVIRONMENTAL :
PESTICIDE ENVIRO

AMITRAZ

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Common Name: **AMITRAZ** Date: 08/30/89
Chem. Name : N'-(2,4-DIMETHYLPHENYL)-N-SS(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: C₁₉H₂₃N₃
Mol. Weight: 293.4
Solub.(ppm): < 1 @ C

VP (Torr): 2.6E-6
Log Kow :
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.[]

ENVIRONMENTAL FATE & GROUND WATER BRANCH
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY

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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 SdClm 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.[]

ENVIRONMENTAL FATE & GROUND WATER BRANCH
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY

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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 K_{oc} = 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 $CaCl_2$, 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

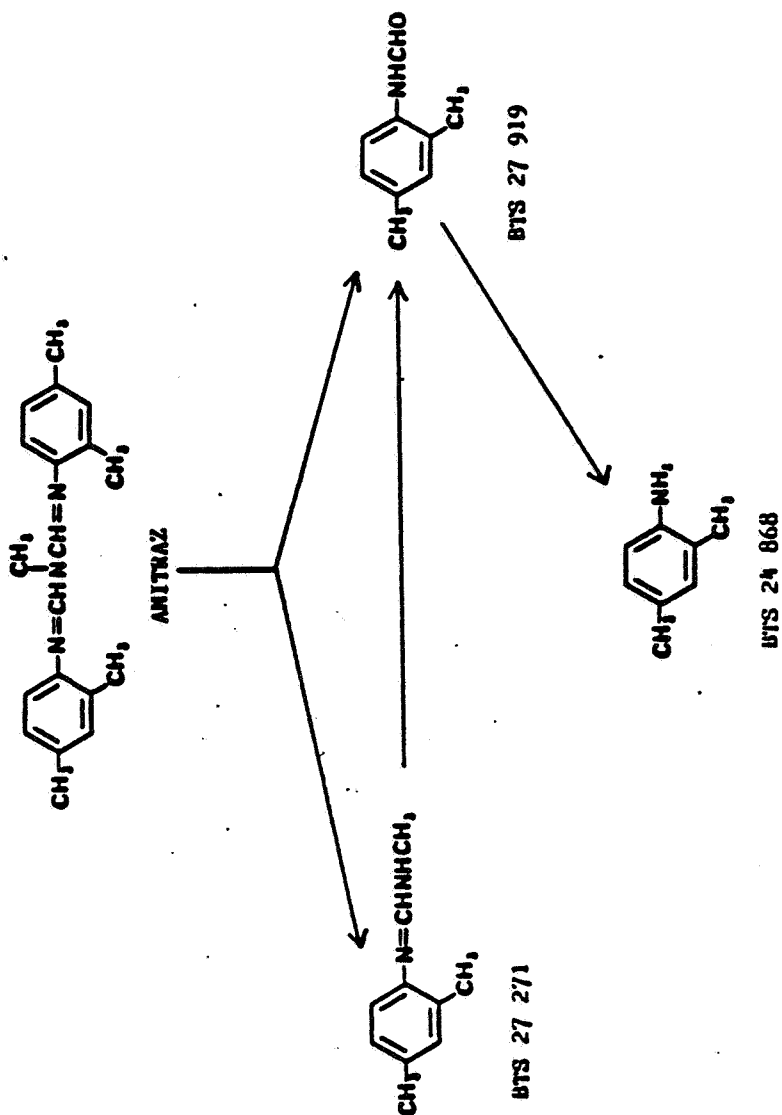
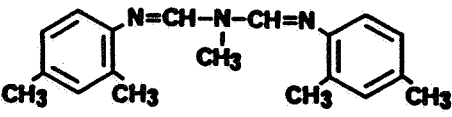
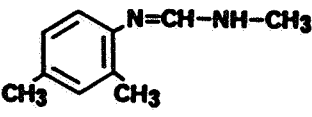
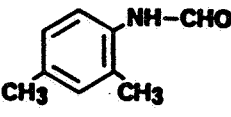
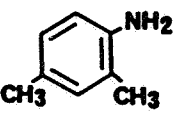
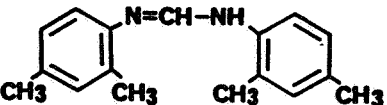


Table 1. Amitraz and its metabolites in plants.

CODE	STRUCTURE	CHEMICAL NAME	ABBREVIATIONS
I		N'-(2,4-dimethylphenyl)-N-[[2,4-dimethylphenyl]imino]methanimidamide	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