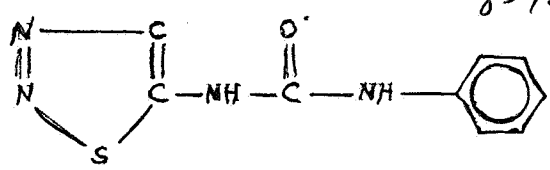


US EPA ARCHIVE DOCUMENT

8-10-89



ENVIRONMENTAL FATE & GR
 PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY

Common Name: **THIDIAZURON** Date: 08/10/89
 Chem. Name : N-PHENYL-N'-1,2,3-THIADIAZOL-5-YL UREA
 :
 Shaugh. # : 120301 CAS Number: 51707-55-2
 Type Pest. : PLANT GROWTH REGULATOR, DEFOLIANT
 Formulation: WP 50%
 Uses : FOR DEFOLIATION OF COTTON
 :
 :

Empir. Form: $C_9H_8N_4SO$ VP (Torr): 3E-11
 Mol. Weight: 220.25 Log Kow :
 Solub.(ppm): 20 @ C Henry's :

Hydrolysis (161-1)	Photolysis (161-2, -3, -4)
pH 5:[*] STABLE	Air :[]
pH 7:[*] STABLE	Soil :[*] 26 DAYS ON LmSd
pH 9:[*] STABLE	Water:[*] 0.4 HOUR
pH :[]	: []
pH :[]	: []
pH :[]	: []

MOBILITY STUDIES (163-1)

Soil Partition (Kd)	Rf Factors
1.[#] NEUHOFEN Kd = 21.3 (3.3% OM)	1.[]
2.[#] RIVER SAND Kd = 2.2	2.[]
3.[]	3.[]
4.[]	4.[]
5.[]	5.[]
6.[]	6.[]

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

Aerobic Soil (162-1)	Anaerobic Soil (162-2)
1.[#] 26 OR 144 DAYS	1.[#] <30 DAYS IN NEUHOFEN 2.2
2.[]	2.[]
3.[]	3.[]
4.[]	4.[]
5.[]	5.[]
6.[]	6.[]
7.[]	7.[]

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

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

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VOLATILITY STUDIES (163-2,3)

- [] Laboratory.
- [] Field:

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

Terrestrial Field (164-1)

- 1. [] OF THREE SOILS, ONLY THE COMMERCE SILM SOIL IN MISSISSIPPI
- 2. [] SHOWED A MOVEMENT ABOVE OR AT THE DETECTION LIMIT BELOW 6".
- 3. []
- 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 WKS AFTER APPL. FOR SMALL GRAINS, CORN, ROOT
- 2. [] CROPS; 2 MOS AFTER APPL FOR LEGUMES, LEAFY VEGS.

Field Rotational Crops (165-2)

- 1. [#] RESTRICTIONS ON PLANTING UNTIL 2 WKS AFTER APPL.
- 2. [] FOR SMALL GRAINS; 2 MOS FOR LEGUMES, LEAFY VEGS.

Irrigated Crops (165-3)

- 1. []
- 2. []

Fish (165-4)

- 1. [#] BCF FOR BLUEGILL FILLET REACHED 54 X FOR LABEL ATTACHED TO
- 2. [] C ADJACENT TO UREA N; FOR CATFISH FILLET, BCF WAS 1 X

Non-Target Organisms (165-5)

- 1. []
- 2. []

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GROUND WATER STUDIES (158.75)

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

DEGRADATION PRODUCTS

1. 1,2,3-THIADIAZOL-5-YL UREA (=21% AFTER A YEAR IN LOAMY SAND)
2. UNDER LIGHT, PARENT COMPD. PARTIALLY ISOMERIZES IN AQUEOUS
3. SOLUTIONS OR ON SOIL TO GIVE PRODUCT #2 WHICH RESISTS PHOTO-
4. DEGRADATION AND HAS WATER SOLUBILITY OF 41-46 PPM.
5. AT LEAST 9 METABOLITES RESULT FROM MICROBIAL ACTION ON THE
6. PARENT COMPOUND.
- 7.
- 8.
- 9.
- 10.

COMMENTS

IN LEACHING STUDIES, >80% OF RADIOACT. REMAINED IN THE TOP 4 TO 6 CM OF SOIL. VERY LITTLE LEACHING OCCURRED EVEN UNDER WORST CASE CONDITIONS. PHOTOPRODUCT ALSO DOES NOT LEACH.

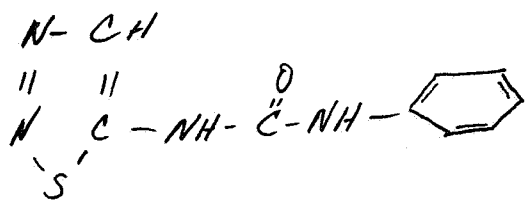
T_{1/2} FOR DEGRADATION IN AEROBIC SOIL IS 4-20 WEEKS DEPENDING ON WHERE THE RADIOACTIVE LABEL IS.

CURRENT STATUS OF CROP ROTATION MAY VARY FROM THAT SHOWN IN THIS SUMMARY.

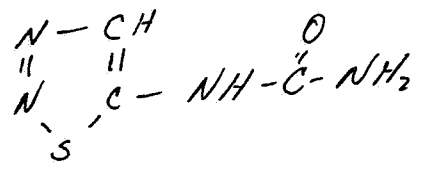
SOIL K_{oc} = 100 (ESTIMATE).

References:

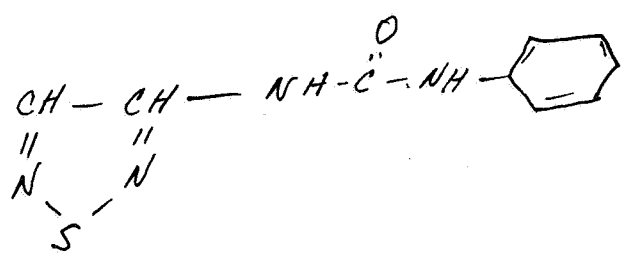
Writer : J. HANNAN



THIADIAZURON



1,2,3-THIADIAZOL-5-YL UREA



PRODUCT #2