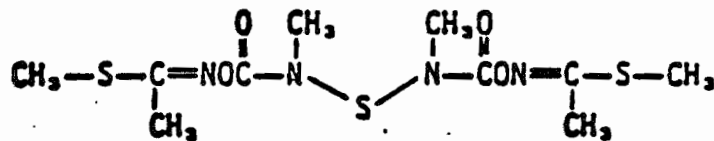


US EPA ARCHIVE DOCUMENT



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

Common Name: **THIODICARB** Date: 11/08/89  
 Chem. Name: N,N' [THIOBIS[ (METHYLIMINO) CARBONLOXY ]]-BIS-DIMETHYL ESTER  
 :  
 Shaugh. # : 114501 CAS Number: 59669-26-0  
 Type Pest : Insecticide / ovicide  
 Formulation: FLOWABLE, WP  
 Uses : SWEET CORN  
 :  
 :

Empir. Form: C<sub>10</sub>H<sub>18</sub>N<sub>4</sub>S<sub>2</sub>O<sub>4</sub> VP (Torr): 4.3E 5  
 Mol. Weight: 354.46 Log Kow : 0.22  
 Solub.(ppm): 35 @ 20 C Henry's :

Hydrolysis (161-1)	Photolysis (161-2 -3, -4)
pH 5:[ ]	Air :[ ]
pH 7:[ ]	Soil :[*] 8 HRS LmSd; 21 DA TX SdLm
pH 9:[*] 22 HR	Water:[#] 81 DAYS, ARTIFICIAL LIGHT
pH 3:[*] 206 HR	: [ ]
pH 6:[*] STABLE	: [ ]
pH :[ ]	: [ ]

**MOBILITY STUDIES (163-1)**

Soil Partition (Kd)	Rf Factors
1.[*] 1.34 CLAY LOAM = Kads	1.[ ] SEE COMMENTS
2.[*] 0.58 LOAMY SAND = "	2.[ ]
3.[*] 1.22 SANDY LOAM = "	3.[ ]
4.[ ]	4.[ ]
5.[ ]	5.[ ]
6.[ ]	6.[ ]

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

Aerobic Soil (162-1)	Anaerobic Soil (162-2)
1.[*] 1 WEEK	1.[*] 1 WEEK
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.[\*] IN FINE SANDY LOAM (CA) WITH 204 MM RAINFALL, T<sub>1/2</sub>=6 DAYS.
- 2.[\*] IN SANDY LOAM (NC) WITH 475 MM RAINFALL, T<sub>1/2</sub>= 3 DAYS.
- 3.[\*] IN SILTYCLAY LOAM (MISS) WITH 469 MM RAINFALL, T<sub>1/2</sub>= 8 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.[\*] RESIDUES WOULD NOT BE EXPECTED IN FOLLOW CROPS
- 2.[ ] EVEN IF PLANTED 30 DAYS AFTER LAST TREATMENT.

Irrigated Crops (165-3)

- 1.[ ]
- 2.[ ]

Fish (165-4)

- 1.[#] CATFISH BCF= 13.7 X; BLUEGILL BCF = 5 X
- 2.[ ]

Non Target Organisms (165-5)

- 1.[ ]
- 2.[ ]

Common Name: **THIODICARB**

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**GROUND WATER STUDIES (158.75)**

1. [\*] THIODICARB=NONE. METHOMYL = TRACE UP TO 20 PPB
2. [ ]
3. [ ]

**DEGRADATION PRODUCTS**

1. METHOMYL IS PRINCIPAL DEGRADATE IN PHOTO., SOIL, AND HYDROLYSIS.
2. UNDER AEROBIC CONDITIONS METHOMYL GIVES CO<sub>2</sub>; ANAEROBICALLY, IT
3. PRODUCES ACETONITRILE.
4. OTHER DEGRADATES: METHOMYL SULFOXIDE, METHOMYL OXIME, MONO
5. SULFOXIDE METHOMYL SULFOXIDE OXIME, METHOMYL METHYLOL
- 6.
7. SOIL DEGRADATES HAVE HIGH POTENTIAL TO LEACH.
- 8.
- 9.
- 10.

**COMMENTS**

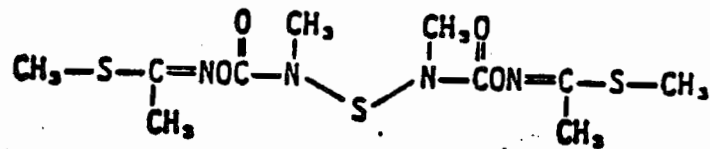
LEACHING DATA:				COMMENTS					
Sd	Si	Cl	pH	%OM	STATE	THIODI.	Rf	METH. OXIME	METHOMYL
25	42	33	8.1	1.3	CA	.12		.86	.64
83	15	2	5.8	0.8	NC	.21		.89	.77
65	17	18	7.8	1.0	TX	.12		.93	.79
38	42	20	5.4	1.3	OH	.08		.88	.73

SOIL Koc = 300 (ESTIMATE)

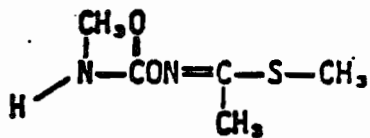
References FARM CHEMICALS HANDBOOK; EPA REVIEWS

Writer : J. HANNAN

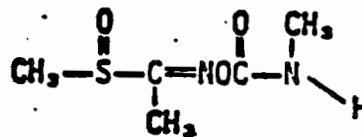
3



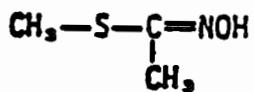
Thiodicarb



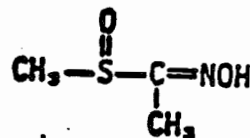
Methomyl



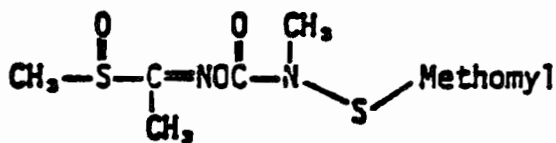
Methomyl Sulfoxide



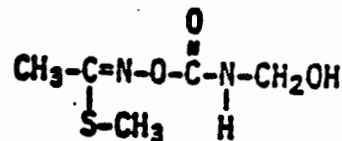
methomyl oxime



Methomyl Sulfoxide Oxime



Monosulfoxide



Methomyl methylol

FIG. 2 Thiodicarb and its major degradation products.

*where oxime  
4*