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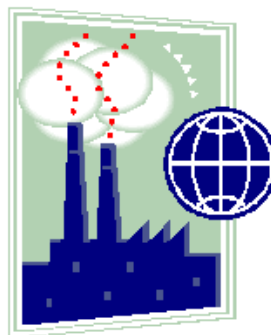
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### Pesticide Properties DataBase

PPDB

## The ARS Pesticide Properties Database

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*(lists all pesticides. Takes several minutes to display)*



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## Property Descriptions

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### DESCRIPTION OF DATABASE CONTENTS

Pesticides are listed by the common name of the active ingredients.

Each pesticide file, lists the following properties:

- CASRN
- Molecular formula
- Molecular weight
- Physical state
- Boiling point
- Melting point
- Decomposition point
- Heat of vaporization
- Rate Constants-Hydrolysis, Photolysis
- Vapor pressure
- Water solubility
- Organic solubility
- Henry's Law
- Octanol/water partitioning
- Acid dissociation
- Soil sorption\*
- Field dissipation\*
- Soil halflife\* (aerobic, anaerobic)

\*For various soil types.

Files for 334 pesticides are available.

The [CODEN LIST](#) is available and is a listing of the references used in compiling the data. A description of the [UNITS](#) used in describing the physical and chemical properties is also provided. If you discover errors or omissions please notify us at:

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## Introduction

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# ***The ARS Pesticide Properties Database***

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PESTICIDES are being found in our water supplies. The frequency and levels of detections are extremely low, but sound water quality management requires us to direct research towards minimizing future contamination. The ARS Pesticide Properties Database (PPD) has been developed to provide water quality modelers and managers a list of the pesticide properties most important for predicting the potentials of pesticides to move into ground and surface waters under a range of weather and soil conditions.

The ARS PPD is a compendium of chemical and physical properties of 334 widely used pesticides. Information included in the database focuses on 16 of the most important properties that affect pesticide transport and degradation characteristics. The database is administered by the Crop Systems & Global Change Laboratory in

,  
Maryland

, which has the responsibility for adding pesticides and new data as they become available. A steering committee that represents database users gives advice on the form and content of the database.

The ARS PPD relies on experimentally determined data

.  
Its developers, working with the American Crop Protection Association (formerly the National Agricultural Chemicals Association), have communicated directly with the manufacturers to obtain the original experimental data used to characterize the pesticide properties and fulfill requirements for federal and state regulations. The data are augmented with data from the scientific literature. Earlier databases by Dr. Ralph Nash and Dr. R. Don Wauchope have been incorporated.

The ARS PPD differs from previous databases of pesticide properties in the following ways:

- References are given for all data.
- When a given property has several values, all values are cited.
- Selected values are also available.

All data have been verified by the manufacturers to confirm that they are the latest and

- most reliable figures available.

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ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001

name: 1,2-DICHLOROPROPANE CASRN: 78-87-5  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 2700  
 FIELD HALF-LIFE (days): 700 E  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 50  
 VAPOR PRESSURE (mm Hg): 50  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C3H6CL2  
 molecular weight: 113.0  
 physical state: L  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook,(E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
96.4				H	6MONTG	
Melting point (deg C):						
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
1.2E-4		25	7	H	6MONTG	
Photolysis (per day):						
19.96				H	6MONTG	
Vapor pressure (mPa):						
27.9E6		19.6		H	9PMED9	
55.9E5*		20		H	6MONTG	
Water solubility (ppm):						
2700		20		H	9PMED9	
2700		20		R	6FLORI	
Organic solubility (ppm):						
MISCIBLE WITH MANY ORGANIC SOLVENTS				H	6MONTG	
Henry's law (Pa m <sup>3</sup> /mol):						
234		20		H	6MONTG	
Octanol/water partitioning (log Kow):						
2.28				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			46,47			6GERST
			50			6FLORI
			51			6GERST
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
700				W		
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	
Comments:						

name: 1-NAPHTHALENEACETAMIDE CASRN: 86-86-2  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 100 E  
 FIELD HALF-LIFE (days): 10 G  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 100 E  
 VAPOR PRESSURE (mm Hg): --  
 pKa: --  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C12H11NO  
 molecular weight : 185.2  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
Melting point(deg C):							
184				H	9PME10		
Decomposition point(deg C):							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
Photolysis (per day):							
Vapor pressure (mPa):							
<0.01				H	9PME10		
Water solubility (ppm):		-temp-		-source-	-reference-		
380 ACID		17		H	9HERBH		
420 ACID		20		H	9HERBH		
39*		40		H	9PME10		
Organic solubility (ppm):							
Henry's law (Pa m <sup>3</sup> /mol):							
<0.047				H	9PME10		
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			11 ACID*				CMSHAF 10:833-845,1981
			100(EST)*			W	
Field Dissipation half-life(days):							
value	test area		pH		source		reference
Half-life in soil:							
Soiltype		aerobic		anaerobic	source		reference
Comments:							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:1-NAPHTHYLACETIC ACID** CASRN: 86-87-3  
 molecular formula: C12H10O2  
 molecular weight : 186.21  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
132	-	3		H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
Photolysis (per day):							
Vapor pressure (mPa):							
2.1*				M	9RHPOU		
<1.3E-02				M	9RHPOU		
Water solubility (ppm):							
-temp-							
-source-							
-reference-							
4.19E05*				M	9RHPOU		
380		17		H	9HERBH		
420		20		H	9HERBH		
				H	9ACHB2 1983 ED.		
105				M	9RHPOU		
Organic solubility (ppm):							
Henry's law (Pa m <sup>3</sup> /mol):							
0.0037*				M	9RHPOU		
Octanol/water partitioning (log Kow):							
2.6				M	9RHPOU		
Acid dissociation (pKa):							
4.2				M	9RHPOU		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			200			W	
Field Dissipation half-life(days):							
value	test area		pH		source	reference	
10					W		
Half-life in soil:							
Soiltype		aerobic		anaerobic	source	reference	
Comments:							
WATER SOLUBILITY 4.19E05=NaSALT							

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**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: 2,4,5-T ACID CASRN: 93-76-5  
SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
WATER SOLUBILITY (mg/L): 278  
FIELD HALF-LIFE (days): 30  
SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 80  
VAPOR PRESSURE (mm Hg): 0 (pH7)  
pKa: 2.85  
PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
molecular formula: C<sub>8</sub>H<sub>5</sub>O<sub>3</sub>CL<sub>3</sub>  
molecular weight: 255.49  
physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-------	--------	-------	----	--------	-----------

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Boiling point (deg C):  
Melting point (deg C):  
157-158 H 6MONTG

Decomposition point (deg C):  
Heat of vaporization (deg C):  
--RATE CONSTANTS--

Hydrolysis (per day):  
Photolysis (per day):  
0.046 H 6MONTG

Vapor pressure (mPa):  
0.9 20 C CMSHAF 10:833-846  
7.05E-4\* 20 H 9PMED9  
5.0 20 H 6MONTG

Water solubility (ppm):  
150\* 25 H 9PMED9  
200 25 R 9KHBCD 1-128 (1975)  
251,268,280 25 R 9KHBCD 1-128 (1975)  
238 30 R 9KHBCD 1-128 (1975)  
278 20 H 9ACHB2 1983  
220 20 H 6MONTG

Organic solubility (ppm):  
>5E4 ETHER,ETHANOL,METHANOL,  
TOLUENE 20 H 9PMED9  
400 HEPTANE 20 H 9PMED9

Henry's law (Pa m3/mol):  
1.2E-6 20 H 9PMED9

Octanol/water partitioning (log Kow):  
0.60-3.40 H 6MONTG  
2.0\*

Acid dissociation (pKa):  
2.9 E JEVQAA 12: 325-330 (1983)  
3.14,3.46 E JAFCAU 18: 814-818 (1970)  
2.85\* E JAFCAU 26: 189-192 (1978)

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	---	---	---	---	-----
			95			6GERST
			80			JEVQAA 16: 422-428 (1987)
			110,94			6GHENT 46: 281-296 (1981)
			186			6GHENT 46: 281-296 (1981)
			425			JEVQAA 12: 325-330 (1983)
			39,66			SSSAA8 38: 433-436 (1974)
			92,123			SSSAA8 38: 433-436 (1974)
			133			SSSJD4 41: 278-285 (1977)
			374			SSSJD4 43: 871-874 (1979)
			196			SSSJD4 43: 871-874 (1979)
			91			ESTHAG 21: 358-366 (1987)
SANDY LOAM		0.31	39	1.38	7.5	JEVQAA 12(2):195-7 (1983)
SILTY CLAY LOAM		0.49	92	0.91	8.5	JEVQAA 12(2):195-7 (1983)
SANDY LOAM		2.40	66	6.30	6.6	JEVQAA 12(2):195-7 (1983)
SILTY LOAM		3.00	124	4.18	6.5	JEVQAA 12(2):195-7 (1983)
SANDY CLAY LOAM		6.20	186	5.74		JEVQAA 12(2):195-7 (1983)
			80*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	---	-----	-----
12,19,24			R	RREVAH 80: 65-135 (1981)
33			E	JEVQAA 16: 422-428
14			E	JAFCAU 29: 100-107 (1981)

63,69	E	6GHENT 46: 281-296 (1981)
38	R	6ENVPE pp. 257-280
14,21	R	RREVAH 80: 65-135
30*	W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: 2,4,5-T AMINE SALTS CASRN: 93-76-5  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 500000 E  
 FIELD HALF-LIFE (days): 24  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 80  
 VAPOR PRESSURE (mm Hg): 0  
 pKa: 2.84  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C8H5CL3O3 (PARENT)  
 molecular weight : 255.49 (PARENT)  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)author's hope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
154 - 155				H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		0	5-9	H	9ACHB2(PARENT CMPD)
Photolysis (per day):					
Vapor pressure (mPa):					
<0.01*		20		H	9ACHB2 (PARENT CMPD)
Water solubility (ppm):	-temp-			-source-	-reference-
150PARENT		25		H	9ACHB2 7TH ED.,1977
278PARENT*		20		H	9ACHB2
900		25		R	EESADV
620*		20		H	9ACHB2 1983 ED.
703				E	ETOC DK 8:339-357,1989
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
0.8				M	9RHPOU
Acid dissociation (pKa):					
2.84*				R	ADCSAJ 111:55-120,1972
				C	8CREAM
2.88				E	ESTHAG 3:1186-1188,1969
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			80		
					reference
					JEVQAA 16:422-428,1987



80 9HRLCP  
 53PARENT 7DRAGU  
 85 8GLEAM  
 82\*

Field Dissipation half-life(days):

value	test area	pH	source	reference
25(12-33)				
30			H	9ACHB2 1983 ED.
33			E	JEVQAA 16:422-428,1987
12			R	RREVAH 80:65-135 1981
16-33			R	9EINSP PP.23-67

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

MELTING POINT 154-155 = PARENT

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: 2,4,5-T ESTERS CASRN: 251168-15-4  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)

WATER SOLUBILITY (mg/L): 50 E  
 FIELD HALF-LIFE (days): 30  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 80  
 VAPOR PRESSURE (mm Hg): 1x10<sup>-4</sup> E  
 pKa: 2.85

PUBLISHED AND MANUFACTURER VALUES AND SOURCES

molecular formula: C<sub>16</sub>H<sub>21</sub>CL<sub>3</sub>O<sub>3</sub>(ISOCTYL)  
 molecular weight: 367.7(ISOCTYL)  
 physical state: SOLID

reference:9PMED9

\*\*\*\*\*

Key to sources: Manufacturer, Review, Handbook, Experiment, Calculated, Unknown.

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

Decomposition point (deg C):

Heat of vaporization (deg C):

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

13

W

Water solubility (ppm):

INSOL.

H

9PMED

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

Soil sorption - Kd (?), Koc (?):

soiltype	temp.	Kd	Koc	pH	source	reference
-----	-----	--	----	--	-----	-----

80

PARENT

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----

FEW DAYS

E

JOCRAM 69:204-206

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name:2,4-D-ACID CASRN: 94-75-7  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 890  
 FIELD HALF-LIFE (days): 10  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 20  
 VAPOR PRESSURE (mm Hg): 8 x 10<sup>-6</sup>  
 pKa: 2.8  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C<sub>8</sub>H<sub>6</sub>CL<sub>2</sub>O<sub>3</sub>  
 molecular weight : 221.04  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
160	-	0.4mmHg		H	9HERBH
Melting point(deg C):					
140	-	141		H	9HERBH
135	-	138 (tech)		M	6DOWCH
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
Hydrolysis (per day):					
NEGLIB.*		RT	5-9	M	6DOWCH
Photolysis (per day):					
0.01*	SOIL	24.9		M	6DOWCH
0.92-9.2*	AIR	RT		E	AECTCV 2:275,1974
0.053*	WATER	24.8	7	M	6DOWCH
Vapor pressure (mPa):					
0.019*		25		M	6DOWCH
1.3E-2		20		H	9ACHB2 1983 ED.
Water solubility (ppm):					
311* (pH1)		25		M	6DOWCH
20031* (pH5)		25		M	6DOWCH
23180* (pH7)		25		M	6DOWCH
34196* (pH9)		25		M	6DOWCH
Organic solubility (ppm):					
8.5E05*	ACETONE			H	9HERBH
Henrys law (Pa m3/mol):					
1.8E-7*		25		M	6DOWCH
1.3E-5				M	6DOWCH
5.8E-6				M	6DOWCH
1.0E-7				M	6DOWCH
1.5E-9				M	6DOWCH
4.4E-10				M	6DOWCH
Octanol/water partitioning (log Kow):					
2.83* (pH1)				M	6DOWCH
-0.75* (pH7)				M	6DOWCH
2.81				H	7HOCAS
Acid dissociation (pKa):					
2.73	25			E	ESTHAG 3:1186-1188,1969
2.80				C	8CREAM
				R	ADCSAJ 111:55-120,1972

2.87\* E PSSCBG 19:101-112,1987  
 E JAFCAU 26:289-292,1978

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			20			E	JEVQAA 16:422-428,1987
						R	9EINSP PP.23-67
			60			R	8AOACA
			56			E	JPFCD2 22:55-69,1987
			57			C	8BULEV 24:190-195,1980
SILT LOAM		0.94	42	3.84	5.9	M	6DOWCH
SANDY LOAM		0.08	36	0.38	7.5	M	6DOWCH
LOAM		1.1	36	5.30	6.8	M	6DOWCH
CLAY		1.0	79	2.17	7.0	M	6DOWCH

48\*

Field Dissipation halflife(days):

value	test area	pH	source	reference
<7			M	6DOWCH
14*			H	9ACHB2 1983 ED.
7			E	JEVQAA 16:422-428,1987
			E	ETOC DK 8:339-357,1989
4-7			P	8EPAHO
6-14			R	8AGMAW
15			E	JAFCAU 32:578,1984

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILTY CLAY LOAM	7 (pH5.8)		M	6DOWCH
CLAY LOAM	4 (pH6.9)			

Comments:

WATER SOLUBILITY VALUES 311=PH1, 20031=PH5, 23180=PH7 AND  
 34196=PH9; HENRY LAW VALUES 1.8E-7=PH7, 1.3E-5=PH1; OCTANOL  
 WATER VALUE 2.83=PH1 & -0.75=PH7; SOIL HALFLIFE=5.5(1.5-8.5)

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: 2,4-DB BUTOXYETHYL ESTER CASRN: 32357-46-3  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 8  
 FIELD HALF-LIFE (days): 7 {1}  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 500  
 VAPOR PRESSURE (mm Hg): <1 x 10<sup>-7</sup>  
 pKa: 4.8 {1,2}  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C16H22O4CL2  
 molecular weight : 349.26  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference: 9RHPOU

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
Decomposition point(deg C):					
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):  
 Photolysis (per day):  
 0.02\* SOIL 25 M 9RHPOU  
 0.04 WATER 25 7 M 9RHPOU  
 Vapor pressure (mPa):  
 1.3E-02\* 25 M 9RHPOU  
 Water solubility (ppm): -temp- -source- -reference-  
 8\* 25 M 9RHPOU  
 Organic solubility (ppm):  
 >1.0E+6\* ACETONE 25 M 9RHPOU  
 >1.0E+6\* HEXANE 25 M 9RHPOU  
 >1.0E+6\* ISOPROPANOL 25 M 9RHPOU  
 Henrys law (Pa m3/mol):  
 5.6E-04\* 25 M 9RHPOU  
 Octanol/water partitioning (log Kow):  
 5.00\* 25 M 9RHPOU  
 Acid dissociation (pKa):  
 4.8\*\* H 9PMED8  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 SANDY CLY LOAM 1.47 195 1.3 6.6 9RHPOU  
 SAND 0.795 457 0.3 5.4 9RHPOU  
 SILT LOAM 0.461 38 2.1 7.0 9RHPOU  
 SILT LOAM 3.27 113 5.0 7.0 9RHPOU  
 201\*  
 Field Dissipation halflife(days):  
 value test area pH source reference  
 7(4.7-10)\*  
 10 89 CA WHEAT M 9RHPOU  
 4.7 88 NC WHEAT M 9RHPOU  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:  
 ESTER RAPIDLY CONVERTED TO PARENT. pKa VALUE FOR PARENT ACID.

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name:2,4-DB DIMETHYLAMINE SALT CASRN: 2758-42-1  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 709000  
 FIELD HALF-LIFE (days): 10 E  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 20 E  
 VAPOR PRESSURE (mm Hg): 0  
 pKa: 4.8 {1}  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C12H17CL2NO3  
 molecular weight : 294.2  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
 Boiling point(deg C):  
 -  
 Melting point(deg C):  
 117 - 119 (parent) H 9PME10  
 Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

<1.3E-02\*

Water solubility (ppm):            -temp-            -source-    -reference-

46PARENT*			R	EESADV
>2E05			H	9ACHB2 1983 ED.
7.09E05*			H	9ACHB2 1983 ED.
			M	9RHPOU

Organic solubility (ppm):

Henrys law (Pa m3/mol):

Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

4.8*			H	9ACHB2 7TH ED.,1977
------	--	--	---	---------------------

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			20*			
			530*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
14*			H	9ACHB2 1983 ED.

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

VAPOR PRESSURE VALUE <1.3E02 HAS TEMP=NR; ACID DISSOC. VALUE

4.8PARENT; SOIL SORPTION VALUE 530PARENT

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**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: ABAMECTIN (AVERMECTIN)

CASRN: 71751-41-2

SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)

WATER SOLUBILITY (mg/L): 5

FIELD HALF-LIFE (days): 28

SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 5000 E

VAPOR PRESSURE (mm Hg): 1.5 x 10<sup>-9</sup>

PUBLISHED AND MANUFACTURER VALUES AND SOURCES

molecular formula: C<sub>48</sub>H<sub>72</sub>O<sub>14</sub>(B1a)

molecular weight: 873.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: JPFCD2 B16: 309-324 (1981)

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
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Boiling point (deg C):

Melting point (deg C):

150 - 155				H	9PME10
-----------	--	--	--	---	--------

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE	WATER	25	5,7,9	H	9PME10
--------	-------	----	-------	---	--------

Photolysis (per day):

Vapor pressure (mPa):  
0 W  
<2.0E-4\* H 9PME10

Water solubility (ppm):  
5.00\* 20 P 6USEPA  
0.01 20 H JPFCD2 B16: 309-324 (1981)

Organic solubility (ppm):  
3.5E5 TOLUENE 21 H 9PME10  
1.0E5 ACETONE 21 H 9PME10  
7.0E4 ISOPROPANOL 21 H 9PME10  
2.5E4 CHLOROFORM 21 H 9PME10  
2.0E4 ETHANOL 21 H 9PME10  
1.0E4 N-BUTANOL 21 H 9PME10  
6.0E3 CYCLOHEXANE 21 H 9PME10

Henry's law (Pa m<sup>3</sup>/mol):  
<3.5E-5 P 6USEPA  
H 9PME10

Octanol/water partitioning (log K<sub>ow</sub>):  
Acid dissociation (pK<sub>a</sub>):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			4760			JPFCD2 B16:309-324 (1981)
			23103			6USEPA
			1672			6USEPA
			5328			6USEPA
			5000*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
14-28			E	JAFCAU 32: 94-102 (1984)
28-56			E	JAFCAU 32: 94-102 (1984)
56(B1a)			E	JAFCAU 32: 94-102 (1984)
28*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name:ACEPHATE CASRN: 30560-19-1  
SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
WATER SOLUBILITY (mg/L): 818000  
FIELD HALF-LIFE (days): 3  
SOIL ORGANIC CARBON SORPTION (K<sub>oc</sub>, mL/g): 2  
VAPOR PRESSURE (mm Hg): 1.7 x 10<sup>-6</sup>  
PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
molecular formula: C<sub>4</sub>H<sub>10</sub>NO<sub>3</sub>PS  
molecular weight : 183.16  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
93	-			H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
Photolysis (per day):							
Vapor pressure (mPa):							
2.3E-1*		24		H	9PMED8		
Water solubility (ppm):							
6.5E05				C	EESADV		
7.9E05		20		H	9ACHB2 1983 ED.		
6.5E05				C	8GLEAM		
8.18E05*		20		M	8VALUS		
Organic solubility (ppm):							
>1E+5*	ACETONE						
>1E+5*	ETHANOL						
<5E+4*	AROMATIC SOLV.						
Henry's law (Pa m3/mol):							
5.15E-8*		23		H	9PMED8		
				M	8VALUS		
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			300			C	8GLEAM
			3*			R	EESADV
			<3			M	8VALUS
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
6(2-10)*							
2						C	8GLEAM
7-10						H	9ACHB2 1983 ED.
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
	3					M	8VALUS
Comments:							

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name:ACIFLUORFEN SODIUM SALT CASRN: 62476-59-9  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 250000  
 FIELD HALF-LIFE (days): 14  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 113 E {1,2}  
 VAPOR PRESSURE (mm Hg): 0  
 pKa: --  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C14H6CLF3NNAO5  
 molecular weight : 383.7  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
-					
Decomposition point(deg C):					
235	-			H	9HERBH
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
0.151*	SOIL			H	9RHPOU
Vapor pressure (mPa):					
<1.3E-3				H	9HERBH
Water solubility (ppm):					
>2.5E05*		-temp-		-source-	-reference-
		25		H	9ACHB2
				H	9FACHB 1990
				H	9ACHB2 7TH ED.,1977
129 (PARENT)*					
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			113*		
					source
				R	8INSFO
Field Dissipation half-life(days):					
value	test area		pH	source	reference
31(14-60)*					
30-60				H	9HERBH
38-49				P	8EPAHO
14				M	9RHPOU
21				M	9RHPOU
45				M	6ROHMH
Half-life in soil:					
Soiltype	aerobic	anaerobic		source	reference
	30*	19*			
	30-180	30		M	6BASF1
		7		M	6BASF1
Comments:					

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: ACROLEIN CASRN: 107-02-8  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 208000  
 FIELD HALF-LIFE (days): 14  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 0.5  
 VAPOR PRESSURE (mm Hg): 220  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C<sub>3</sub>H<sub>4</sub>O  
 molecular weight: 56.06  
 physical state: LIQUID  
 reference: 9PMED9 20H10: 6PME10  
 \*\*\*\*\*  
 Key to sources: Manufacturer, Review, Handbook, Experiment, Calculated, Unknown.  
 \* denotes a selected value where multiple values of a property are listed.  
 value medium temp. pH source reference  
 -----





Water solubility (ppm):	-temp-	-source-	-reference-
242	25	H	9HERBH, 5:13,1983
148	25	R	9KUPSE, p.218,1980
200(SALT)	20	R	ACSMC8, 225:236,1983
203		E	ETOC DK 8:339-357,1989
240*	25	M	9MONSA
148	20	E	WEESA6, 17(4):442,1969

Organic solubility (ppm):  
 Henrys law (Pa m<sup>3</sup>/mol):  
 2.1E-03\* 25 M 9MONSA  
 Octanol/water partitioning (log Kow):  
 2.64 R 9HRLCP(RAO;DAVIDSON),1980  
 2.92 R CHREAY, 71:525,1971  
 2.90\* 20 E ACSMC8, 225:236,1983

Acid dissociation (pKa):  
 Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			209			EESADV, 4:28,1980
DRUMR SLTY CLAY			190			9ASTM1, 707:78,1980
			120			JEVQAA 16:422-428,1987
			161			ETOC DK 8:339-357,1989
			168.3			9MONSA
			190			SCSFAD 44:1-8,1985
SILT LOAM		3.7	109	3.4	6.2	9MONSA
LOAMY SAND		1.3	54	2.4	4.7	9MONSA
SILT		0.9	75	1.2	8.1	9MONSA
SAND		0.3	43	0.7	6.5	9MONSA
LINTONIA LOAM		0.35	87	0.7		9MONSA
DUPO SILT LOAM		0.88	130	1.2		9MONSA
SPINKS SND LOAM		1.3	94	2.4		9MONSA
DRUMMER SLTY CLAY		3.7	190	3.4		9MONSA

Field Dissipation halflife(days):  
 value test area pH source reference

27(7.1-81)*				
14-21			H	9HERBH
14			E	ETOC DK 8:339-357,1989
42-70			H	9ACHB2 1983 ED.
18			E	JEVQAA 16:422-428,1987
14-29	SOIL 8-80		M	9MONSA
16-66	SOIL 5-81		M	9MONSA
7.1			M	9MONSA
11.7			M	9MONSA
15.5			M	9MONSA
17.7			M	9MONSA
19-26	SOIL 7-80		M	9MONSA

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM	ca21		M	9MONSA
LOAMY SAND	ca21		M	9MONSA
SILT	ca14		M	9MONSA

Comments:  
 SOIL SORPTION KOC VALUE 124 = 124(43-209)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:ALDICARB CASRN: 116-06-3**

molecular formula: C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub>S

molecular weight : 190.25

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9SPGCC,P.5,1982(TOXNET)

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)ncertain, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
99	100			H	9MERCK,10TH ED,p.35,1983
Decomposition point(deg C):					
100					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.00090		25	9.	M	9RHPOU
0.00530		20		E	BECTA6, 34(5):629,1985
Photolysis (per day):					
0.08700	SOIL	25		M	9RHPOU
.058	WATER	25			
Vapor pressure (mPa):					
1.33E+1		25		H	9HEDOC,2ND ED.,p.168,1983
.71E+1		20		R	9PPDBR,p.896,1980
10.6		0		R	9HRLCP
3.87E-1*		25		M	9RHPOU
.463E+1		25		E	JAFCAU,V.29(1),P.99,1981
Water solubility (ppm):					
		-temp-		-source-	-reference-
4.0E+03				E	JAFCAU, 27:560,1979
7.8E+03		26		E	9OCHS2, 2:605,1972
6.0E+03		25		H	9ACHB2,2ND ED.,1987
9.0E+03		30		E	AMPPC4, 7:148,1973
1.4E+04		50		E	AMPPC4 7:148,1973
5.9E+03 *		25		M	9RHPOU
Organic solubility (ppm):					
3.5E+5*	ACETONE	25		H	9MERCK, 10:35,1983
1.5E+5*	BENZENE	25		H	9MERCK, 10:35,1983
5.0E+4*	XYLENE	25		H	9MERCK, 10:35,1983
3.0E+5*	METHYLENE CHLORIDE	25		H	9MERCK, 10:35,1983
2.0E+5	ETHYL ETHER	0		R	9HPSIM, p.447,1982
1.0E+5	TOLUENE	0		R	9HPSIM, p.447,1982
1.0E+3	HEXANE	25		M	9RHPOU
5.8E+5	DICHLOROMETHANE	25		M	9RHPOU
Henry's law (Pa m <sup>3</sup> /mol):					
5.29E-01		20		R	9HRLCP(MONTGOMERY),1986
1.25E-05*		25		M	9RHPOU
Octanol/water partitioning (log Kow):					
1.13*		25		M	9RHPOU
0.70		0		C	9HRLCP(RAO;DAVIDSON),1980
1.57		0		C	JAFCAU, 29:1050,1981
.85		0		C	9HRLCP(JAFCAU)27:557,1979
1.13		0		C	9HRLCP(JPFCD2)6:667,1983
1.08		0		C	9HRLCP(BRIGGS,ET AL.)1982
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			32		
			25		
IMMOK.FN.SND	15-30CM	0.11	38	0.50	5.65
					reference
					EESADV 4:28,1980
					JPFCD2,VB20(1):10,1985
					9WELLW

IMMOK.FN.SND.	90-105C	0.03	7	0.90	5.80	9WELLW
IMMO.FN.SD.	105-120CM	0.03	7	0.90	5.95	9WELLW
EUSTIS(A-P)FL		0.17	25	1.19	5.4	9WELLW
EUSTIS(B-1)FL		0.03	19	0.28	4.6	9WELLW
WEBSTER(A-P)IA		0.70	21	5.7	7.3	9WELLW
CECIL(A-P)		0.15	19	1.38	5.6	9WELLW
GRENADA(A-P)		0.17	19	1.56	5.7	9WELLW
ASTATULA SAND	60-90C	0	0	0.10	5.26	9WELLW
			10			SCSFAD 44:1-8,1985
			36			JEVQAA 16:422-428,1987
			40			8GLEAM
			17			ETOC DK 8:339-357,1989
			20-80			9RHPOU
			49			8SWAMD
ASTATULA SAND		0.08	47	0.29	6.29	9WELLW
ASTATULA SAND		0.03	25	0.21	5.89	9WELLW
IMMOK.FN.SND.	0-15CM	0.39	38	1.80	6.15	9WELLW
			26(0-80)*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
50(7-84)*				
84	83 ME POTATOES		E	ETOC DK 5:361,1986
40	83 NC TOBACCO		E	ETOC DK 5:361,1986
9	85 SC SOYBEANS		E	9AGECE 20:303,1988
33-39	83 VA TOBACCO		E	ETOC DK 5:361,1986
64	83 WA POTATOES		E	ETOC DK 5:361,1986
36-45	82 WI POTATOES		E	ETOC DK 4:641,1985
12	88 CHINA COTTON		E	9RHPOU
66	88 NETH.POTATO		M	9RHPOU

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
Comments:				

### ARS PESTICIDE PROPERTIES last update May 1999

**name:ALDOXYCARB**

**CASRN: 1646-88-4**

molecular formula: C7H14N2O4S

molecular weight : 222.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
140	-	142		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
STABLE*	SOIL				
Vapor pressure (mPa):					
12*		25		H	9ACHB2
Water solubility (ppm):		-temp-		-source-	-reference-

9000 25 H 9ACHB2 7TH ED.,1977  
8000 R RREVAH 105:99-146,1988  
10,000\* H 9ACHB2  
Organic solubility (ppm):  
Henry's law (Pa m<sup>3</sup>/mol):  
2.67E-4\* H 9ACHB2  
Octanol/water partitioning (log K<sub>ow</sub>):  
Acid dissociation (pK<sub>a</sub>):  
Soil sorption:  
soiltype temp. Kd Koc %om pH source reference  
3 C 8SWAMD  
10(est.)\* W  
Field Dissipation half-life(days):  
value test area pH %OM source reference  
20\* M 9RHPOU  
E PSSCBG 23:307-327,1988  
Half-life in soil:  
Soiltype aerobic anaerobic source reference  
Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: ALDRIN**

**CASRN: 309-00-2**

molecular formula: C<sub>12</sub>H<sub>8</sub>CL<sub>6</sub>

molecular weight: 364.9

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

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Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
145 AT 2 MM HG				H	6MONTG
Melting point (deg C):					
104(PURE), 49-60(TECH)				H	6MONTG
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
9.1E-4		25	7	H	6MONTG
Photolysis (per day):					
0.147				H	6MONTG
Vapor pressure (mPa):					
3*		20		H	6JENEN 114: 689-703 (1988)
10		20		P	6USEPA
3		20		R	6DEGRA
6.5		30		R	JAFCAU 18: 814-818 (1970)
0.9		25		P	6EPAPF vol. I
Water solubility (ppm):					
0.027*		27		H	9PMED9
0.01-0.2		20-25		E	ADCSAJ 111: 55-120 (1972)
Organic solubility (ppm):					

Henrys law (Pa m3/mol):  
 Octanol/water partitioning (log Kow):  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			20000			8GLEAM
			410			ESTHAG 14:553-6(1980)
			813			RREVAH 103: 1-59 (1988)
			160000			RREVAH 87:91-104(1983)
			48775			JAFCAU 29:1050-9(1981)
			17500*			

Field dissipation halflife(days):

value	test area	pH	source	reference
28			C	8GLEAM
43-63			E	6JENEN 114: 689-703 (1988)
10			E	ETOCKD 8:339-57(1989)
1237			R	9EINSP pp. 23-67 (1980)
183			R	6ENVPE pp.257-280
ca.273-365			E	JAFCAU 7: 430-433 (1959)
365*				

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:AMETRYN**

**CASRN: 834-12-8**

molecular formula: C9H17N5S

molecular weight : 227.33

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
84	-	86		H	9PMED8,8TH ED.,p.19,1987
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25		E	9CIBAG
Photolysis (per day):					
0.0033*	WATER**	5-29	7	M	9CIBAG
0.0064	SOIL**	5-29		M	9CIBAG
0.57	WATER***	25	7	M	9CIBAG
0.0217	SOIL***	25		M	9CIBAG
Vapor pressure (mPa):					
2.53E-2		10		H	9HERBH
4.39E-1		30		H	9HERBH
5.19		50		H	9HERBH

0.364		25			M	9CIBAG	
Water solubility (ppm):		-temp-			-source-	-reference-	
185		20			H	9ACHB2,2ND ED.,1987	
200*		22			E	9CIBAG	
194		20-25			R	ADCSAJ, 111:73,1972	
Organic solubility (ppm):							
6.0E+5*	DICHLOROMETHANE	20			H	9ACHB2,2ND ED.,1987	
5.0E+5*	ACETONE	20			H	9ACHB2,2ND ED.,1987	
4.5E+5*	METHANOL	20			H	9ACHB2,2ND ED.,1987	
4.0E+5*	TOLUENE	20			H	9ACHB2,2ND ED.,1987	
1.4E+4*	HEXANE	20			H	9ACHB2,2ND ED.,1987	
2.0E+5*	N-OCTANOL	20			H	9PMED8,8TH ED.,p.19,1987	
Henry's law (Pa m <sup>3</sup> /mol):							
4.14E-4*		25			M	9CIBAG	
Octanol/water partitioning (log Kow):							
2.63*		25			M	9CIBAG	
Acid dissociation (pKa):							
4.1*					H	9PMED8,8TH ED.,p.19,1987	
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			389			R	9EINSP, p.37,1980
			388			R	9EINSP PP.23-67
			380			R	9HFEDP
			232			C	8CREAM
			389			E	JPFCD2 22:55-69,1987
CLAY		26.2	927			M	9CIBAG
LOAM		1.2	257			M	9CIBAG
SANDY LOAM		1.1	96			M	9CIBAG
SAND		1.1	205			M	9CIBAG
			316*				
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
73(11-194)*						M	9CIBAG
62	LA					M	9CIBAG
216	NB					M	9CIBAG
101	NY					M	9CIBAG
53	NY					M	9CIBAG
48	IL					M	9CIBAG
88	HI					M	9CIBAG
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
SANDY LOAM	37*		STABLE			M	9CIBAG
Comments:							
PHOTOLYSIS: ** NATURAL LIGHT; *** ARTIFICIAL LIGHT							

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: AMINOCARB**

**CASRN: 2032-59-9**

molecular formula: C<sub>11</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>

molecular weight: 208.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 8GLEAM

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
Melting point (deg C):						
93 - 94				H	6MONTG	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
2.3				P	6USEPA	
Water solubility (ppm):						
915		20		C	8GLEAM	
872		10		H	6MONTG	
915*		20		H	6MONTG	
1360		30		H	6MONTG	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
5.2E-4		20		H	6MONTG	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
100			100			8GLEAM
Field dissipation halflife(days):						
value	test area		pH	source	reference	
6				C	8GLEAM	
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**  
**CASRN: 33089-61-1**

**name: AMITRAZ**

molecular formula: C<sub>19</sub>H<sub>23</sub>N<sub>3</sub>  
molecular weight : 293.4  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
86	-	88		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
7.92*		25	5	M	6NORAM
0.751*		25	7	M	6NORAM



0.654*		25	9	M	6NORAM
Photolysis (per day):					
131*	SOIL	<30		M	6NORAM
0.173*	WATER	28		M	6NORAM
Vapor pressure (mPa):					
0.34*		25		H	9PME10
5.1E-02		20		H	9ACHB2
Water solubility (ppm):					
0.094*		-temp-		-source-	-reference-
		25		H	9PME10
Organic solubility (ppm):					
4.5E5	ACETONE	25		M	9PME10
7E4	ACETONITRILE	25		M	9PME10
>6E5	DICHLOROMETHANE	25		M	9PME10
1.4E05	OMS			M	9PME10
3.5E4	ETHANOL	25		M	9PME10
4.5E5	ETHYL ACETATE	25		M	9PME10
Henrys law (Pa m3/mol):					
1.06*		25		H	9PME10
Octanol/water partitioning (log Kow):					
6.5*(pH5.9)		25		M	6NORAM
Acid dissociation (pKa):					
4.2*		20		H	9PMED8
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			4.1		
			951*		
					reference
					CMSHAF 10:833-45,1981
					6NORAM
Field Dissipation halflife(days):					
value	test area		pH	source	reference
<1*				H	9PME10
Halflife in soil:					
Soiltype	aerobic		anaerobic	source	reference
	0.2*			H	9PME10

Comments:  
OCTANOL WATER VALUE 5.5 = PH5.9; SOIL SORPTION VALUE 951  
HAS KOC VALUE = 951(364-2000)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:AMITROLE** **CASRN: 61-82-5**

molecular formula: C2H4N4  
molecular weight : 84.04  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2,2ND ED.,1987

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
157	-	159		M	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.02000*		25	5	M	9RHPOU
Photolysis (per day):					

0.035*	SOIL	25		M	9RHPOU
Vapor pressure (mPa):					
5.9E-2*		20		M	9RHPOU
Water solubility (ppm):					
3.6E+5*		-temp-		-source-	-reference-
2.8E+5		25		M	9RHPOU
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
1.38E-8*				M	9RHPOU
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
4.1				M	9RHPOU
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			20		reference
			100		8CREAM
			17.8		9RHPOU
SILT LOAM		03.79	114	5.9	6.8
SAND		00.68	146	0.8	5.6
SANDY LOAM		03.52	202	3.0	6.1
SILT LOAM		01.57	54	5.0	7.0
			93*		9RHPOU
Field Dissipation half-life(days):					
value	test area		pH	source	reference
14(7-39)*					
7				P	8EPAHO
39(AQUATIC)				P	8EPAHO
Half-life in soil:					
Soiltype	aerobic	anaerobic		source	reference
SAND	<1*	42*		M	9RHPOU
Comments:					

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: ANCYMIDOL CASRN: 12771-68-5  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 650  
 FIELD HALF-LIFE (days): 120  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 120  
 VAPOR PRESSURE (mm Hg): 2 x 10<sup>-7</sup>  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C<sub>15</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>  
 molecular weight : 256.31  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
110	-	111		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					

Hydrolysis (per day):  
 <0.023\* 25 5-9 H 6DOWCH  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 <0.13 25 H 9ACHB2 1983 ED.  
 2.7E-2\* 25 M 7LILLY  
 Water solubility (ppm): -temp- -source- -reference-  
 440\* 20 M 6DOWCH  
 650 H 9ACHB2 1983 ED.  
 C EESADV  
 M 7LILLY

Organic solubility (ppm):  
 Henrys law (Pa m3/mol):  
 1.58E-6\* M 6DOWCH  
 Octanol/water partitioning (log Kow):  
 1.91\* M 6DOWCH

Acid dissociation (pKa):  
 Soil sorption:  

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			120			R	EESADV
			83*				
SAND	25	0.11	58	0.33	7.0	M	6DOWCH
LOAM	25	0.73	90	1.40	7.6	M	6DOWCH
SANDY LOAM	25	0.55	77	1.22	6.9	M	6DOWCH
CLAY LOAM	25	0.82	68	2.07	7.9	M	6DOWCH

Field Dissipation halflife(days):  
 value test area pH source reference  
 Halflife in soil:  

Soiltype	aerobic	anaerobic	source	reference
SANDY	15*		M	6DOWCH

Comments:  
 SOIL SORPTION KOC VALUE =83(58-120)  
 HYDROLYSIS -NONE IN 30 DAYS AT pH5-9

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: ANILAZINE CASRN: 101-05-3  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 8  
 FIELD HALF-LIFE (days): 1  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 1000 E  
 VAPOR PRESSURE (mm Hg): 6.2 x 10<sup>-9</sup>  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C9H5CL3N4  
 molecular weight : 275.54  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 6MILES

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
159 - 160				H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.067 *	25	5	M	6MILES
0.036 *	25	7	M	6MILES
0.555 *	25	9	M	6MILES

Photolysis (per day):

0.144 *	SOIL	15-31	OD	M	6MILES
0.004 *	WATER	10-29	OD	M	6MILES

Vapor pressure (mPa):

3.3E-3 *	20	M	6MILES
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Water solubility (ppm):

8.0 *	-temp-	20	-source-	M	-reference-	6MILES
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Organic solubility (ppm):

1.0E+5 *	ACETONE	30	H	9ACHB2,2ND ED.,1987
8.0E+3 *	2-PROPANOL	20	M	6MILES
2.0E+3 *	N-HEXANE	20	M	6MILES
4.0E+4 *	TOLUENE	20	M	6MILES
6.0E+4 *	CHLOROBENZENE	30	H	9ACHB2,2ND ED.,1987
4.0E+4 *	XYLENE	30	H	9ACHB2,2ND ED.,1987

Henrys law (Pa m3/mol):

1.1E-04 *	20	M	6MILES
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Octanol/water partitioning (log Kow):

3.02 *	20	M	6MILES
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Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			3000			8CREAM
			1070			CMSHAF 10:833-845,1981
SAND	25	15.8	2996**	1.0	4.3	6MILES
SANDY LOAM	25	9.23	1595**	1.1	6.6	6MILES
SILT LOAM	25	37.9	2480**	2.9	5.9	6MILES
CLAY LOAM	25	19.4	1678**	2.2	6.4	6MILES
			2000*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
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11(0.5-18.3) *				
0.5			H	9ACHB2 1983 ED.
18.3	CA(CHUALAR)LMY SND	7.3	M	6MILES
15.6	CA(FRESNO)LMY SND	7.8	M	6MILES

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	.625	40.6	M	6MILES

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72.

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**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: ARSENIC ACID

CASRN: 7778-39-4

SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)

WATER SOLUBILITY (mg/L): 17000

FIELD HALF-LIFE (days): 10000 E {1}

SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 100000 E {2}

VAPOR PRESSURE (mm Hg): 0

pKa: 2.3; 7.1; 11.6 {3}

PUBLISHED AND MANUFACTURER VALUES AND SOURCES

molecular formula: H3AsO4.1/2H2O

molecular weight : 159.9

physical state : S

(L=liquid; G=gas; S=solid)  
reference: 9MERCK

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):	-					
Melting point(deg C):						
35	-			H	9MERCK	
Decomposition point(deg C):						
160	-					
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
0.0*				H	9MERCK	
Water solubility (ppm):		-temp-		-source-	-reference-	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
2.3*				E	JAFCAU,24:717,1976	
7.1*				E	JAFCAU,24:717,1976	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
Field Dissipation half-life(days):						
value	test area		pH	source	reference	
Half-life in soil:						
Soiltype	aerobic		anaerobic	source	reference	
Comments:						
DECOMPOSITION VALUE AT 160 = LOSS OF WATER OF HYDRATION						

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**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: ASULAM,SODIUM CASRN: 2302-17-2  
SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
WATER SOLUBILITY (mg/L): 550000  
FIELD HALF-LIFE (days): 7  
SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 40 {1}  
VAPOR PRESSURE (mm Hg): 0  
pKa: 4.8  
PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
molecular formula: C<sub>8</sub>H<sub>9</sub>N<sub>2</sub>NaO<sub>4</sub>S  
molecular weight : 252.23  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9RHPOU

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
143	-	144		H	9ACHB2,2ND ED.,1987

Decomposition point(deg C):

-

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.01100\* 25 5 M 9RHPOU

Photolysis (per day):

0.04300\* SOIL 25 M 9RHPOU

Vapor pressure (mPa):

<1.3E-02\* 25 M 9RHPOU

Water solubility (ppm):

5.5E+5\* -temp- 23 -source- M -reference- 9RHPOU

4.0E+3 20-25 H 9PMED8,8TH ED.,p.34,1987

5.0E+3 20-25 H 9ACHB2,2ND ED.,1987

Organic solubility (ppm):

2.8E05\* METHANOL 23 M 9RHPOU

.3E+1 HEXANE 23 M 9RHPOU

.1E+1 DICHLOROMETHANE 23 M 9RHPOU

3.4E+5\* ACETONE 23 H 9ACHB2,2ND ED.,1987

2.8E+05\* METHYL ETHYL KETONE 23 H 9ACHB2,2ND ED.,1987

1.2E+05\* ETHANOL 23 H 9ACHB2,2ND ED.,1987

>8E05\* DIMETHYLFORMAMIDE 23

Henry's law (Pa m3/mol):

<6.0E-09\* 25 M 9RHPOU

Octanol/water partitioning (log Kow):

.763 25 M 9RHPOU

-.523 25 M 9RHPOU

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			300			R	EESADV, 4:28,1980
			40			R	EESADV, 4:28,1980
			34			P	8EPAGR
			122			P	8EPAGR
			252			P	8EPAGR
SAND		00.8	114	1.0	6.8	M	9RHPOU
SAND		01.0	146	5.5	6.9	M	9RHPOU
SANDY LOAM		01.35	63	3.7	7.0	M	9RHPOU
SANDY LOAM		02.72	146	3.2	7.2	M	9RHPOU
			138*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
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11(7-31)\*

3-10 P 8EPAGR

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
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SANDY LOAM 10\* M 9RHPOU

Comments:

MELTING POINT RANG 143-144(PARENT)

SOIL SORPTION KOC VALUE 138(34-300)

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ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001

name: ATRAZINE

CASRN: 1912-24-9

SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)

WATER SOLUBILITY (mg/L): 33

FIELD HALF-LIFE (days): 60

SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 100

VAPOR PRESSURE (mm Hg): 2.89 x 10<sup>-7</sup>

pKb: 12.32

PUBLISHED AND MANUFACTURER VALUES AND SOURCES

molecular formula: C8H14CLN5

molecular weight : 215.68

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MERCK(10),0.125,1983

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
175	-	177		M	9CIBAG
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7,9	M	9CIBAG
Photolysis (per day):					
0.015	SOIL**	25		M	9CIBAG
0.951	WATER**	25	7	M	9CIBAG
0.002	WATER***	12-44	7	M	9CIBAG
Vapor pressure (mPa):					
0.04		20		H	9HERBH,5TH ED.,p.31,1983
0.0076		10		H	9HERBH,5TH ED.,p.31,1983
0.187		30		H	9HERBH,5TH ED.,p.31,1983
3.07		50		H	9HERBH,5TH ED.,p.31,1983
0.038*		25		M	9CIBAG
Water solubility (ppm):					
		-temp-		-source-	-reference-
320		85		M	9TDCGB, p.1,1977
29.9		25		R	9SVPGW, p.72,1976
52				E	ETOC DK,8:339-357,1989
34.2				R	9SVPGW, p.72,1976
30		20		E	PSSCBG, 12:222,1981
33*		22		E	9CIBAG
33		20-25		R	ADCSAJ, 111:72,1972
33		25		E	WEREAT, 12:200,1972
Organic solubility (ppm):					
1.2E+4*	ETHER	25		H	9MERCK, 10:125(1983)
5.2E+049*	CHLOROFORM	25		H	9MERCK, 10:125,1983
1.8E+4*	METHANOL	25		H	9MERCK, 10:125,1983
1.8E+5*	DIMETHYL SULFOXIDE	27		H	9HERBH, 5:31(1983)
2.8E+4*	ETHYL ACETATE	27		H	9HERBH, 5:31,(1983)
3.6E+2*	N-PENTANE	27		H	9HERBH, 5:31,1983
Henry's law (Pa m <sup>3</sup> /mol):					
2.48E-4*		25		M	9CIBAG
Octanol/water partitioning (log Kow):					
2.68*		25		M	9CIBAG
2.34				R	9EINSP, p.43,1980
2.80				U	9IUPC4, 4:34,1983
2.69				E	CMSHAF, 13:275,1984
2.71				E	JEVQAA, 10(3):384,1981
2.52				E	PSSCBG, 12:219,1981
2.61				E	JAFCAU, 34:725,1986
2.60				R	9HLMCP, 1981
Acid dissociation (pKa):					

1.70 21 R 9KHBCD,2nd ed.,p.131,1974  
 1.68\* 22 E SSSAA8, 32:224,1968

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			148			EESADV, 4:28,1980
			288			JPFCD2, VB22(1):67,1987
			214			JEVQAA,V10(3):384,1981
			149			8SWAMD
			163			8SWAMD
			111			8SWAMD
			170			8ABACA
			163			9EINSP PP.23-67
			160			JEVQAA 16:422-428,1987
			127			8CREAM
			107			ETOC DK 8:339-357,1989
			174			JPFCD2 22:55-69,1987
			88			9CIBAG
			38			9CIBAG
			72			9CIBAG
			157			9CIBAG
			102			8SWAMD
SAND		0.42	90	0.8	5.6	9CIBAG
SANDY LOAM		0.99	57	3.0	6.1	9CIBAG
SILT LOAM		1.46	120	2.1	7.0	9CIBAG
LOAM		2.03	139	2.5	6.6	9CIBAG
LOAM		0.73	155	0.8		
CLAY		2.46	87	4.8		
SAND		0.2	39	0.9		
SANDY LOAM		0.75	70	1.92.1		
			147*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
173(13-402)*			M	9CIBAG
42-70			H	9ACHB2 1983 ED.
48			R	9EINSP PP.23-67
64			E	JEVQAA 16:422-428,1987
18			C	8GLEAM
74			E	ETOC DK 8:339-357,1989
119			M	9CIBAG

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	330	15	M	9CIBAG
	146*	77*	M	9CIBAG

Comments:

PHOTOLYSIS: \*\* ARTIFICIAL LIGHT; \*\*\*NATURAL LIGHT

**Pesticide Properties Database-Update May 1999**

**Name :** Azimsulfuron

**CASRN:** 120162-55-2

**Molecular Formula:** C13 H16 NIO 05 S

**Molecular Weight:** 424.4

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Pesticide Manual,11th Ed.

**Key to sources:** (M)anufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (E)EPA, (W)auchope

\* denotes a selected value where multiple values of a



property are listed

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**Boiling Point(deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Melting Point(deg C):**

Value	Medium	Temp	pH	Source	Reference
170				H	Pest. Manual

**Decomposition(deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.008	Water	25	5	M	DuPont
0.006	Water	25	7	M	DuPont
0.005	Water	25	9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.007	Water	25	5	M	DuPont
0.004	Water	25	7	M	DuPont
0.003	Water	25	9	M	DuPont

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
4.0E-6		25		M	DuPont

**Water Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
72.3	Water	20	5	M	DuPont
1050	Water	20	7	M	DuPont
6536	Water	20	9	M	DuPont

**Organic Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
2.64E+4	Acetone	25		M	DuPont
1.39E+4	Acetonitrile	25		M	DuPont
1.3E+4	Ethyl acetate	25		M	DuPont
<2E+2	Hexane	25		M	DuPont
2.1E+3	Methanol chloride	25		M	DuPont
1.8E+3	Toluene	25		M	DuPont

**Henry's Law Constant(Pa3/mol):**

Value	Medium	Temp	pH	Source	Reference
2AE-8		20	5	M	DuPont
1.6E-9		20	7	M	DuPont
2.6E- 10		20	9	M	DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
0.646		25	5	M	DuPont
-1.37		25	7	M	DuPont

-2.08  
**Acid Dissociation Constant(pKa):**  
 Value Medium Temp pH Source Reference  
 3.6 M DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Clay (Spain)	25	1.36	80	2.93	8.1	M	DuPont
Silty clay(Spain)	25	1.38	86	2.76	8.1	M	DuPont
Sandy Lm(Italy)	25	0.81	61	2.3	5.8	M	DuPont
Silt Lm(Italy)	25	1.5	79	3.28	6.9	M	DuPont

**Field Dissipation Half-life(days):**

Value	Test Area	pH	%OM	Source	Reference
2-5	Rice paddy (water)	8.36 (paddy wtr)		M	DuPont

**Half-life in Soil:**

Soil Type	Aerobic	Anaerobic	Source	Reference
Silt Lm(US)	21		M	DuPont
Sandy Lm(Italy)	18		M	DuPont
Silt Lm(Italy)	26		M	DuPont
Clay (Spain)	134		M	DuPont
Silty clay(Spain)	98		M	DuPont
Light clay(Japan)	33		M	DuPont
Light clay(Japan)	24		M	DuPont

**Comments:**

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: AZINPHOS-METHYL CASRN: 86-50-0  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 29  
 FIELD HALF-LIFE (days): 10  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 1000  
 VAPOR PRESSURE (mm Hg): 2 x 10<sup>-7</sup>  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C10H12N3O3PS2  
 molecular weight : 317.33  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9MILES

Key to sources: (M)Manufacturer, (R)eviw, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
73	-	74		H	9PMED8,8TH ED.,p.41,1987
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					

## Hydrolysis (per day):

0.0164*		30	4	M	6MILES
0.0275*		30	7	M	6MILES
0.2773*		30	9	M	6MILES

## Photolysis (per day):

0.217*	WATER	25(17-29)	OD	M	6MILES
0.007*	SOIL		OD	M	6MILES

## Vapor pressure (mPa):

2.7E-2				R	9HRLCP
2.13E-1*		20		M	6MILES

## Water solubility (ppm):

		-temp-		-source-	-reference-
28.0*		20		M	6MILES
33		20		H	9PMED8,8TH ED.,p.41,1987
29		25		H	9ACHB2,2ND ED.,1987
20.9		20		E	JPFCD2,VB18(2):224,1983
9.5		10		E	JPFCD2,VB20(6):627,1985
43.6		30		E	JPFCD2,VB20(6):627,1985
34				R	JAFCAU 18:814-818, 1970

## Organic solubility (ppm):

1.0E+3	2-PROPANOL	LOW	20	M	6MILES
1.0E+4	2-PROPANOL		20	M	6MILES
>1.0E+6*	DICHLOROMETHANE		20	M	6MILES
1.0E+5	TOLUENE	LV	20	M	6MILES
1.0E+6	TOLUENE	HV	20	M	6MILES

## Henry's law (Pa m3/mol):

2.4E-3*		20		M	6MILES
3.2E-3		20		R	9HRLCP

## Octanol/water partitioning (log Kow):

2.56	LV	20		M	6MILES
2.96	HV	20		M	6MILES
2.69		NR		R	9HRLCP (BOWMAN&SANS) 1983
2.8*		20			

## Acid dissociation (pKa):

## Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
SILT LOAM		11.0	1051	1.8	5.5	6MILES
			700			8GLEAM
			500			8CREAM
LOAMY SAND		7.6	467	2.8	6.6	6MILES
SILT LOAM		16.8	578	5.0	7.9	6MILES
CLAY LOAM		9.9	3406	0.5	6.0	6MILES
SANDY LOAM		3.3	298	1.9	6.4	6MILES
SILT LOAM		28.5	1064	4.6	5.4	6MILES
SILT LOAM	24	12.68	829**	2.9	5.9	6MILES
SANDY LOAM	24	4.02	693**	1.1	6.6	6MILES
SAND	24	6.79	1282**	1.0	4.3	6MILES
CLAY LOAM	24	8.39	723**	2.2	6.4	6MILES
			940*			

## Field Dissipation half-life(days):

value	test area	pH	source	reference
10	SOIL 11-78		M	6MILES
10(5.3-15)*				
15			C	8GLEAM
10.9	CA(CHUALAR) LMY SND	7.3	M	6MILES
5.3	CA(FRESNO) LMY SND	7.8	M	6MILES

## Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	44*	68	M	6MILES

## Comments:

SOIL SORPTION VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING

A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72. SELECTED  
KOC 940=940(298-3406).

**ARS PESTICIDE PROPERTIES DATABASE last updated Oct 1, 2001**

name: BARBAN CASRN: 101-27-9  
 SELECTED VALUES FOR MODELING PURPOSES (from Hornsby, et al., 1996)  
 WATER SOLUBILITY (mg/L): 11  
 FIELD HALF-LIFE (days): 5  
 SOIL ORGANIC CARBON SORPTION (Koc, mL/g): 1000 E  
 VAPOR PRESSURE (mm Hg): 3.8 x 10<sup>-7</sup>  
 PUBLISHED AND MANUFACTURER VALUES AND SOURCES  
 molecular formula: C11H9CL2NO2  
 molecular weight: 258.1  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)known, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
75 - 76				H	9PMED8	
Decomposition point (deg C):						
224				H	9PMED8	
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
1032		25	13	H	9PMED8	
Photolysis (per day):						
Vapor pressure (mPa):						
0.05		25		H	9PMED7	
Water solubility (ppm):						
11		25		H	9PMED7	
				H	9HERBH 6th ED 1989	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
1.17E-3		25		H	9PMED7	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			15100			JAFCAU 15: 444-450 (1964)
			1160			ESTHAG 14: 553-556 (1980)
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
5				H	9HERBH 4th ED 1979	
4				R	6MOMAM pp. 241-303 (1982)	
15				R	6ENVPE pp. 257-280 (1972)	
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	
Comments:						

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: BENALAXYL

CASRN: 71626-11-4

molecular formula: C<sub>20</sub>H<sub>23</sub>NO<sub>3</sub>

molecular weight: 325.4

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
Melting point (deg C):						
78 - 80				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE			4-9	H	9PME10	
0.008			9	H	9PME10	
Photolysis (per day):						
Vapor pressure (mPa):						
0.67		25		H	9PMED9	
Water solubility (ppm):						
37		25		H	9PMED9	
				H	9ACHB2 1983	
Organic solubility (ppm):						
>5E5	ACETONE	25		H	9PME10	
>5E5	CHLOROFORM	25		H	9PME10	
>5E5	DICHLOROMETHANE	25		H	9PME10	
>5E5	DIMETHYLFORMAMIDE	25		H	9PME10	
>4E5	CYCLOHEXANONE	25		H	9PME10	
>3E5	XYLENE	25		H	9PME10	
>5E4	HEXANE	25		H	9PME10	
Henrys law (Pa m <sup>3</sup> /mol):						
5.89E-3		25		H	9PME10	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			2009			9PMED9
			500			9PMED9
			2728			9PME10
			7173			9PME10
			3460*			
Field dissipation half-life(days):						
value	test area		pH	source	reference	
ca.30				R	6RENCT 99: 83-117 (1987)	
ca.20-100				H	9ACHB2 1983	
20-71				H	9PME10	
50*						
Half-life in soil:						



Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	0.94		M	6NORAM
CLAY LOAM	3.5		M	6NORAM
LOAM	3.5		M	6NORAM
SILT LOAM	3.5		M	6NORAM

Comments:  
KOW VALUE 1.7 AT pH 6.9.

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BENEFIN** **CASRN: 1861-40-1**

molecular formula: C13H16F3N3O4  
molecular weight : 335.28  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)eview, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
121	-	148					
Melting point(deg C):							
65	-	66.5		H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
<0.023*		25	5-9	M	6DOWCH		
Photolysis (per day):							
1.67*	WATER	25		M	6DOWCH		
Vapor pressure (mPa):							
10.4		25		H	9HERBH		
3.7		25		H	9ACHB2		
4		20		R	9HRLCP		
8.8*		25		M	7LILLY		
Water solubility (ppm):							
0.1		25		H	9HERBH		
				M	7LILLY		
Organic solubility (ppm):							
Henry's law (Pa m3/mol):							
29.4*		25		M	6DOWCH		
Octanol/water partitioning (log Kow):							
5.29*				M	6DOWCH		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			781			R	8EETNS
			10700			R	EESADV
			379			C	8CREAM
			9000			M	7LILLY
			8240*				
SAND	25	27.0	9300	0.5	7.7	M	6DOWCH
SANDY LOAM	25	74.9	9300	1.4	5.7	M	6DOWCH
LOAM	25	88.6	8500	1.8	6.5	M	6DOWCH
CLAY LOAM	25	116.6	10100	2.0	6.9	M	6DOWCH
Field Dissipation halflife(days):							
value	test area			pH		source	reference

80(24-131)\*  
 40 M 7LILLY  
 60 R 8OUSSD  
 117 SANDY LOAM(GA) M 6DOWCH  
 131 LOAM(GA) M 6DOWCH

Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 51 M 6DOWCH

Comments:  
 SOIL SORPTION VALUE 824=824(781-10100)

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: BENODANIL CASRN: 15310-01-7

molecular formula: C13H10INO  
 molecular weight: 323.1  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED7

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)known, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
137				H	9PMED8
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		1,13		H	9PMED8
Photolysis (per day):					
Vapor pressure (mPa):					
<0.01		20		H	9PMED7
Water solubility (ppm):					
20		20		H	9PMED7
		20		H	9ACHB2 1983
Organic solubility (ppm):					
4.01E5 ACETONE		20		H	9PMED8
7.7E4 CHLOROFORM		20		H	9PMED8
9.3E4 ETHANOL		20		H	9PMED8
1.20E5 ETHYL ACETATE		20		H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			700			9PMED7
			631			6GERST

Field dissipation half-life(days):

value	test area	pH	source	reference
21-28			H	9ACHB2 1983

Half-life in soil:





83	CA LOAM/TURF		M	9DUPON
80	MS SL/TURF		M	9DUPON
88	DE SCL/TURF		M	9DUPON

Half-life in soil:

Soil type	aerobic	anaerobic	source	reference
	0.79		M	9DUPON,1999

Comments:

BENOMYL RAPIDLY CONVERTS TO MBC(CARBENDAZIM:METHYL2 BENZIMAZOLE CARBAMATE). SOIL SORPTION KOC VALUE=1910(954-3600); WATER SOLUBILITY VALUE 2.9 PH7; OCTANOL WATER 1.5 PH7-9 BENOMYL DECOMPOSES WITHOUT MELTING (90DEGREES CENTIGRADE).

ARS PESTICIDE PROPERTIES last update May 1999

name: BENSULFURON ME

CASRN: 83055-99-6

molecular formula: C16H18N4O7S  
 molecular weight : 410.4  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
185	-	188		M	9DUPON,1999
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.063*		25	5	M	9DUPON
<0.004*		25	7	M	9DUPON,1999
<0.004		25	9	M	9DUPON,1999
Photolysis (per day):					
0.0315	SOIL	25	5.8	M	9DUPON,1999
<0.000001	WATER	25	5	M	9DUPON,1999
0.0014	WATER	25	7,9	M	9DUPON,1999
0.0012	WATER	25	9	M	9DUPON,1999
Vapor pressure (mPa):					
2.8E-9*		25		M	9DUPON
Water solubility (ppm):					
80*		25	7	M	9DUPON
1.1		25	5	M	9DUPON
880		25	8	M	9DUPON
Organic solubility (ppm):					
Henry's law (Pa m3/mol):					
1.04E-9		25	5	M	9DUPON,1999
1.4E-11*		25	7	M	9DUPON
1.31E-12		25	9	M	9DUPON,1999
Octanol/water partitioning (log Kow):					
0.8*		25	7	M	9DUPON
2.2		25	5	M	9DUPON
-1.0		25	9	M	9DUPON
Acid dissociation (pKa):					
5.2*				M	9DUPON

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
WOODSTOWN(SNDY LM)	25	1.4	219	1.1	6.6	9DUPON
CECIL(SNDY LM)	25	2.5	205	2.1	6.5	9DUPON
FLANAGAN(SILT)	25	14	561	4.3	5.4	9DUPON
KEYPORT(SILT LM)	25	12	276	7.5	5.2	9DUPON

Field Dissipation halflife(days):

value	test area	pH	source	reference
5			M	9DUPON
4	RICE PADDY WATER(JAPAN)	7.8(WATER)	M	9DUPON,1999
4	RICE PADDY WATER(JAPAN)	7.1(SOIL)	M	9DUPON,1999
3	RICE PADDY WATER(CA)	7.0(SOIL)	M	9DUPON,1999
6	RICE PADDY WATER(AR)	5.4(SOIL)	M	9DUPON,1999
3	RICE PADDY	6.7(SOIL)	M	9DUPON,1999

Halflife in soil:

Soiltype	aerobic	anaerobic	pH	source	reference
	24*			M	9DUPON,1999
SILT LM(CA)	~22**			M	9DUPON,1999
	~22***			M	9DUPON,1999
SANDY LM(JAPAN)	~20**			M	9DUPON,1999
	~22***			M	9DUPON,1999
SILT LM(JAPAN)	~21**			M	9DUPON,1999
	~35***			M	9DUPON,1999

Comments:

WATER SOLUBILITY HAS A PH VALUE OF 7; OCTANOL WATER=PH7;  
 SOIL SORPTION KOC=315(205-561)  
 HALFLIFE = \*\*PHENYL MOIETY  
 \*\*\*PYRIMIDINE MOIETY

ARS PESTICIDE PROPERTIES last update May 1999

name: BENSULIDE

CASRN: 741-58-2

molecular formula: C14H24NO4PS3

molecular weight : 397.54

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
34.4				H	9ACHB2
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.00315		25	5-9	M	8ICIAG
0.0032*					
Photolysis (per day):					
0.00347*	SOIL	25		M	8ICIAG

Vapor pressure (mPa):  
<0.13 25 H 9ACHB2 1983 ED.  
0.1\* 25 M 8ICIAG  
Water solubility (ppm): -temp- -source- -reference-  
5.6\* 25 M 8ICIAG  
Organic solubility (ppm):  
Henry's law (Pa m3/mol):  
7.1E-3 25 M 8ICIAG  
Octanol/water partitioning (log Kow):  
4.1\* 25 M 8ICIAG  
Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
740 JEVQAA 16:422-428,1987  
>7000 8ICIAG  
3900\*  
Field Dissipation half-life(days):  
value test area pH source reference  
3-120 H 9ACHB2 1983 ED.  
8 M 8ICIAG  
120-180 H 9HERBH  
Half-life in soil:  
Soiltype aerobic anaerobic source reference  
Comments:  
SOIL SORPTION KOC VALUE=3900(744-7000)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BENTAZON SODIUM SALT** **CASRN: 50723-80-3**  
molecular formula: C10H12N2O3S.Na  
molecular weight : 262.3  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB3

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):  
-  
Melting point(deg C):  
137 - 139 parent H 9ACHB2  
Decomposition point(deg C):  
-  
Heat of vaporization(deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):  
Photolysis (per day):  
Vapor pressure (mPa):  
<0.001 (parent) 20 H 9ACHB2  
Water solubility (ppm): -temp- -source- -reference-  
2.3E06\* P 6EPAPF  
500 (parent) 20 R EESADV  
Organic solubility (ppm):  
Henry's law (Pa m3/mol):  
Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference

		34 parent		CMSHAF 10:833-845,1981
		35*		8GLEAM
Field Dissipation halflife(days):				
value	test area	pH	source	reference
27(7-98)*				
<30			R	8FULLE
10			H	9HERBH
14-98			P	8EPAGR
7			P	8EPAGR
30			P	8EPAGR
Halflife in soil:				
Soiltype	aerobic	anaerobic	source	reference
Comments:				

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BIFENOX**

**CASRN: 42576-02-3**

molecular formula: C14H9CL2NO5  
molecular weight : 342.14  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9RHPOU

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
84	-	86		H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					
175	-				
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.00660*		25	5	M	9RHPOU
Photolysis (per day):					
0.06*	SOIL	25		M	9RHPOU
Vapor pressure (mPa):					
<0.013*		25		M	9RHPOU
3.2E-1		30		H	9ACHB2,2ND ED.,1987
Water solubility (ppm):					
0.398*		25		M	9RHPOU
35E-02		25		H	9ACHB2,2ND ED.,1987
Organic solubility (ppm):					
3.8E+5*	ACETONE	25		M	9RHPOU
3.0E+0*	XYLENE	25		M	9RHPOU
2.2E+4*	METHANOL	25		M	9RHPOU
4.0E+5*	CHLOROBENZENE	25		H	9ACHB2,2ND ED.,1987
<5.0E+4*	ETHANOL	25		H	9ACHB2,2ND ED.,1987
Henrys law (Pa m3/mol):					
0.011*		25		M	9RHPOU
Octanol/water partitioning (log Kow):					
4.48*		22		H	9PME10
Acid dissociation (pKa):					

Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			7800			EESADV, 4:28,1980

		7800			EESADV
SAND	02.6	1490	0.3	7.5	9RHPOU
LOAMY SAND	079	9705	1.4	6.9	9RHPOU
SANDY CLAY LOAM	0156	2.44E+4	1.1	7.3	9RHPOU
SILT LOAM	0408	408	2.0	7.4	9RHPOU
LOAM	036	1588	3.9	6.7	9RHPOU
		7600*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
7(2-14)*				
7-14			H	9ACHB2 1983 ED.
7-10	SOIL		M	9RHPOU
2	SOIL-AQU.		M	9RHPOU

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	5-7*	2-7	M	9RHPOU

Comments:

SOIL SORPTION KOC=7600(408-24400)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BIFENTHRIN**

**CASRN: 82657-04-3**

molecular formula: C23H22CLF3O2

molecular weight : 422.88

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					

Melting point(deg C):

68	-	70.6		H	9ACHB2
----	---	------	--	---	--------

Decomposition point(deg C):

-

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE*		25	5,7,9	M	9FMCC3
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Photolysis (per day):

STABLE*	SOIL	25		M	9FMCC3
---------	------	----	--	---	--------

0.0033*	WATER	25		M	9FMCC3
---------	-------	----	--	---	--------

Vapor pressure (mPa):

0.024*		25		H	9ACHB2
--------	--	----	--	---	--------

0.024		25		M	9FMCC3
-------	--	----	--	---	--------

Water solubility (ppm):	-temp-	-source-	-reference-
<1E-4*	25	M	9FMCC3
0.1		H	9ACHB2

0.1				H	9ACHB2
-----	--	--	--	---	--------

Organic solubility (ppm):

Henrys law (Pa m3/mol):

>101.5*	25	M	9FMCC3
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Octanol/water partitioning (log Kow):

6.0*		M	9FMCC3
------	--	---	--------

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LOAM		4160	2.39E5			M	9FMCC3

SILT LOAM	5429	3.02E5		M	9FMCC3
CLAY LOAM	3688	2.75E5		M	9FMCC3
SAND	992	1.31E5		M	9FMCC3
		2.37E5*			

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
26(7-62)*					
7-62 AVG.26				M	9FMCC3

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	95*		M	9FMCC3
	65-125			

Comments:

AEROBIC = 95(65-125)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BROMACIL**

**CASRN: 314-40-9**

molecular formula: C9H13BrN2O2

molecular weight : 261.12

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MERCK,10TH ED,P.190,1983

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
157.5 - 160				E	9USPAT,3,235,357,P17
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<0.023*		25	5,9	M	9DUPON
Photolysis (per day):					
0.004*	SOIL	25	6.7	M	9DUPON
0.002*	WATER	25	5	M	9DUPON
0.007*	WATER	25	7	M	9DUPON
0.099*	WATER	25	9	M	9DUPON
Vapor pressure (mPa):					
3.30E+2		100		H	9ACHB2
0.5E+1		20		H	9ACHB2
4.1E-2		25		M	9DUPON
3.30E-2		0		E	SCSFAD, 44:5,1985
Water solubility (ppm):		-temp-	-pH-	-source-	-reference-
1.024E+03		25		E	JPFCD2,VB19(3):302,1984
807		25	5	M	9DUPON
700		25	7	M	9DUPON
1280		25	9	M	9DUPON
Organic solubility (ppm):					
7.1E+4*	ACETONITRILE	25		M	9DUPON,1999
1.34E+5*	ETHANOL	25		M	9DUPON,1999
3.2E+4*	XYLENE	25		M	9DUPON,1999
1.67E+5*	ACETONE	25		M	9DUPON,1999
Henrys law (Pa m3/mol):					

1.5E-5\* (pH7) 25 M 9DUPON  
 Octanol/water partitioning (log Kow): -pH-

1.88 25 7 M 9DUPON  
 1.53 25 5 M 9DUPON  
 1.63 25 9 M 9DUPON,1999

Acid dissociation (pKa):  
 9.1 9CREAM

Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 SAND(FL) 25 0.09 12 1.3 7.0 M 9DUPON  
 SNDY LM(CA) 25 0.25 33 1.3 7.5 M 9DUPON  
 CLY LM(MD) 25 0.03 2.3 2.2 4.2 M 9DUPON  
 SLT LM(DE) 25 0.24 14 3.0 6.2 M 9DUPON

Field Dissipation halflife(days):  
 value test area pH %OM source reference  
 207(61-349)\*  
 106-349 R 9EINSP PP.23-67  
 150-180 H 9HERBH  
 350 E JEVQAA 16:422-428,1987  
 61 R 8INSFO  
 120 DELAWARE 6.4 2.8 M 9DUPON  
 350 E SCSFAD 44:1-8,1985  
 175 DELAWARE M 9DUPON

Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SLTY CLY LM(DE) 275\* M 9DUPON

Comments:  
 WATER SOLUBILITY=PH7; HENRYS LAW=PH7; OCTANOL WATER=PH7;  
 SOIL SORPTION KOC=32(2-72); AEROBIC=PH6.6

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BROMOXYNIL BUTYRATE CASRN: 3861-41-4**

molecular formula: C11H9Br2NO3  
 molecular weight : 347.01  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
 Boiling point(deg C):  
 -  
 Melting point(deg C):  
 -  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 0.016\* 25 5 M 9RHPOU  
 Photolysis (per day):  
 2.48\* SOIL 25 M 9RHPOU  
 Vapor pressure (mPa):



18.4	25						
1.84E+01	25			M		9RHPOU	
Water solubility (ppm):	-temp-			-source-		-reference-	
27*	25			M		9RHPOU	
Organic solubility (ppm):							
Henry's law (Pa m <sup>3</sup> /mol):							
2.38E-01	25			M		9RHPOU	
0.238*	25						
Octanol/water partitioning (log K <sub>ow</sub> ):							
3.94*	25			M		9RHPOU	
Acid dissociation (pK <sub>a</sub> ):							
4.1* (parent phenol)				R		ADCSAJ 111:55-120,1972	
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
LOAMY SAND		06.9	1079*	1.1	7.2	M	9RHPOU
Field Dissipation half-life(days):							
value	test area		pH	%om		source	reference
25						C	8CREAM V1:17
3.4						C	8CREAM V1:17
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
Comments:							
ACID DISSOCIATION VALUE 4.1=PARENT							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BROMOXYNIL OCTANOATE**

**CASRN: 1689-99-2**

molecular formula: C<sub>15</sub>H<sub>17</sub>Br<sub>2</sub>N<sub>2</sub>O<sub>2</sub>

molecular weight : 403.13

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
45	-	46		H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5	M	9RHPOU
Photolysis (per day):					
3.15000*	WATER	25		M	9RHPOU
Vapor pressure (mPa):					
0.64*		25		M	9RHPOU
Water solubility (ppm):		-temp-		-source-	-reference-
0.08*		25		M	9RHPOU
Organic solubility (ppm):					
7.4E+5*	TOLUENE	25		M	9RHPOU
7.6E+5*	ACETONE	25		M	9RHPOU
7.0E+5*	XYLENE	20-25		H	9ACHB2,2ND ED.,1987
7.0E+5*	DIMETHYL FORM.	20-25		H	9ACHB2,2ND ED.,1987
1.0E+5*	ETHANOL	20-25		H	9ACHB2,2ND ED.,1987
1.2E+5*	N-PROPANOL	20-25		H	9ACHB2,2ND ED.,1987

5.5E+5*	CYCLOHEXANONE	20-25		H	9ACHB2,2ND ED.,1987		
6.2E+5*	ETHYL ACETATE	20-25		H	9ACHB2,2ND ED.,1987		
8.0E+5*	CHLOROFORM	20-25		H	9ACHB2,2ND ED.,1987		
5.0E+5*	CARBON TETRACHLOR	20-25		H	9ACHB2,2ND ED.,1987		
1.7E+5*	METHANOL	25		M	9RHPOU		
Henry's law (Pa m3/mol):							
3.23*		25		M	9RHPOU		
Octanol/water partitioning (log Kow):							
5.06*		25		M	9RHPOU		
Acid dissociation (pKa):							
4.1*							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			190*			M	9RHPOU
Field Dissipation halflife(days):							
value	test area		pH	%OM		source	reference
11(0.5-28)*							
0.5-1						P	8EPAGR
8	CA WHEAT					M	9RHPOU
1	NC WHEAT					M	9RHPOU
7	SOIL - CORN IL					M	9RHPOU
7	SOIL - CORN NJ					M	9RHPOU
14	SOIL - M & B					M	9RHPOU
10	SOIL-BARLEY M&B					M	9RHPOU
21	SOIL - WHEAT					M	9RHPOU
12	SOIL 1980					M	9RHPOU
28	SOIL 1980					M	9RHPOU
7	SOIL 1980					M	9RHPOU
Halflife in soil:							
Soiltype		aerobic	anaerobic			source	reference
Comments:							

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: BUTACHLOR**

**CASRN: 23184-66-9**

molecular formula: C17H26CLNO2

molecular weight: 311.9

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
156 AT 0.5 MM HG				H	9PME10
Melting point (deg C):					
<-5				H	9PME10
Decomposition point (deg C):					
165				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.6		25		H	9PMED7
Water solubility (ppm):					
23		24		H	9PMED7

20\* 20 H 9FACHB 1990  
 9ACHB2 1983  
 Organic solubility (ppm):  
 SOLUBLE IN MOST ORGANIC SOLVS. H 9PME10  
 Henrys law (Pa m3/mol):  
 9.36E-3 20 H 9PME10

Octanol/water partitioning (log Kow):  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			427			6GERST
			631			6GERST
			794			6GERST
			1259			6GERST
			700*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
11-18			H	9PMED9
4-8			H	9HERBH 6th ED 1989
12*				

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: BUTYLATE**

**CASRN: 2008-41-5**

molecular formula: C11H23NOS

molecular weight : 217.07

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
130 -	10 mm Hg			H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
200 -					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.0011*		25	5-9	M	8ICIAG
Photolysis (per day):					
stable*	SOIL	NR		M	8ICIAG
Vapor pressure (mPa):					
1730*		25		M	8ICIAG
Water solubility (ppm):		-temp-		-source-	-reference-
44*		25		M	8ICIAG
45				H	9HERBH
				C	EESADV

46 20 C 8GLEAM  
 46(RT) H 9FACHB 1990  
 M 8ICIAG  
 Organic solubility (ppm):  
 MISCIBLE\* ACETONE 20 H 9PMED8  
 MISCIBLE ETHANOL 20 H 9PMED8  
 MISCIBLE KEROSENE 20 H 9PMED8  
 MISCIBLE XYLENE 20 H 9PMED8  
 Henrys law (Pa m3/mol):  
 8.54\* 20-25 M 8ICIAG  
 Octanol/water partitioning (log Kow):  
 4.1\* 25 M 8ICIAG

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			540			R	EESADV
			150			C	8GLEAM
			126			M	8ICIAG
			400			M	8ICIAG
				304*			

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
28(12-70)*					
30				H	9ACHB2
10-21				H	9HERBH
12				C	8GLEAM
21				P	8EPAHO
21-70				P	8EPAHO
18-28				P	8EPAGR
64				P	8EPAGR
13				M	8ICIAG

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
Comments:				

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: CAPTAFOL

CASRN: 2425-06-1

molecular formula: C10H9CL4NO2S

molecular weight: 349.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
160 - 161				H	9PME10
Decomposition point (deg C):					
161				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
~1.33E-3				W	



Hydrolysis (per day):  
1.39\* 25 5 M 8ICIAG  
3.54\* 25 7 M 8ICIAG  
124\* 25 9 M 8ICIAG

Photolysis (per day):  
stable\* NR M 8ICIAG

Vapor pressure (mPa):  
0.012\* 25  
1.1E-02 25 M 8ICIAG  
<1.3E-02 25 H 9ACHB2 1983 ED.  
1.1 20 R 9HRLCP

Water solubility (ppm): -temp- -source- -reference-  
5.1\*  
RT<0.5 C EESADV  
M 8ICIAG  
RT<5 H 9FACHB 1990  
3.3 H 9ACHB2 1983 ED.  
5.1 M 8ICIAG

Organic solubility (ppm):  
2.1E04\* ACETONE 25 H 9PMED8  
7E04\* CHLOROFORM 25 H 9PMED8  
2.3E04\* CYCLOHEXANE 25 H 9PMED8  
1.7E03\* PROPAN-2-OL 25 H 9PMED8  
2E04\* XYLENE 25 H 9PMED8

Henrys law (Pa m3/mol):  
6.5E-4\* M 8ICIAG

Octanol/water partitioning (log Kow):  
2.8\* 25 M 8ICIAG 03/01/90

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			33			E	JEVQAA 16:422-428,1987
			67			E	SCSFAD 44:1-8,1985
			198			E	JAFCAU 29:1050-1059,1981
			140			C	8GLEAM
			115			E	JPFCD2 22:55-69,1987
			100-600			M	8ICIA
			151*				

Field Dissipation halflife(days):  
value test area pH source reference  
5(2.5-10)\*  
2.5 M 8ICIAG 03/01/90  
3 E SCSFAD 44:1-8,1985  
E JEVQAA 16:422-428,1987  
10 C 8GLEAM  
2.5 M 8ICIAG

Halflife in soil:  
Soiltype aerobic anaerobic source reference

Comments:  
SELECTED SOIL SORPTION KOC VALUE 151(33-600)

ARS PESTICIDE PROPERTIES last update May 1999

name: CARBARYL

CASRN: 63-25-2

molecular formula: C12H11NO2

molecular weight : 201.23

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)ncertain, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
141	-	142		E	WATRAG,V.12(8),P.566	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.066*		25	7	M	9RHPOU	
Photolysis (per day):						
0.0154*	WATER	25		M	9RHPOU	
Vapor pressure (mPa):						
6.7E+2		26		R	9HRLCP	
2.0E-1		20		R	9HRLCP	
.28E+1		20		R	ACSMC8, 255:201,1984	
1.81E-1		25		E	JAFCAU, 29(1):99,1981	
0.156*		24		M	9RHPOU	
Water solubility (ppm)						
		-temp-		-source-	-reference-	
107				E	JAFCAU 29:93-99, 1981	
100		20		E	JPFCD2,VB18(2):224,1983	
120		30		H	9ACHB2,2ND ED.,1987	
110*		22		M	9RHPOU	
Organic solubility (ppm):						
7.9E+4*	METHANOL	23		M	9RHPOU	
2.1E+2*	HEXANE	23		M	9RHPOU	
2.4E+5*	METHYLENE CHLORIDE	23		M	9RHPOU	
1.0E+5*	ISOPROPANOL	25		H	9ACHB2,2ND ED.,1987	
1.0E+5*	XYLENE	25		M	9RHPOU	
4.3E+5*	DIMETHYL FORMAMIDE	25		H	9ACHB2,2ND ED.,1987	
4.3E+5*	DIMETHYL SULPHOXIDE	25		H	9ACHB2,2ND ED.,1987	
2.5E+5*	ACETONE	25		H	9ACHB2,2ND ED.,1987	
2.3E+5*	CYCLOHEXANONE	25		H	9ACHB2,2ND ED.,1987	
Henry's law (Pa m3/mol):						
2.8E-4		25		M	9RHPOU	
Octanol/water partitioning (log Kow):						
2.81				R	9EINSP, p.37,1980	
2.32				E	CMSHAF, 13(2):275,1984	
2.36				E	CMSHAF, 13(2):275,1984	
3.46				E	9CRFAS, p.3,1980	
2.29		20		E	JARJA9, 17(3):176,1983	
2.31*		20		M	9RHPOU	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
SAND		03.89	163	4.1	5.4	9RHPOU
			263			ASTTA8,p.53,1981,4TH CONF
			355			ASTTA8,p.53,1981 4TH CONF
			282			ASTTA8,p.53,1981 4TH CONF
			138			JPFCD2,VB22(1):67,1987
			229			JEFQAA 16:422-428,1987
			230			EESADV
			570			EESADV
			160			8CREAM
			423			ETOCKD 8:339-357,1989

		230			JPFCD2 22:55-69,1987
		298			8SWAMD
		104			8SWAMD
		121			8SWAMD
		310			8BULEV 24:190-195,1980
SAND	02.45	1054	0.4	7.7	9RHPOU
LOAMY SAND	02.93	504	1.0	5.3	9RHPOU
SILT LOAM	03.29	157	3.6	6.3	9RHPOU
SILT LOAM	04.69	152	5.3	5.0	9RHPOU
SANDY CLAY LOAM	00.438	26	2.95	8.1	SSSJD4
		288*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
14(4-22)*				
22			E	JEVQAA 16:422-428,1987
7			C	8GLEAM
19			E	ETOC DK 8:339-357,1989
12-22			R	9EINSP PP.23-67
4-13	BARE		M	9RHPOU
4-13	SOIL		M	9RHPOU

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SAND	<7		M	9RHPOU
SAND	27		M	9RHPOU
SAND	17*	46	M	9RHPOU

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: CARBENDAZIM (MBC)** CASRN: 10605-21-7

molecular formula: C9H9N3O2

molecular weight: 191.19

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
302 - 307				H	9PME10
Decomposition point (deg C):					
307				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE	WATER	25	5,7,9	M	9DUPON,1999
Photolysis (per day):					
STABLE	WATER	25	5,7,9	M	9DUPON,1999
Vapor pressure (mPa):					
1E-4		20		H	9PMED7
0.09*		20		H	9PME10





Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
153	-	154		M	9FMCC3
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.0008		25	3.1	M	9FMCC3
0.0024*		25	6.2	M	9FMCC3
0.693*		25	9.1	M	9FMCC3
Photolysis (per day):					
0.0154*	SOIL	27.5	5.7	M	9FMCC3
0.124*	WATER	25		M	9FMCC3
0.009	SOIL	22.7		M	9FMCC3
Vapor pressure (mPa):					
0.082*		25		M	9FMCC3
1.171		25		M	9FMCC3
2.67		33		R	9HRLCP(COOK,R.F.)1973
0.867		20		R	9HRLCP(HARTLEY&BRYCE)1980
1.50		20		R	9HRLCP
2.70		33		H	9PMED8,8TH ED.,p.130,1987
0.647		25		E	JAFCAU,V.29(1),p.99,1981
Water solubility (ppm):					
		-temp-		-source-	-reference-
291		10		E	JPFCD2,VB20(6):627,1985
375		30		E	JPFCD2,VB20(6):627,1985
700		25		H	9PMED8,8TH ED.,p.130,1987
350*		25		M	9FMCC3
650		20		R	9HRLCP
320		19		E	JPFCD2,VB14(6):627,1979
Organic solubility (ppm):					
1.5E+5*	ACETONE	25		M	9FMCC3
4.0E+4*	BENZENE	25		M	9FMCC3
1.2E+5*	METHYLENE CHLORIDE	25		M	9FMCC3
9.0E+4*	CYCLOHEXANONE	25		M	9PMED8,8TH ED.,p.130,1987
2.7E+5*	DIMETHYL FORMAMIDE	25		M	9PMED8,8TH ED.,p.130,1987
2.5E+5*	DIMETHYL SULFOXIDE	25		M	9PMED8,8TH ED.,p.130,1987
Henry's law (Pa m <sup>3</sup> /mol):					
5.1E-4		20		R	9HRLCP
5.2E-5*		25		M	9FMCC3
Octanol/water partitioning (log Kow):					
1.41*		20		E	9FMCC3
2.32		NR		R	9HRLCP(RAO&DAVIDSON),1980
1.63		NR		R	9HRLCP;BOWMAN&SANS,1983
1.60		NR		R	9HRLCP;KENAGA&GORING,1980
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			29		
			158		
			105		
			25		
			29		
			28		
					reference
					9EPAA1,p.395,1984
					EESADV 4:28,1980
					ASTTA8, p.53,1981
					WATRAG 14:1091,1980
					9EINSP PP.23-67
					JEVQAA 16:422-428,1987

		40			8GLEAM
		55			ETOC DK 8:339-357,1989
		9-36			9FMCC3
		25			8INSFO
		105			8BULEV 24:190-195,1980
SILT LOAM	0.305	13.4	3.9	4.9	9FMCC3
SANDY LOAM	1.25	29	7.3	5.6	9FMCC3
LOAM	1.08	35.7	5.2	7.1	9FMCC3
SAND	0.096	9.7	1.7	6.9	9FMCC3
SANDY LOAM	0.560	31	3.1	6.1	9FMCC3
		46*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
41(17-90)*				
37-68			R	9EINSP PP.23-67
40			E	JEVQAA 16:422-428,1987
17			C	8GLEAM
37			E	ETOC DK 8:339-357,1989
18-90(AV.50)			M	9FMCC3
42			R	8INSFO
48	IL		M	9FMCC3
92	AR		M	9FMCC3
43	AR		M	9FMCC3
48	IL		M	9FMCC3
50	IL		M	9FMCC3
92	AR		M	9FMCC3
43	AR		M	9FMCC3

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	11*	N.D.	M	9FMCC3

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: CARBON DISULFIDE

CASRN: 75-15-0

molecular formula: CS<sub>2</sub>

molecular weight: 76.13

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
46.2				H	6MONTG
Melting point (deg C):					
-111.5				H	6MONTG
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
4.7E7		25		H	9PMED7
3.45E7		20		R	6DEGRA
5.7E7		30		R	6DEGRA
3.96E7*		20		H	6MONTG

Water solubility (ppm):  
 2200 32 H 9PMED7  
 2300\* 22 H 6DEGRA  
 Organic solubility (ppm):  
 MISCIBLE WITH MANY ORGANIC SOLV. H 6MONTG  
 Henrys law (Pa m3/mol):  
 1311 21 H 6MONTG  
 Octanol/water partitioning (log Kow):  
 1.84 H 6MONTG  
 2.16 H 6MONTG  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	om	pH	reference
-----	-----	--	---	---	--	-----
			60			6RENCT 123: 1-164 (1992)
			240			6MONTG
			355			6MONTG
			220*			

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
1-2			H	9PMED9

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: CARBOPHENOTHION** CASRN: 786-19-6

molecular formula: C11H16ClO2PS3

molecular weight: 342.9

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C): 82 AT 0.01 MM HG				H	6MONTG
Melting point (deg C): <25				H	6MONTG
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
1.07*		25		H	9PMED7
0.04		20		R	RREVAH 103: 1-59 (1988)
1.07				P	6USEPA
Water solubility (ppm):					
6				C	8GLEAM
0.34		20		P	6USEPA
0.61		10		H	6MONTG
0.63*		20		H	6MONTG



Melting point(deg C):

91.1 - 91.7 M 6UNIRO

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

1.9E-3\* 25 5,7,9 M 6UNIRO

Photolysis (per day):

11.6\* SOIL 25 M 6UNIRO

10.8\* WATER 25 M 6UNIRO

Vapor pressure (mPa):

.0253\* 25 M 6UNIRO

.024 25 M 7SCHER

Water solubility (ppm): -temp- -source- -reference-

199 20 M 6UNIRO

170 25 R EESADV

H 9ACHB2 1983 ED.

195\* 20 M 7SCHER

Organic solubility (ppm):

1.77E+5\* ACETONE 25 M 6UNIRO

3.5E+5\* METHYLENE CHLORIDE 25 M 6UNIRO

9.25E+4\* ETHYL ACETATE 25 M 6UNIRO

8.8E+4\* METHANOL 25 M 6UNIRO

3.87E+4\* TOLUENE 25 M 6UNIRO

Henrys law (Pa m3/mol):

2.99E-5\* M 6UNIRO

2.90E-5 M 7SCHER

Octanol/water partitioning (log Kow):

2.17\* 25 M 6UNIRO

Acid dissociation (pKa):

<0.5\* 25 M 6UNIRO

Soil sorption:

soiltype temp. Kd Koc %om pH reference

SANDY LOAM RT 1.10 100 1.89 5.5 6UNIRO

260 EESADV

9 JAFCAU 29:1050-1059,1981

123\*

Field Dissipation halflife(days):

value test area pH source reference

6\* M 6UNIRO

7 P 8EPAHO

3-7 M 7SCHER

Halflife in soil:

Soiltype aerobic anaerobic source reference

SANDY LOAM 1.0\* 147 M 6UNIRO

Comments:

molecular formula: C8H12CLNO  
 molecular weight: 173.6  
 physical state: L  
 (L=liquid; G=gas; S=solid)  
 reference: 9HERBH 4th ED 1979

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
92 AT 2MM HG				H	6MONTG
Melting point (deg C):					
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
1250		20		H	9HERBH 4th ED 1979
Water solubility (ppm):					
20000		25		H	9HERBH 4th ED 1979
19700				R	9KHBCD pp. 349-376 (1975)
1970*		25		H	6MONTG
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
0.110				H	6MONTG
Octanol/water partitioning (log Kow):					
0.97				H	6MONTG
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			19			ESTHAG 14: 553-556(1980)
			21			9HERBH 4th ED 1979
			20*			

Field dissipation halflife(days):

value	test area	pH	source	reference
5-11			H	9HERBH 4th ED 1979
15			R	6MOMAM pp. 241-303 (1982)
10*				

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLORAMBEN CASRN: 133-90-4**

molecular formula: C7H5CL2NO2  
 molecular weight : 206.03  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
200	-	201		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		25	5-9	M	9RHPOU
Photolysis (per day):					
SENSITIVE	SOIL			H	9PME10
Vapor pressure (mPa):					
930		100		H	9ACHB2 1983 ED.
Water solubility (ppm):					
700*		25		H	9ACHB2 1983 ED.
				E	ETOC DK 8:339-357,1989
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
3.40*				R	ADCSAJ 111:55-120,197
2					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			7		
			507		
			310		
			12.8		
			120		
			15		
			21*		
			13(SALT)		
Field Dissipation halflife(days):					
value	test area		pH	source	reference
14*					
14-21				H	9HERBH
				H	9ACHB2 1983 ED.
25-30				R	8KAUGW
Halflife in soil:					
Soiltype	aerobic		anaerobic	source	reference
Comments:					

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: CHLORBROMURON

CASRN: 13360-45-7

molecular formula: C9H10BrCLN2O2

molecular weight: 293.5

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.



value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
95 - 97				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.053		20		H	9PMED7
Water solubility (ppm):					
35*		20		H	9PMED7
				H	9ACHB2 1983
50				H	9HERBH 4th ED 1979
Organic solubility (ppm):					
4.6E5	ACETONE	20		H	9PME10
1.7E5	DICHLOROMETHANE	20		H	9PME10
8.9E4	HEXANE	20		H	9PME10
7.2E4	BENZENE	20		H	9PME10
1.2E4	ISOPROPANOL	20		H	9PME10
Henrys law (Pa m3/mol):					
2.63E-4		20		H	9PME10
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			217			90CHS2 V.1: pp. 51-143(1972)
			947			CJSSAR 55: 127-135 (1975)
			966			CJSSAR 55: 127-135 (1975)
			769			CJSSAR 55: 127-135 (1975)
			825			WEESAG 21: 416-460 (1973)
			4092			WEESAG 21: 416-460 (1973)
			365			WEESAG 21: 416-460 (1973)
			663			WEESAG 21: 416-460 (1973)
			436			WEESAG 21: 416-460 (1973)
			463			WEESAG 21: 416-460 (1973)
			320			6AJSOR 19: 61-68 (1981)
			389			6AJSOR 19: 61-68 (1981)
			374			6AJSOR 19: 61-68 (1981)
			273			6AJSOR 19: 61-68 (1981)
			516			6AJSOR 19: 61-68 (1981)
			317			6AJSOR 19: 61-68 (1981)
			156			6AJSOR 19: 61-68 (1981)
			450			6AJSOR 19: 61-68 (1981)
			341			6AJSOR 19: 61-68 (1981)
			170			6AJSOR 19: 61-68 (1981)
			343			6AJSOR 19: 61-68 (1981)
			600			6AJSOR 19: 61-68 (1981)
			225			6AJSOR 19: 61-68 (1981)
			225			6AJSOR 19: 61-68 (1981)
			386			6AJSOR 19: 61-68 (1981)
			476			6AJSOR 19: 61-68 (1981)
			363			6AJSOR 19: 61-68 (1981)
			363			6AJSOR 19: 61-68 (1981)
			524			6AJSOR 19: 61-68 (1981)

470\* 6ABERN

Field dissipation halflife(days):

value	test area	pH	source	reference
37			E	6GHENT 53: 1455-1458 (1988)
ca.21			E	WEESAG 21: 416-460 (1973)
30*				

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: CHLORDANE**

**CASRN: 57-74-9**

molecular formula: C10H6CL8

molecular weight: 409.8

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
175 AT 1 MM HG				H	9PME10	
Melting point (deg C):						
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
61(TECH)		25		R	6RENCT 99: 120-164 (1987)	
1.1		20		R	6RENCT 99: 120-164 (1987)	
1.3*		25		R	6RENCT 99: 120-164 (1987)	
Water solubility (ppm):						
0.1		25		H	9PMED7	
0.03				E	ESTHAG 26: 2234-2239 (1992)	
0.056*		25		H	6MONTG	
Organic solubility (ppm):						
MISCIBLE WITH MOST ORGANIC SOLV.						
Henrys law (Pa m3/mol):						
9.51				H	9PME10	
Octanol/water partitioning (log Kow):						
6.00				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			100000			9PMED9
			140000			6USEPA
			3130000			6PRZMO
			38000			JEVQAA 16: 422-428 (1987)
SAND		28	70000	0.069		6MONTG
SAND		30	75000	0.069		6MONTG
SILT		190	52788	0.619		6MONTG

SILT 220 61111 0.619 6MONTG  
60000\*

Field dissipation halflife(days):  
value test area pH source reference  
-----  
283-1387 R 6DEGRA  
345-986 C 6PRZMO  
3500 C JEVQAA 16: 422-428 (1987)  
347 C 8CREAM  
365\* H 9ACHB2 1983  
456 R 6ENVPE pp. 257-280

Halflife in soil:  
soiltype aerobic anaerobic source reference  
-----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: CHLORDIMEFORM

CASRN: 6164-98-3

molecular formula: C10H13CLN2

molecular weight : 196.68

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)author's hope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
163 - 165	14mmHg			H	9PMED8,8TH ED.,p.147,1987
Melting point(deg C):					
32				H	9PMED8,8TH ED.,p.147,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.0062*		20	5	M	9CIBAG
0.0924		20	7	M	9CIBAG
1.44		20	9	M	9CIBAG
Photolysis (per day):					
STABLE*	WATER	25		M	9CIBAG
STABLE	SOIL	25		M	9CIBAG
Vapor pressure (mPa):					
123*		25		M	9CIBAG
.48E+2		20		H	9ACHB2,2ND ED.,1987
Water solubility (ppm):					
203		10		E	JPFCD2,VB20(6):627,1985
270*		20		E	JPFCD2,VB18(2):224,1983
270		20		M	9CIBAG
250		20		H	9ACHB2,2ND ED.,1987
Organic solubility (ppm):					
>2.0E+5*	METHANOL	20		H	9ACHB2,2ND ED.,1987
>2.0E+5*	ACETONE	20		H	9ACHB2,2ND ED.,1987
>2.0E+5*	ETHYL ACETATE	20		H	9ACHB2,2ND ED.,1987
>2.0E+5*	CHLOROFORM	20		H	9ACHB2,2ND ED.,1987
>2.0E+5*	BENZENE	20		H	9ACHB2,2ND ED.,1987
>2.0E+5*	HEXANE	20		H	9ACHB2,2ND ED.,1987
Henry's law (Pa m3/mol):					

0.0896\* 20 M 9CIBAG  
 Octanol/water partitioning (log Kow):  
 1.8\* 25 M 9CIBAG  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 Field Dissipation half-life(days):  
 value test area pH source reference  
 Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 LOAMY SAND 62 33 M 9CIBAG  
 LOAMY SAND >110 M 9CIBAG  
 86\* 33

Comments:  
 AEROBIC VALUE 86(62-110)  
 NO LONGER SOLD BY CIBA

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLORDIMEFORM HCl CASRN: 19750-95-9**  
 molecular formula: C10H14CL2N2  
 molecular weight : 233.2  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
225	-	227		H	9ACHB2
Decomposition point(deg C):					
227	-			H	9PMED8
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.03*		20		H	9ACHB2 1983 ED.
0.4		25		M	9C1BAG
Water solubility (ppm):					
>5E+05*				-source-	-reference-
				H	9ACHB2 1983 ED.
				H	9ACHB2
				H	9ACHB2 7TH ED.,1977
Organic solubility (ppm):					
Henry's law (Pa m3/mol):					
<1.4E-8				H	9ACHB2
Octanol/water partitioning (log Kow):					
0.201*				M	9CIBAG
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			624		
			210		
			1600		
			811*		
Field Dissipation half-life(days):					

value	test area	pH	source	reference
Halflife in soil:				
Soiltype	aerobic	anaerobic	source	reference
Comments:				
NO LONGER SOLD BY CIBA				

## Pesticide Properties Database - Date Entered May 1999

**Name:** Chlorethoxyfos

**CASRN:** 54593-83-8

**Molecular Formula:** C<sub>6</sub> H<sub>11</sub> C<sub>14</sub> O<sub>3</sub> P S

**Molecular Weight:** 336.0

**Physical State:** L

(L=Liquid, G=Gas, S=Solid)

Reference: Pesticide Manual, 11th Ed.

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated,  
(U)known, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point(deg C):**

Value	Medium	Temp	pH	Source	Reference
110-115	0.8 mmHg			H	Pest. Manual

**Melting Point(deg C):**

Value	Medium	Temp	pH	Source	Reference

**Decomposition(deg C):**

Value	Medium	Temp	pH	Source	Reference

**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.017	Water	25	5	H	Pest. Manual
0.012	Water	25	7	H	Pest. Manual
0.010	Water	25	9	H	Pest. Manual

**Photolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.033	Soil	25	5.4	M	DuPont
0.026	Water	25	5	M	DuPont

**Vapor Pressure(mPa):**

Value	Medium	Temp	pH	Source	Reference
2.3E+2		25		M	DuPont

**Water Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
2.09	Water	25	7	M	DuPont

**Organic Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
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**Henry's Law Constant(Pa3/mol):**

Value	Medium	Temp	pH	Source	Reference
3.6E+1		25	7	M	DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
4.59		25		M	DuPont

**Acid Dissociation Constant(pKa):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy Loam	25	33	5690	1.0	6.4	M	DuPont
Loamy sand	25	43	3707	2.0	5.4	M	DuPont
Silt loam	25	77	3087	4.3	7.2	M	DuPont
Loam	25	98	3379	5.0	7.4	M	DuPont

-

**Field Dissipation Halflife(days):**

Value	Test Area	pH	%OM	Source	Reference
3.7	Iowa	6.8	3.3	M	DuPont
3	Illinois	6.2	4.9	M	DuPont
0.9	California	8.1	0.6	M	DuPont
2.6	Illinois	6.2	3.6	M	DuPont
3.7	NC	6.6	1.3	M	DuPont

**Half-life in Soil:**

Soil Type	Aerobic	Anaerobic	Source	Reference
Sandy loam	7		M	DuPont
Loam	20		M	DuPont
Clay loam	23		M	DuPont

Comments:

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ARS PESTICIDE PROPERTIES last update May 1999

name: CHLORFENAC SODIUM SALT

CASRN: 2439-00-1

molecular formula: C8H4CL3NAO2

molecular weight : 261.5

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2, 7TH ED., 1977

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
157	-	160		H	9ACHB2 7TH ED.,1977		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
Photolysis (per day):							
Vapor pressure (mPa):							
NONVOLAT*							
				H	9ACHB2 7TH ED.,1977		
Water solubility (ppm):							
-temp-							
-source-							
-reference-							
>5E05*				H	9ACHB2		
Organic solubility (ppm):							
Henrys law (Pa m3/mol):							
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
3.70*		25		E	ESTHAG 3:1186-1188,1969		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			53*			E	CMSHAF 10:833-845,1981
Field Dissipation halflife(days):							
value	test area		pH	%om		source	reference
158(90-240)*							
120-240						H	9HERBH
						H	9ACHB2 1983 ED.
90-180						H	9ACHB2
Halflife in soil:							
Soiltype		aerobic		anaerobic		source	reference
Comments:							

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLORIDAZON**

**CASRN: 1698-60-8**

molecular formula: C10H8CLN3O

molecular weight : 221.65

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
205	-	206		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					





9	25	5	M	9DUPON			
Organic solubility (ppm):							
Henry's law (Pa m <sup>3</sup> /mol):							
1.84E-10*	25	7	M	9DUPON,1999			
2.46E-8	25	5	M	9DUPON,1999			
Octanol/water partitioning (log Kow):							
0.36	25	7	M	9DUPON			
Acid dissociation (pKa):							
4.2	25		M	9DUPON			
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LM(MD)	25	0.43	35	2.1	6.5	M	9DUPON
SILT LM(IL)	25	3.2	128	4.3	5.4	M	9DUPON
SILT LM(DE)	25	7.4	170	7.5	5.2	M	9DUPON
SANDY LM(DE)	25	0.19	30	1.1	6.6	M	9DUPON
Field Dissipation half-life(days):							
value	test area	pH	%OM	source	reference		
21(14-42)*							
40				M	9DUPON		
14-28	NEWARK(DE)	6.4	2.8	M	9DUPON		
28-42	ROCHELLE(IL)	6.7	6.7	M	9DUPON		
<14	STONEVILLE(MS)	6.4	1.4	M	9DUPON		
<14	FAYETTEVILLE(NC)	5.9		M	9DUPON		
Half-life in soil:							
Soiltype	aerobic	anaerobic	source	reference			
SANDY LOAM	53		M	9DUPON,1999			
SILT LOAM	53		M	9DUPON,1999			
Comments:							
HENRYS LAW VALUE AT PH7; OCTANOL WATER=PH7;							
AEROBIC=PH5; SOIL SORPTION KOC=91(35-170)							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLORO BENZILATE** **CASRN: 510-15-6**

molecular formula: C<sub>16</sub>H<sub>14</sub>CL<sub>2</sub>O<sub>3</sub>

molecular weight : 325.21

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
36	-	37.5		H	9ACHB2,2ND ED.,1987	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.215*		25	7	M	9CIBAG	
STABLE*		25	5	M	9CIBAG	
0.10*		25	9	M	9CIBAG	
Photolysis (per day):						
0.06	SOIL		NR	M	9CIBAG	
0.0042*	WATER		25	M	9CIBAG	
0.58*	(sndy lm) SOIL		NR	6.1	M	9CIBAG

Vapor pressure (mPa):  
9.07E-1\* 20 M 9CIBAG  
1.2E-1 20 H 9ACHB2,2ND ED.,1987  
2.93E-1 20 H 9MERCK,10TH ED.,p.298  
Water solubility (ppm): -temp- -source- -reference-  
10 20 H 9ACHB2,2ND ED.,1987  
13\* 20 M 9CIBAG  
Organic solubility (ppm):  
1.0E+6\* ACETONE 25 H 9ACHB2,2ND ED.,1987  
1.0E+6\* DICHLOROMETHANE 20 H 9ACHB2,2ND ED.,1987  
1.0E+6\* METHANOL 20 H 9ACHB2,2ND ED.,1987  
1.0E+6\* TOLUENE 20 H 9ACHB2,2ND ED.,1987  
6.0E+5\* HEXANE 20 H 9ACHB2,2ND ED.,1987  
7.0E+5\* N-OCTANOL 20 H 9PMED8,8TH ED.,p.162,1987  
Henrys law (Pa m3/mol):  
0.0227\* 25 M 9CIBAG  
Octanol/water partitioning (log Kow):  
4.58\* 25 M 9CIBAG  
Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
SANDY LOAM 048.6 2090 4.0 7.8 9CIBAG  
SAND 016.4 4701 0.6 7.7 9CIBAG  
LOAM 048.4 1734 4.8 5.9 9CIBAG  
SANDY LOAM 020.5 2712 1.3 7.9 9CIBAG  
2810\*  
Field Dissipation halflife(days):  
value test area pH source reference  
Halflife in soil:  
Soiltype aerobic anaerobic source reference  
Comments:  
NO LONGER SOLD BY CIBA

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLORONEB**

**CASRN: 2675-77-6**

molecular formula: C8H8CL2O2  
molecular weight : 207.1  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
268	-	760mmHg		H	9PMED8
Melting point(deg C):					
133	-	135		H	9ACHB2
Decomposition point(deg C):					
268	-				
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5-9	H	9PME10
Photolysis (per day):					
Vapor pressure (mPa):					
400*		25		H	9ACHB2 7TH ED.,1977



MISCIBLE\* DIETHYL ETHER H 9PMED8  
 MISICBLE\* METHANOL H 9PMED8  
 Henrys law (Pa m3/mol):  
 324\* H 9ACHB2  
 H 9PME10

Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			82			CMSHAF 10:833-845,1981
			2.3			JAFCAU 29:1050-1059,1981
			62			EESADV
			49(2-82)*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
1			E	7CASTR

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLOROTHALONIL**

**CASRN: 1897-45-6**

molecular formula: C8CL4N2

molecular weight : 265.92

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
>350	-			M	6ISKBI
Melting point(deg C):					
250	-	251		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*			5-9	M	6ISKBI
0.018			9	M	6ISKBI
Photolysis (per day):					
STABLE*	SOIL			M	6ISKBI
0.011	WATER			M	6ISKBI
Vapor pressure (mPa):					
<1.3E03		40		H	9ACHB2 1983 ED.
7.8E-02		25		H	9ACHB2 1983 ED.
0.076*		25		M	6ISKBI
Water solubility (ppm):					
0.6*		25		H	9ACHB2 1983 ED.
0.6-1.2		25		M	6ISKBI
0.9		25		H	9PME10
Organic solubility (ppm):					
2E04*	ACETONE	25		H	9PMED8
2E04*	BUTANONE	25		H	9PMED8
3E04*	CYCLOHEXANONE	25		H	9PMED8
3E04*	DIMETHYL FORMAMIDE	25		H	9PMED8

2E04\* DIMETHYL SULFOXIDE 25 H 9PMED8  
 <1E04\* KEROSENE 25 H 9PMED8  
 8E04\* XYLENE 25 H 9PMED8  
 Henrys law (Pa m3/mol):  
 0.022 25 M 6ISKBI  
 Octanol/water partitioning (log Kow):  
 2.88 M 6ISKBI  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 4000 C 8GLEAM  
 4800 R EESADV  
 SAND 5.6 1600 0.6 M 6ISKBI  
 SND LM 24.2 1300 3.2 M 6ISKBI  
 SLT CLY LM 61.4 3300 3.2 M 6ISKBI  
 SLT 57.0 14000 0.7 M 6ISKBI  
 5000\* M 6ISKBI  
 Field Dissipation halflife(days):  
 value test area pH %OM source reference  
 48(2-90)\*  
 14-21 H 9ACHB2 1983 ED.  
 45 R 8EETNS  
 70 E JEVQAA 16:422-428,198  
 68 E ETOCDK 8:339-357,1989  
 4-40 P 8EPAHO  
 30-90 P 8EPAHO  
 25-56 P 8EPAHO  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLOROXURON CASRN: 1982-47-4**

molecular formula: C15H15CLN2O2  
 molecular weight : 290.75  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
 Boiling point(deg C):  
 -  
 Melting point(deg C):  
 151 - 152 H 9ACHB2,2ND ED.,1987  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 2.39E-04 20 H 9PMED8  
 5.2E-04\* 25 M 9CIBAG  
 Water solubility (ppm): -temp- -source- -reference-  
 2.7 H 9HERBH  
 2.5\* 22 M 9CIBAG

3.7		20			H	9ACHB2,2ND ED.,1987
Organic solubility (ppm):						
1.1E+5*	DICHLOROMETHANE	20			H	9ACHB2,2ND ED.,1987
4.4E+4*	ACETONE	20			H	9ACHB2,2ND ED.,1987
3.5E+4*	METHANOL	20			H	9ACHB2,2ND ED.,1987
4.0E+3*	TOLUENE	20			H	9ACHB2,2ND ED.,1987
Henry's law (Pa m <sup>3</sup> /mol):						
6.0E-05*		25			M	9CIBAG
Octanol/water partitioning (log Kow):						
3.20		25			M	9CIBAG
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			1335			WEREAT 3:140-153,1963
			1570			WEREAT 3:140-153,1963
			1870			WEREAT 3:140-153,1963
			3710			WEREAT 5:98-107,1965
			2820			WEREAT 5:98-107,1965
			4740			WEREAT 5:98-107,1965
			6220			WEREAT 5:98-107,1965
			3980			WEREAT 5:98-107,1965
LOAMY SAND		14	1852	1.3	7.8	9CIBAG
SANDY LOAM		40	1563	4.4	7.5	9CIBAG
SILT LOAM		110	1323	14.3		9CIBAG
			2820*			
Field Dissipation halflife(days):						
value	test area		pH	source		reference
45(30-60)*						
30				H		9ACHB2 1983 ED.
60				H		9HERBH
Halflife in soil:						
Soiltype	aerobic		anaerobic	source		reference
SILT LOAM	110*			M		9CIBAG
Comments:						
NO LONGER SOLD BY CIBA						

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CHLORPROPHAM CASRN: 101-21-3**

molecular formula: C<sub>10</sub>H<sub>12</sub>CLNO<sub>2</sub>

molecular weight : 213.67

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
38.5	-	40		H	9ACHB2
Decomposition point(deg C):					
100	-				
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE *		25	7	H	9PME10
Photolysis (per day):					

Vapor pressure (mPa):						
1.3 *	25		H		9HERBH	
1.1	20		R		9HRLCP	
Water solubility (ppm):	-temp-		-source-		-reference-	
89 *	25		H		9ACHB2 1983 ED.	
			C		JPFCD2 22:55-69,1987	
			H		9ACHB2 7TH ED.,1977	
88	25		H		9HERBH	
Organic solubility (ppm):						
1E05 * KEROSENE	25		H		9PMED8	
MISCIBLE* ALCS,AROM CMPDS	20		H		9PMED8	
Henrys law (Pa m3/mol):						
3.12E-03 *	25		H		9HERBH	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			816			9EINSP PP.23-67
			590			EESADV
			370			EESADV
			245			9HFEDP
			505 *			
Field Dissipation halflife(days):						
value	test area	pH		source		reference
30 *				H		9ACHB2,1983 ED.
Halflife in soil:						
Soiltype	aerobic	anaerobic		source		reference
Comments:						

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**ARS PESTICIDE PROPERTIES last update May 1999**  
**CASRN: 2921-88-2**

**name: CHLORPYRIFOS**  
molecular formula: C9H11CL3NO3PS  
molecular weight : 350.62  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
42 - 43.5				H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.009*		25	5	M	6DOWCH
0.0236*		25	7	M	6DOWCH
0.0440*		25	9	M	6DOWCH
Photolysis (per day):					
Vapor pressure (mPa):					
2.5*		25		H	9ACHB2 1983 ED.
12		35		H	9ACHB2 1983 ED.
2.3		20		R	9HRLCP
2.5(av.2.5,2.4,2.7)		25		M	6DOWCH

Water solubility (ppm):	-temp-	-source-	-reference-
1.18* (av. 1.20,1.39,0.94)	25		
0.45	10	E	JPFCD2 B20:625,1985
0.73	20	E	JPFCD2 B20:625,1985
1.3	30	E	JPFCD2 B20:625,1985
1.12	24	E	JAFCAU 27:557,1979
Organic solubility (ppm):			
MISCIBLE ACETONE	25	H	9PMED8
MISCIBLE BENZENE	25	H	9PMED8
MISCIBLE CHLOROFORM	25	H	9PMED8
MISCIBLE METHANOL	25	H	9PMED8
Henrys law (Pa m3/mol):			
0.743*	25	M	6DOWCH
Octanol/water partitioning (log Kow):			
5.0*(4.7-5.3)		M	6DOWCH
Acid dissociation (pKa):			

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			6070			E	JEVQAA 16:422-428,1987
						C	8BULEV 24:190-195,1980
			1.36E04			R	EESADV
						C	8SWAMD
			1.4E04			R	8AOACA
			5.3E03			C	8GLEAM
			6085			E	ETOC DK 8:339-357,1989
			14800			E	JPFCD2 22:55-69,1987
			6100			R	8INSFO
			1.35E04			R	8AGMAW
			9930*				

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
43(4-139)*					
6-139				R	JEENAI 78:412-418,1985
30				R	JEENAI 78:412-418,1985
60				R	RREVAH 85:139-147,1983
18-53				P	8EPAHO
63				R	8FULLE
60				R	8INSFO
90				H	9ACHB2 1983 ED.
63				E	JEVQAA 16:422-428,1987
				E	SCSFAD 44:1-8,1985
12				C	8GLEAM
54				E	ETOC DK 8:339-357,1989
9.5(6-12.9)	SLTY CLY LM(IL)			M	6DOWCH
25.5(6-58)	SLT LM(NE,WA,BC,BELG)			M	6DOWCH
45(12-77)	CLY LM(ONT.)			M	6DOWCH
23.5(6.8-78)	SNDY LM(MI,IL,SOV,BELG,IND)			M	6DOWCH
36.9(8.6-79.5)	LM(CA,WA,IN,ITALY)			M	6DOWCH
28(4-42)	LMY SND(GA,BELG.)			M	6DOWCH
22.3(6.8-80)	SNDY LM(IL,BELG,SOV,IND)			M	6DOWCH
24-45	SNDY CLY LM(SOV)			M	6DOWCH
66.5(28-91)	SNDY CLY(SOV)			M	6DOWCH
59(27-91)	CLY			M	6DOWCH
72(39-120)	MUCK(NY,ONT.)			M	6DOWCH
22.8(6-58)	SLT LM(WA,BC,BELG.)			M	6DOWCH
7.6(1.3-14)	SND(ONT.FL)			M	6DOWCH

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	30.5*		M	6DOWCH



Comments:

SOIL SORPTION KOC=9930(6070-14800)

AEROBIC = 30.5(12-102)

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: CHLORPYRIFOS-METHYL

CASRN: 5598-13-0

molecular formula: C7H7CL3NO3PS

molecular weight: 322.5

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

45.5 - 46.5

H

9PME10

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.231

8

H

9PME10

Photolysis (per day):

Vapor pressure (mPa):

5.6

25

H

9PMED9

Water solubility (ppm):

4

24

H

9PMED7

Organic solubility (ppm):

6.4E6

ACETONE

24

H

9PME10

5.2E6

BENZENE

24

H

9PME10

4.8E6

DIETHYL ETHER

24

H

9PME10

3.5E6

CHLOROFORM

24

H

9PME10

3.0E5

METHANOL

24

H

9PME10

2.3E5

HEXANE

24

H

9PME10

Henry's law (Pa m<sup>3</sup>/mol):

0.45

24

H

9PMED9

Octanol/water partitioning (log Kow):

4.24

H

9PME10

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----

3300

ESTHAG 14: 553-556 (1980)

3310

7SCHER

5729

ESTHAG 21: 358-366 (1987)

3000\*

W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----

4,21

E

JAFCAU 30: 1032-1035 (1982)

1.5-33

H

9PME10

7\*

W

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: CHLORSULFURON

CASRN: 64902-72-3

molecular formula: C12H12CLN5O4S

molecular weight : 357.8

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-----  
-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):

Melting point(deg C):

174 - 178 M 9DUPON,1999

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0289 25 5 M 9DUPON,1999

0.0005 25 7 M 9DUPON,1999

0.0010 25 9 M 9DUPON,1999

Photolysis (per day):

0.0087 SOIL 25 8 M 9DUPON,1999

0.0034 WATER 25 5 M 9DUPON,1999

STABLE WATER 25 7,9 M 9DUPON,1999

Vapor pressure (mPa):

3.07E-6 25 M 9DUPON,1999

Water solubility (ppm): -temp- -pH- -source- -reference-

3.18E+5 25 7 M 9DUPON

587 25 5 M 9DUPON

Organic solubility (ppm):

46776 ACETONE 25 M 9DUPON,1999

1.05660 DICHLOROMETHANE 25 M 9DUPON,1999

3.64E-3 HEXANE 25 M 9DUPON,1999

18963 METHANOL 25 M 9DUPON,1999

32370 TOLUENE 25 M 9DUPON,1999

26718 ACETONITRILE 25 M 9DUPON,1999

27716 ETHYL ACETATE 25 M 9DUPON,1999

2038 ISOPROPANOL 25 M 9DUPON,1999

Henry's law (Pa m<sup>3</sup>/mol):

6.8E-6\* 25 M 9DUPON

Octanol/water partitioning (log Kow): -pH-

-1.0\* 25 7 M 9DUPON

0.33 25 5 M 9DUPON

-1.40 25 9 M 9DUPON

Acid dissociation (pKa):

3.6\* M 9DUPON

Soil sorption:

soiltype temp. Kd Koc %om pH source reference

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
18	MOSCOW, ID	6.1	2.2	M	9DUPON, 1999
18	MADERA, CA	6.3	0.4	M	9DUPON, 1999
39	AKRON, CO	6.9	1.0	M	9DUPON, 1999
49	FARGO, ND	7.6	5.3	M	9DUPON, 1999
40	KIMBERLY, ID	8.0	1.3	M	9DUPON, 1999
69	AKRON, CO	8.2	1.2	M	9DUPON, 1999
83	STETTTLER, AB	6.9	4.4	M	9DUPON, 1999
21	SWIFT CURRENT(SK)	6.1	1.0	M	9DUPON, 1999
29	SASKATOON, SK	6.2	3.4	M	9DUPON, 1999
40	FISHER BRANCH, MB	7.8	6.4	M	9DUPON, 1999
23	NEWARK, DE	6.0	1.4	M	9DUPON, 1999
154	ROCHELLE, IL	6.7	7.4	M	9DUPON, 1999
185	CLAY CTR., NE	5.6	3.8	M	9DUPON, 1999
10	CARRINGTON, ND	6.6	4.4	M	9DUPON, 1999
64	ROSETOWN, SK	7.3	2.3	M	9DUPON, 1999

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM(DE)	20		M	9DUPON
SILTY CLAY LOAM(NE)	13		M	9DUPON
LOAM(NE)	19		M	9DUPON
SANDY LOAM(NE)	88		M	9DUPON
LOAMY SAND(ITALY)	28		M	9DUPON
SILT LOAM(ITALY)	46		M	9DUPON
SANDY LOAM(UK)	13		M	9DUPON

Comments:

SOIL SORPTION KOC=36(14-60); AEROBIC=20(10-30)-TEN STUDIES(USA & CANADA).

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: CHLOZOLINATE

CASRN: 72391-46-9

molecular formula: C13H11CL2NO5

molecular weight: 332.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
113 - 114				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
STABLE				H	9PME10
Vapor pressure (mPa):					
0.013		25		H	9PMED9
Water solubility (ppm):					
32		25		H	9PMED9
Organic solubility (ppm):					
>3E5 ACETONE		25		H	9PME10
>3E5 CHLOROFORM		25		H	9PME10
>3E5 DICHLOROMETHANE		25		H	9PME10

10000 METHANOL 25 H 9PME10  
 3000 HEXANE 25 H 9PME10  
 Henrys law (Pa m3/mol):  
 1.35E-4 25 H 9PMED9  
 Octanol/water partitioning (log Kow):  
 3.3 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			1150			9PMED9

Field dissipation halflife(days):

value	test area	pH	source	reference
2			R	6RENCT 99: 83-117 (1987)

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: CINMETHYLIN CASRN: 87818-31-3**

molecular formula: C13H11CL2NO5

molecular weight: 332.1

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C): 313 AT 760 MM HG				H	9PME10
Melting point (deg C):					
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day): STABLE			3-11	H	9PME10
Photolysis (per day):					
Vapor pressure (mPa):					
10.2		20		M	PSSCBG 21: 143-153 (1987)
13		20		H	9FACHB 1990
10.1*		20		H	9HERBH 6th ED 1989
10		20		H	9ACHB2 1983
Water solubility (ppm):					
63		20		H	9PMED9
				H	9ACHB2 1983
				H	9HERBH 6th ED 1989
Organic solubility (ppm): MISCIBLE IN MANY ORGANIC SOLV.				H	9PME10
Henrys law (Pa m3/mol):					
0.044		20		H	9HERBH 6th ED 1989
Octanol/water partitioning (log Kow):					
3.84				H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			311			PSSCBG 21: 143-153 (1987)
			329			PSSCBG 21: 143-153 (1987)
			329			PSSCBG 21: 143-153 (1987)
			260			PSSCBG 21: 143-153 (1987)
			242			PSSCBG 21: 143-153 (1987)
			226			PSSCBG 21: 143-153 (1987)
			354			PSSCBG 21: 143-153 (1987)
			331			PSSCBG 21: 143-153 (1987)
			286			PSSCBG 21: 143-153 (1987)
			248			PSSCBG 21: 143-153 (1987)
			424			PSSCBG 21: 143-153 (1987)
			398			PSSCBG 21: 143-153 (1987)
			398			PSSCBG 21: 143-153 (1987)
			389			PSSCBG 21: 143-153 (1987)
			3570			9PMED9
			300*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
23-75			E	6GHENT 53: 1455-1458 (1988)
15-30			H	9HERBH 6th ED 1989
30*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: CLOFENTEZINE**

**CASRN: 74115-24-5**

molecular formula: C14H8CL2N4

molecular weight: 303.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
182.3				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.067		22	5	H	9PME10
0.489		22	7	H	9PME10
4.158		22	9	H	9PME10
Photolysis (per day):					
STABLE				H	9PME10
Vapor pressure (mPa):					
1.3E-4		25		M	7SCHER

			H	9PME10
Water solubility (ppm):				
2.5E-3	25		H	9PME10
Organic solubility (ppm):				
5.0E4	CHLOROFORM	25	H	9PME10
3.7E4	DICHLOROMETHANE	25	H	9PME10
9300	ACETONE	25	H	9PME10
2500	BENZENE	25	H	9PME10
1000	HEXANE	25	H	9PME10
500	ETHANOL	25	H	9PME10
Henry's law (Pa m3/mol):				
0.0157	25		H	9PME10
Octanol/water partitioning (log Kow):				
3.1	25		H	9PME10
Acid dissociation (pKa):				

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			45300			9PMED9

Field dissipation half-life(days):

value	test area	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
34-83	TX			P	6USEPA
52	UK			P	6USEPA
65-85		15		H	9ACHB2 1983
28-56		25		H	9ACHB2 1983
40*				W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CLOMAZONE**

**CASRN: 81777-89-1**

molecular formula: C12H14CLNO2

molecular weight : 239.7

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9HERBH, 7TH ED., 1989

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
275.4	-			H	9HERBH 6TH ED., 1989
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	4.65	M	9FMCC3
0.10*		25	9.25	M	9FMCC3
STABLE		25	7.0	M	9FMCC3
Photolysis (per day):					
STABLE*	SOIL			M	9FMCC3

STABLE\* WATER 5-9 M 9FMCC3

Vapor pressure (mPa):  
 19\* 25 H 9HERBH 6TH ED.,1989  
 19 25 M 9FMCC3

Water solubility (ppm): -temp- -source- -reference-  
 1100\* H 9HERBH 6TH ED.,1989  
 M 9FMCC3

Organic solubility (ppm):  
 Henrys law (Pa m3/mol):  
 4.14E-3\* M 9FMCC3

Octanol/water partitioning (log Kow):  
 2.5\* M 9FMCC3

Acid dissociation (pKa):  
 Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			274*			9FMCC3

Field Dissipation halflife(days):

value	test area	pH	source	reference
28-84			H	9HERBH 6TH ED.,1989
24			M	9FMCC3
16-36			M	9FMCC3

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	36		M	9FMCC3
SILT LOAM	137		M	9FMCC3
	87*			

Comments:  
 SELECTED KOC=274(152-562)  
 AEROBIC VALUE 87(36-137)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CLOPYRALID** CASRN: 1702-17-6

molecular formula: C6H3CL2NO2  
 molecular weight : 192  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C): -					
Melting point(deg C): 151 - 152				H	9ACHB2
Decomposition point(deg C): -					
Heat of vaporization(deg C):					
Hydrolysis (per day): STABLE*		25	5-9	M	6DOWCH
Photolysis (per day): STABLE*	SOIL	25		M	6DOWCH
STABLE*	WATER	25		M	6DOWCH
Vapor pressure (mPa): 1.7*		25		M	6DOWCH
				H	9HERBH 6TH ED.,1989
Water solubility (ppm): 1000	-temp-			-source-	-reference-
				H	9HERBH 6TH ED.,1989

9000\* 25 H 9ACHB2  
 Organic solubility (ppm):  
 2-3.4E05\* ACETONE H 9PMED8  
 7-13E04\* DICHLOROMETHANE H 9PMED8  
 7-13E04\* AMYL ACETATE H 9PMED8  
 Henrys law (Pa m3/mol):  
 3.26E-04\* 25  
 Octanol/water partitioning (log Kow):  
 1.81\* M 6DOWCH  
 2.63\* M 6DOWCH  
 2.55\* M 6DOWCH  
 Acid dissociation (pKa):  
 2.3\* 25 H 9HERBH  
 2.0 M 6DOWCH  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 6 M 6DOWCH  
 36\* M 6DOWCH  
 Field Dissipation halflife(days):  
 value test area pH source reference  
 12-70 M 6DOWCH  
 13(10-30)\* M 6DOWCH  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 26\* M 6DOWCH

Comments:  
 OCTANOL WATER VALUES 1.81=PH5, 2.63=PH7, 2.55=PH9;  
 SOIL SORPTION KOC=36(13-60); AEROBIC=26(13-39)  
 FIELD DISSIPATION CONCENTRATION DEPENDENT:  
 conc. (ppm)

soiltype	.0025	.025	.25	2.5
SANDY LM(CECIL)	7	6	19	435
SANDY LM(TRACY)	6	6	13	250
CLAY(FARGO)	33	39	250	1650
SNDY CLY LM(YOLO)	19	18	68	640
SLTY CLY LM(BOZEMAN)	40	29	39	530

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: CRYOLITE CASRN: 15096-52-3**

molecular formula: NaALF6  
 molecular weight: 209.95  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9FACHB 1993

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
1000				H	6HCHPH
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					



Photolysis (per day):  
 Vapor pressure (mPa):  
 0 W  
 Water solubility (ppm):  
 <200 H 9FACHB 1993  
 420\* P 6USEPA  
 Organic solubility (ppm):  
 Henrys law (Pa m3/mol):  
 Octanol/water partitioning (log Kow):  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			1318			6USEPA
			5406			6USEPA
			2625			6USEPA
			1767			6USEPA
			3000*			

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
3000			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CYANAZINE** CASRN: 21725-46-2

molecular formula: C9H13CLN6  
 molecular weight : 240.7  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2,2ND ED.,1987

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
168 - 169				E	PSSCBG,V.17(4),P.366,1986
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.0046*		25	5	M	9DUPON
STABLE*		25	7,9	M	9DUPON
Photolysis (per day):					
0.099*	SOIL(0.7%OM)	25	6.4	M	9DUPON
0.016*	WATER	25	7.0	M	9DUPON
Vapor pressure (mPa):					
2.13E-04*		20		H	9HERBH,5TH ED.,p.119,1983
1.33E-3		30		H	9HERBH,5TH ED.,p.119,1983
7.86E-03		40		H	9HERBH,5TH ED.,p.119,1983
Water solubility (ppm):	-temp-			-source-	-reference-

155		25				M	9DUPON
Organic solubility (ppm):							
2.1E+5*	METHYLCYCLOHEXANOL	25				H	9ACHB2,2ND ED.,1987
2.1E+5*	CHLOROFORM	25				H	9ACHB2,2ND ED.,1987
1.9E+5*	ACETONE	25				H	9ACHB2,2ND ED.,1987
4.5E+4*	ETHANOL	25				H	9ACHB2,2ND ED.,1987
1.5E+4*	BENZENE	25				H	9ACHB2,2ND ED.,1987
1.5E+4*	HEXANE	25				H	9ACHB2,2ND ED.,1987
Henry's law (Pa m3/mol):							
6,6E-6		25				M	9DUPON,1999
Octanol/water partitioning (log Kow):							
2.1*		25		7		M	9DUPON
2.02						E	ESTHAG, 22(3):273,1988
2.24						E	JEVQAA, 10(3):384,1981
Acid dissociation (pKa):							
0.63						E	PSSCBG, 17(4):376,1986
1.1						E	ADCSAJ, 111:73,1972
0.87*							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			218*				
SAND(CA)	25	0.52	235	0.38	ND	M	9DUPON,1999
SNDY LOAM(CA)	25	1.36	213	1.1	7.3	M	9DUPON,1999
SLTY CLY LM(IA)	25	2.53	218	2.0	5.3	M	9DUPON,1999
SNDY CLY LM(GA)	25	0.64	73	1.5	6.4	M	9DUPON,1999
SILT LOAM(NC)	25	2.3	85	4.7	6.5	M	9DUPON,1999
CLAY LOAM(TX)	25	0.28	40	1.2	8.3	M	9DUPON,1999
SANDY LOAM(CA)	25	0.38	50	1.3	6.6	M	9DUPON,1999
LOAMY SAND(MI)	25	0.28	60	0.8	5.7	M	9DUPON,1999
Field Dissipation half-life(days):							
value	test area		pH			source	reference
13	SILT LOAM(DE)					M	9DUPON,1999
20	SANDY LOAM(CA)					MM	9DUPON,1999
6	SILTY CLAY(IL)					M	9DUPON,1999
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
SNDY LOAM(CA)	17					M	9DUPON
Comments:							
OCTANOL WATER VALUE 2.1=PH7; SOIL SORPTION KOC=218(73-500)							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CYCLOATE**

**CASRN: 1134-23-2**

molecular formula: C11H21NOS

molecular weight : 215.37

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
145	-	146		H	9ACHB2
Melting point(deg C):					
11.5	-			H	9ACHB2
Decomposition point(deg C):					
-					

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE\* NR M 8ICIAG, 03/01/90

Photolysis (per day):

0.00315 SOIL 25 M 8ICIAG, 03/01/90

0.0032\* SOIL 25

Vapor pressure (mPa):

830 25 H 8HERBH  
NR H 9ACHB2,1983 ED.  
210\* 25 M 8ICIAG

Water solubility (ppm): -temp- -source- -reference-

95\* M 8ICIAG

85 22 H 9HERBH

C EESADV

75 20 H 9FACHB 1990

M 8ICIAG

Organic solubility (ppm):

MISCIBLE ACETONE 20 H 9PMED8

MISCIBLE BENZENE 20 H 9PMED8

MISCIBLE ETHANOL 20 H 9PMED8

MISCIBLE KEROSENE 20 H 9PMED8

MISCIBLE 4 METHYLPENTAN-2-ONE 20 H 9PMED8

MISCIBLE XYLENE 20 H 9PMED8

Henry's law (Pa m3/mol):

4.8E05\* 25 M 8ICIAG

Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			345			EESADV
			41			8ICIAG
			430			8ICIAG
			272*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
28-56			H	9ACHB2 1983 ED.
			H	9HERBH
12			H	8ICIAG
			H	9ACHB2

27(12-56)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: CYFLUTHRIN**

**CASRN: 68359-37-5**

molecular formula: C22H18CL2FNO3

molecular weight : 434.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MILES

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
---------	----------	--------	------	----------	-------------

Boiling point(deg C):

Melting point(deg C):  
 60 - H 9PMED8 8TH ED.,p.205,1987  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--

Hydrolysis (per day):  
 0.003\* 25 7 M 6MILES  
 STABLE\* 25 5 M 6MILES  
 >0.35\* 25 9 M 6MILES

Photolysis (per day):  
 0.0566\* WATER 28 ID M 6MILES  
 0.347\* SOIL 28 ID M 6MILES  
 0.043\* SOIL 28 ID M 6MILES

Vapor pressure (mPa):  
 0.0044\* 20 M 6MILES

Water solubility (ppm): -temp- -source- -reference-  
 2.0E-2\* 20 M 6MILES  
 2.0E-3 20 H 9ACHB2

Organic solubility (ppm):  
 2.0E+3 2-PROPANOL LOW 20 M 6MILES  
 2.6E+4\* 2-PROPANOL 20 M 6MILES  
 >1.0E+6\* DICHLOROMETHANE 20 M 6MILES  
 1.0E+5\* TOLUENE 20 M 6MILES  
 1.0E+6 TOLUENE HIGH 20 M 6MILES

Henry's law (Pa m<sup>3</sup>/mol):  
 9.6E-2 20 M 6MILES

Octanol/water partitioning (log Kow):  
 5.91 20 M 6MILES  
 6.00 20 M 6MILES  
 5.95\* 20

Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 SANDY LOAM 22 810 64125 2.4 5.1 6MILES  
 31000\* CMSHAF 10:833-845,1981

Field Dissipation half-life(days):  
 value test area pH source reference  
 90 SOIL AZ M 6MILES  
 7 SOIL OR 7-83 M 6MILES  
 9 SOIL KS 7-83 M 6MILES  
 7 SOIL KS 7-83 M 6MILES  
 16 SOIL FL 9-83 M 6MILES  
 3.9 CA(FRESNO)LMY SND 7.8 M 6MILES  
 22(4-90)\*

Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 LOAM 56 M 6MILES  
 SANDY LOAM 63 M 6MILES  
 60\*

Comments:  
 SELECTED KOC VALUE=31000(3700-58050)

ARS PESTICIDE PROPERTIES last update May 1999

name: CYHALOTHRIN CASRN: 91465-08-6

molecular formula: C<sub>23</sub>H<sub>19</sub>CLF<sub>3</sub>NO<sub>3</sub>

molecular weight : 449.9

physical state : S

(L=liquid; G=gas; S=solid)  
reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
187	- 190	0.2 mmHg		H	9PME10		
Melting point(deg C):							
49.2	-			H	9ACHB2		
Decomposition point(deg C):							
-	275						
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
SLOW		NR	7-9	M	8ICIAG		
Photolysis (per day):							
Vapor pressure (mPa):							
.0002*		20		H	9ACHB2		
				M	8ICIAG		
Water solubility (ppm):							
0.005*				M	8ICIAG		
.003		20		H	9ACHB2 7TH ED.,1977		
Organic solubility (ppm):							
>5E+5*	ACETONE,ETH						
>5E+5*	ACETONE			H	9PMED8		
>5E+5*	DICHLOROMETHANE			H	9PMED8		
>5E+5*	DIETHYL ETHER			H	9PMED8		
>5E+5*	ETHYL ACETATE			H	9PMED8		
>5E+5*	HEXANE			H	9PMED8		
>5E+5*	METHANOL			H	9PMED8		
>5E+5*	TOLUENE			H	9PMED8		
Henry's law (Pa m <sup>3</sup> /mol):							
0.018*				M	8ICIAG		
Octanol/water partitioning (log Kow):							
7*		20		M	8ICIAG		
Acid dissociation (pKa):							
>9*				M	8ICIAG		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			1.8E05*			M	8ICIAG
Field Dissipation half-life(days):							
value	test area		pH	%om		source	reference
30						M	8ICIAG
28-84						H	9ACHB2
43(30-84)*							
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
Comments:							

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: CYHEXATIN

CASRN: 13121-70-5

molecular formula: C<sub>18</sub>H<sub>34</sub>O<sub>5</sub>N

molecular weight: 385.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
Melting point (deg C):						
245				H	9PMED8	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
NEGL.		25		H	9PMED9	
Water solubility (ppm):						
<1		25		H	9PMED9	
Organic solubility (ppm):						
2.16E5	CHLOROFORM	25		H	9PME10	
3.7E4	METHANOL	25		H	9PME10	
3.4E4	DICHLOROMETHANE	25		H	9PME10	
2.8E4	CCL4	25		H	9PME10	
1.6E4	BENZENE	25		H	9PME10	
1.0E4	TOLUENE	25		H	9PME10	
3600	XYLENE	25		H	9PME10	
1300	ACETONE	25		H	9PME10	
Henrys law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			>4365			9AQTOX pp.78-115 (1980)
Field dissipation halflife(days):						
value	test area		pH	source	reference	
50				E	8BULEV 38: 627-633 (1987)	
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
Comments:						

## Pesticide Properties Database Date Entered May 1999

**Name:** Cymoxanil

**CASRN:** 57966-95-7

**Molecular Formula:** C7 H10 N4 O3

**Molecular Weight:** 198.2

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Agrochemical Handbook

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated,  
 (U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point(deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Melting Point(deg C):**

Value	Medium	Temp	pH	Source	Reference
159-160				M	DuPont

**Decomposition(deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.005	Water	25	5	M	DuPont
0.488	Water	25	7	M	DuPont
34.65	Water	25	9	M	DuPont

**Photolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.028	Soil	25	6.4	M	DuPont
0.385	Water	25	5	M	DuPont
3.2	Water	25	7	M	DuPont

**Vapor Pressure(mPa):**

Value	Medium	Temp	pH	Source	Reference
1.5E-1		25		M	DuPont

**Water Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
890	Water	25	5	M	DuPont
780	Water	25	7	M	DuPont
Unstable	Water	25	9	M	DuPont

**Organic Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
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**Henry's Law Constant(Pa3/mol):**

Value	Medium	Temp	pH	Source	Reference
3.3E-5		25	5	M	DuPont
3.8E-5		25	7	M	DuPont
Unstable		25	9	M	DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
0.59		25	5	M	DuPont

0.67	25	7	M	DuPont
Unstable	25	9	M	DuPont

**Acid Dissociation(pKa):**

Value	Medium	Temp	pH	Source	Reference
Decomposes					

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy loam	25	0.29	39	1.3	6.0	M	DuPont
Clay loam	25	2.86	110	4.5	7.7	M	DuPont
Silt loam	25	1.38	238	1.0	6.1	M	DuPont
Silt loam	25	0.79	105	1.3	6.1	M	DuPont

**Field Dissipation Halflife(days):**

Value	Test Area	pH	%OM	Source	Reference
5	Japan	5.8	6.4	M	DuPont
4	Japan	6.7	1.67	M	DuPont
0.9	MD	6.4	3.0	M	DuPont
8.7	CA	7.8	1.5	M	DuPont

**Half-life in Soil(days):**

Soil Type	Aerobic	Anaerobic	Source	Reference
Sandy loam	1.5		M	DuPont
Sandy loam	0.9		M	DuPont
Sandy clay loam	1.6		M	DuPont
Andisol clay	1.3		M	DuPont
Sandy loam	0.75		M	DuPont

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name : CYPERMETHRIN**

**CASRN: 52315-07-8**

molecular formula: C22H19CL2NO3

molecular weight : 416.3

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9FMCC3

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
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Boiling point(deg C):

-

Melting point(deg C):

60 - 80

M 9FMCC3



Decomposition point(deg C):

-

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.384*	25	9	M	9FMCC3
STABLE*	20	5,7	M	9FMCC3

Photolysis (per day):

0.0042*	SOIL	25	7.3	M	9FMCC3
0.0123*	WATER	25		M	9FMCC3

Vapor pressure (mPa):

4.1E-04*	20		M	9FMCC3
5.3E-3	70		H	9ACHB2 1983 ED.
1.9E-4	20		M	9FMCC3

Water solubility (ppm):

	-temp-	-source-	-reference-
4.1E4 (pH7)	25	M	9FMCC3
0.004* (pH7.1)	20	M	8ICIAG 03/01/90
0.0017 (pH5.1)	20	M	8ICIAG 03/01/90

Organic solubility (ppm):

>5.0E+5*	ACETONE	25	M	9FMCC3
>5.0E+5*	METHANOL	25	M	9FMCC3
3.4E+5*	ETHANOL	20	H	9PMED8,8TH ED.,p.214,1987
7.0E+4*	HEXANE	20	M	9FMCC3

Henrys law (Pa m3/mol):

0.0426*	20	M	9FMCC3
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Octanol/water partitioning (log Kow):

6.60*	25	M	9FMCC3
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Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
LOAMY SAND		2000	1.6E5	2.1	5.4	9FMCC3
SANDY LOAM		166	8.4E4	3.4	6.5	9FMCC3
SILT LOAM		257	2.2E4	2.0	5.6	9FMCC3
LOAMY SAND		3050	3.4E4	15.6	4.7	9FMCC3
LOAM		174	5.8E3	5.2	7.1	9FMCC3
			6.1E4*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
35			H	9ACHB2 1983 ED.
49-82(AV.63)			M	9FMCC3
15			M	8ICIAG
7-20	SOIL 80-81		M	9FMCC3
<10	SOIL 79		M	9FMCC3

27(7-82)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
VARIOUS	6-20	<14	M	9FMCC3
	36*	36*	M	9FMCC3
SANDY LOAM	60	53-63	M	9FMCC3

Comments:

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ARS PESTICIDE PROPERTIES last update May 1999

name:CYROMAZINE

CASRN: 66215-27-8

molecular formula: C6H10N6

molecular weight : 166.19

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
220	-	222		H	9ACHB2,2ND ED.,1987	
Decomposition point(deg C):						
-		310				
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE*		30		M	9CIBAG	
Photolysis (per day):						
STABLE*	WATER	25		M	9CIBAG	
.0116*	SOIL	25	7	M	9CIBAG	
Vapor pressure (mPa):						
4.5E-4		25		M	9CIBAG	
Water solubility (ppm):						
1.1E+4		20		H	9FACHB	
1.36E+4*		22		M	9CIBAG	
Organic solubility (ppm):						
1.7E+4*	METHANOL	20		H	9ACHB2,2ND ED.,1987	
Henrys law (Pa m3/mol):						
5.5E-9*		25		M	9CIBAG	
Octanol/water partitioning (log Kow):						
-.155*		25		M	9CIBAG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
		50.38	1800	4.8	5.9	9CIBAG
		1.09	208	0.9	6.5	9CIBAG
		5.62	970	1.0	7.5	9CIBAG
		0.61	81	1.3	7.8	9CIBAG
			765*			
Field Dissipation half-life(days):						
value	test area		pH	source	reference	
75-180	CA			M	9CIBAG	
204-244	NB			M	9CIBAG	
185-284	FL			M	9CIBAG	
146-203	FL			M	9CIBAG	
189(75-284)*						
Half-life in soil:						
Soiltype	aerobic		anaerobic	source	reference	
SANDY LOAM	142		STABLE	M	9CIBAG	
SAND	107			M	9CIBAG	
	125*					
Comments:						
PHOTOLYSIS VALUE .0116 = ARTIFICIAL LIGHT						

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DALAPON SODIUM SALT**

**CASRN: 127-20-8**

molecular formula: C3H3CL2NaO2

molecular weight : 164.95

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
-						
Decomposition point(deg C):						
>191	-			H	9PME10	
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
<1		20		H	9ACHB2 1989 ED.	
Water solubility (ppm):						
5.02E05		-temp-		-source-	-reference-	
5E05				R	EESADV	
9E05*		25		H	9ACHB2 1983 ED.	
9E05*				H	9PME10	
Organic solubility (ppm):						
Henrys law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
1.84*		25		R	ADCSAJ 111:55-120,197	
				C	8CREAM	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			0.3			EESADV
			4			8CREAM
			1(0.3-4)*			8GLEAM
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
30*				H	9ACHB2 1983 ED.	
				M	7HOICHE	
Halflife in soil:						
Soiltype		aerobic	anaerobic	source	reference	
Comments:						

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DAMINOZIDE**

**CASRN: 1596-84-5**

molecular formula: C6H12N2O3

molecular weight: 160.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
157 - 164				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					

Hydrolysis (per day):  
 STABLE 5,7,9 H 9PME10

Photolysis (per day):  
 STABLE H 9PME10

Vapor pressure (mPa):  
 22.7 23 H 9PME10

Water solubility (ppm):  
 100000 25 H 9PMED9  
 H 9ACHB2 1983

Organic solubility (ppm):  
 5.5E4 25 H 9PME10  
 2.5E4 25 H 9PME10

Henry's law (Pa m<sup>3</sup>/mol):  
 3.64E-5 H 9PME10

Octanol/water partitioning (log Kow):  
 -1.51 21 5,7,9 H 9PME10

Acid dissociation (pKa):  
 4.68 20 H 9PME10

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			0.15			9PMED9
			8			WEESA6 23:390-394(1975)
			9*			6RENCT 123: 1-164 (1992)

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	---	-----	-----
0.72	SANDY LOAM		H	9PMED9
21			H	9ACHB2 1983
2			H	9PME10
12*				

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----
	0.7	7.5	H	9PME10

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DAZOMET**

**CASRN: 533-74-4**

molecular formula: C<sub>5</sub>H<sub>10</sub>N<sub>2</sub>S<sub>2</sub>

molecular weight: 162.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	---	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
104 - 105				H	9PME10
Decomposition point (deg C):					
105				H	9PME10
Heat of vaporization (deg C):					

--RATE CONSTANTS--



2.1E05		40		H	9ACHB2 1983 ED.	
1.0E5		21		H	9MERCK	
Water solubility (ppm):	-temp-			-source-	-reference-	
1000*				E	ETOC DK 8:339-357,1989	
1230				R	EESADV	
		20		H	9FACHB	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
28		20		H	9ACHB2 2983 ED.	
Octanol/water partitioning (log Kow):						
2.63				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			40			ETOC DK 8:339-357,1989
			130			8AOACA
			129			8SWAMD
						EESADV
			87			EESADV
			70			JEVQAA 16:422-428,1987
			88*			
Field Dissipation half-life(days):						
value	test area		pH	source	reference	
180				E	SCSFAD 44:1-8,1985	
225				E	JEVQAA 16:422-428,1987	
203(180-225)*						
Half-life in soil:						
Soiltype	aerobic		anaerobic	source	reference	
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DCNA(DICLORAN) CASRN: 99-30-9**

molecular formula: C<sub>6</sub>H<sub>4</sub>CL<sub>2</sub>N<sub>2</sub>O<sub>2</sub>

molecular weight : 207.06

physical state : S

(L=liquid; G=gas; S=solid)

reference: 7HCHPH

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
191	-			H	7HCHPH
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*					
Photolysis (per day):					
0.3	SOIL			M	6NORAM
1.7	WATER			M	6NORAM
Vapor pressure (mPa):					
0.17*		20		H	9ACHB2 1983 ED.
Water solubility (ppm):	-temp-			-source-	-reference-
7*				H	9ACHB2

Organic solubility (ppm):

3.4E+4*	ACETONE	H	9PMED8
4.6E+3*	BENZENE	H	9PMED8
1.2E+4*	CHLOROFORM	H	9PMED8
6*	CYCLOHEXANE	H	9PMED8
4E+4*	DIOXANE	H	9PMED8

Henry's law (Pa m<sup>3</sup>/mol):

0.00503*	H	9ACHB2
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Octanol/water partitioning (log K<sub>ow</sub>):

2.8	M	6NORAM
-----	---	--------

Acid dissociation (pK<sub>a</sub>):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			412			E	CMSHAF 10:833-845,1981
			ca5000			H	9HERBH
			760			H	9PMED8
			1062			H	9PMED8
SAND			760			M	6NORAM
LOAMY SAND			660			M	6NORAM
LOAMY SAND			730			M	6NORAM
SANDY LOAM			1100			M	6NORAM
			1000*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
60(39-78)*					
39	FL			M	6NORAM
78	CA			M	6NORAM

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SAND	180*	30*	M	6NORAM
SANDY LOAM	360*		M	6NORAM

Comments:

SOIL SORPTION KOC VALUE 1000(412-1062)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DCPA(CHLORTHAL-DIMETHYL)**

**CASRN: 1861-32-1**

molecular formula: C<sub>10</sub>H<sub>6</sub>CL<sub>4</sub>O<sub>4</sub>

molecular weight : 331.97

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MERCK,10TH ED.P.409,1983

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
155 - 156				H	9ACHB2,2ND ED., 1987
Decomposition point(deg C):					
360 - 370				H	9ACHB2,2ND ED.,1987
Heat of vaporization(deg C):					
25		75		E	JCEAAX 26(3):237,1981
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE				M	6ISKBI
Photolysis (per day):					
STABLE	WATER			M	6ISKBI

STABLE SOIL M 6ISKBI

Vapor pressure (mPa):

0.33*	25		
3.3E-01	25	E	JAFCAU, 32(3):640,1984
2.43E+02	80	E	JCEAAX, 26(3):237,1981
4.13E+02	85	E	JCEAAX, 26(3):237,1981
6.44E+02	90	E	JCEAAX, 26(3):237,1981
1.02E+03	95	E	JCEAAX, 26(3):237,1981
1.70E+03	100	E	JCEAAX, 26(3):237,1981

Water solubility (ppm): -temp- -source- -reference-

0.5*	25	E	EESADV
		E	ETOC DK 8:339-357,1989
<5E-01	25	H	9PMED8,8TH ED.,p.184,1987

Organic solubility (ppm):

1.0E+5*	ACETONE	25	H	9PMED8,8TH ED.,p.184,1987
2.5E+5*	BENZENE	25	H	9PMED8,8TH ED.,p.184,1987
1.2E+5*	DIOXANE	25	H	9PMED8,8TH ED.,p.184,1987
1.7E+5*	TOLUENE	25	H	9PMED8,8TH ED.,p.184,1987
1.4E+5*	XYLENE	25	H	9PMED8,8TH ED.,p.184,1987

Henry's law (Pa m<sup>3</sup>/mol):

0.219*	25	M	6ISKBI
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Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			6456			R	EESADV, 4:32,1980
			4000			E	JEVQAA 16:422-428,1987
			6400			R	EESADV
			5600*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
30				H	9ACHB2 1983 ED.
60-100				H	9HERBH
100				E	JEFQAA 16:422-428,1987
18-37				R	8COHEN
>14-21				P	8EPAGR

50(14-100)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	18-48	26	M	6ISKBI

Comments:

SOIL SORPTION KOC VALUE 5600(4000-6456)

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DDD(TDE)

CASRN: 72-54-8

molecular formula: C<sub>14</sub>H<sub>10</sub>CL<sub>4</sub>

molecular weight: 320

physical state: S

(L=liquid; G=gas; S=solid)

reference: 6DEGRA

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)also hope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	---	-----	-----
Boiling point (deg C):					
193				H	6MONTG
Melting point (deg C):					



88-90, 109-112 H 6MONTG  
 Decomposition point (deg C):  
 Heat of vaporization (deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 6.78E-5 25 7 H 6MONTG  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 0.14(p,p')\* 30 C JAFCAU 20: 645-649 (1972)  
 0.62 25 H 6MONTG  
 Water solubility (ppm):  
 0.05(p,p')\* 25 R RREVAH 103: 1-59 (1988)  
 0.1(o,p') 25 R RREVAH 103: 1-59 (1988)  
 Organic solubility (ppm):  
 Henrys law (Pa m3/mol):  
 0.90(p,p') C JAFCAU 20: 645-649 (1972)  
 R RREVAH 103: 1-59 (1988)  
 Octanol/water partitioning (log Kow):  
 5.061-6.217 H 6MONTG  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 -----  
 231000(o,p') RREVAH 103: 1-59 (1988)  
 Field dissipation halflife(days):  
 value test area pH source reference  
 -----  
 2-15.6 YRS. H 6DEGRA  
 Halflife in soil:  
 soiltype aerobic anaerobic source reference  
 -----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DDE CASRN: 3424-82-6(o,p')  
 72-55-9(p,p')

molecular formula: C14H8CL4  
 molecular weight: 318  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 6DEGRA

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	---	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
88-90(p,p')				H	6MONTG
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
0.080(p,p')				H	6MONTG
Vapor pressure (mPa):					

0.86(p,p') E JAFCAU 18: 720-722 (1970)  
 2.09(p,p')\* 25 H 6MONTG  
 Water solubility (ppm):  
 0.14 25 R RREVAH 103: 1-59 (1988)  
 0.0013(o,p') R RREVAH 103: 1-59 (1988)  
 0.04 20 R RREVAH 103: 1-59 (1988)  
 0.0012 25 R RREVAH 103: 1-59 (1988)  
 0.014 R RREVAH 103: 1-59 (1988)  
 0.12(p,p') R RREVAH 103: 1-59 (1988)  
 0.040(p,p') 20 H 6MONTG  
 0.065(p,p')\* 24 H 6MONTG  
 Organic solubility (ppm):  
 4.40E4 N-OCTANOL 4 H 6MONTG  
 6.37E4 N-OCTANOL 20 H 6MONTG  
 7.31E4 TRIOLEIN 4 H 6MONTG  
 9.63E4 TRIOLEIN 12 H 6MONTG  
 1.06E5 TRIOLEIN 20 H 6MONTG  
 Henrys law (Pa m3/mol):  
 1.02 25 H 6MONTG  
 Octanol/water partitioning (log Kow):  
 5.69-6.96 H 6MONTG  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			381000(o,p')			RREVAH 103: 1-59 (1988)
			883000(p,p')			RREVAH 103: 1-59 (1988)

Field dissipation halflife(days):

value	test area	pH	source	reference
2-15.6 YRS.			H	6DEGRA

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DDT

CASRN: 50-29-2

molecular formula: C14H9CL5

molecular weight: 354.5

physical state: SOLID

reference: 9PME10

\*\*\*\*\*

Key to sources: Manufacturer, Review, Handbook, Experiment, Calculated, Unknown.

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference

Boiling point (deg C):

Melting point (deg C):

Decomposition point (deg C):

Heat of vaporization (deg C):

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

0.025		20		H	9PMED9
				E	PSSCAG 4: 137-147 (1973)

Water solubility (ppm):

0.001-0.04		20-25		R	ADCSAJ 111: 55-120 (1972)
------------	--	-------	--	---	---------------------------

0.0017				R	ESTHAG 14: 553-556 (1980)
--------	--	--	--	---	---------------------------

0.003		R	SCSFAD 44: 1-8 (1985)
0.0077(p,p')	20	C	CMSHAF 14: 609-622 (1985)
0.0012		R	PSSCBG 12: 37-44 (1981)
0.0055		E	CMSHAF 14: 993-1000 (1985)
		E	ESTHAG 20: 502-507 (1986)
		E	6ZWAAF 7: 169 (1984)
0.04		R	RREVAH 103: 1-59 (1988)

Organic solubility (ppm):  
 Henrys law (Pa m3/mol):  
 Octanol/water partitioning (log Kow):  
 Acid dissociation (pKa):

Soil sorption - Kd (?), Koc (?):

soiltype	temp.	Kd	Koc	pH	source	reference
-----	-----	--	---	--	-----	-----
			24000		C	6RENCT 99: 120-164 (1987)
					P	6USEPA
			240000		E	8AOACA
			23800		C	ESTHAG 14: 553-556 (1980)
			3890000		R	RREVAH 103: 1-59 (1988)
			RANGE		C	6GERST
			19953			
			TO 7585776			
			AV.426580			

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
2-15 YRS.			P	6USEPA
3800			C	6RENCT 99: 120-164 (1987)
				RREVAH 85: 139-147 (1983)
3837			C	SCSFAD 44: 1-8 (1985)
866,1386			C	8CREAM
495,770			C	8CREAM
770,187			C	8CREAM
144,2310			C	8CREAM
630,239			C	8CREAM
4331,990			C	8CREAM
2390(o,p')			C	8CREAM
1733,289			C	8CREAM
3465			C	8CREAM
110			E	ESTHAG 18: 514-518 (1984)
14-15 YRS			E	8BULEV 7: 348-352 (1972)

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DEMETON**

**CASRN: 8065-48-3**

**298-03-3(Demeton-O)**

**126-75-0(Demeton-S)**

molecular formula: C8H19O3PS2

molecular weight: 258.3

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
123("O"), 128("S")	BOTH AT 1 MM HG			H	9PMED9
Melting point (deg C):					
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
38("O")		20		H	9PMED9
35("S")		20		H	9PMED9
Water solubility (ppm):					
2000("O")		22		R	RREVAH 103: 1-59 (1988)
60("S")		22		R	RREVAH 103: 1-59 (1988)
Organic solubility (ppm):					
SOLUBLE IN MOST ORGANIC SOLVS.					
Henrys law (Pa m3/mol):					
4.9E-3("O"), 0.15("S")		20		H	9PMED9
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			70("S")			W
			387("O")			W

Field dissipation halflife(days):					
value	test area		pH	source	reference
8-23("O")				C	ADCSAJ 111: 55-120 (1972)
Halflife in soil:					
soiltype	aerobic	anaerobic		source	reference

Comments:  
MIXTURE OF TWO ISOMERS: DEMOTON S AND DEMETON O.

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: DESMEDIPHAM** **CASRN: 13684-56-5**  
molecular formula: C16H16N2O4  
molecular weight : 300.32  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
120				H	9ACHB2
Decomposition point(deg C):					
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

0.01*		22	5	M	6NORAM
0.84*		22	7	M	6NORAM
96*		22	9	M	6NORAM

Photolysis (per day):

0.13*	SOIL	<30		M	6NORAM
0.074*	WATER	22		M	6NORAM
1.54	AIR			M	6NORAM

Vapor pressure (mPa):

4E-04*		25		H	9ACHB2
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Water solubility (ppm):

		-temp-		-source-	-reference-
7		20		H	9HERBH
9*		20		H	9ACHB2 7TH ED.,1977
				M	6NORAM

Organic solubility (ppm):

2.85E05*	ACETONE			H	9PMED8
1.99E04*	DICHLOROMETHANE			H	9PMED8
20*	HEXANE			H	9PMED8
1.81E05*	ETHYL ACETATE			H	9PMED8
1.87E05*	METHANOL			H	9PMED8
1190*	TOLUENE			H	9PMED8

Henry's law (Pa m3/mol):

1.33E-5*		25		M	6NORAM
----------	--	----	--	---	--------

Octanol/water partitioning (log Kow):

3.52*				M	6NORAM
-------	--	--	--	---	--------

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LOAM			95			M	6NORAM
SAND			210			M	6NORAM
			150*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
<30*				H	9HERBH
				M	6NORAM

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	7.7*	<20	M	6NORAM

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DI-ALLATE

CASRN: 2303-16-4

molecular formula: C10H17CL2NOS

molecular weight: 270.2

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	---	-----	-----

Boiling point (deg C):

108 AT 0.25 MM HG				H	6MONTG
-------------------	--	--	--	---	--------

Melting point (deg C):

25 - 30				H	6MONTG
---------	--	--	--	---	--------

Decomposition point (deg C):

>200 H 6MONTG  
Heat of vaporization (deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):  
4.15E-4 H 6MONTG  
Photolysis (per day):  
Vapor pressure (mPa):  
20 25 H 9PMED7  
H 9ACHB2 1983  
Water solubility (ppm):  
14 25 H 9PMED7  
Organic solubility (ppm):  
MISCIBLE WITH MANY H 6MONTG  
Henry's law (Pa m<sup>3</sup>/mol):  
0.386 H 6MONTG  
Octanol/water partitioning (log Kow):  
3.29 H 6MONTG  
Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			1900			8SWAMD
			2660			6USEPA
			929			9KKDOH V.2:815-833 (1976)
			292			9KKDOH V.2:815-833 (1976)
			369			9KKDOH V.2:815-833 (1976)
			294			9KKDOH V.2:815-833 (1976)
			479			9KKDOH V.2:815-833 (1976)
			3296			ESTHAG 21:358-366 (1987)
			500*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	---	-----	-----
30			H	9PMED7
28-56			P	6USEPA
11-90			H	6DEGRA
28			H	7HOICHE
35-42	CLAY		E	JAFCAU 18:720-2(1970)
28	LOAM		E	JAFCAU 18:720-2(1970)
30			H	9HERBH 4th ED 1979
50,28,39,63			C	8CREAM
ca.30			H	9ACHB2 1983
21,25,28			E	WEREAT 10: 331-339
35,36			E	WEREAT 10: 331-339
30*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999  
CASRN: 333-41-5

name: DIAZINON

molecular formula: C<sub>12</sub>H<sub>21</sub>N<sub>2</sub>O<sub>3</sub>PS

molecular weight : 304.35

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2, 2ND ED., 1987

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
83	-	84	.0002 mmHg	H	9ACHB2,2ND ED.,1987	
Melting point(deg C):						
-						
Decomposition point(deg C):						
-		120		H	9ACHB2,2ND ED.,1987	
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.0578*		25	5	M	9CIBAG	
0.0050*		25	7	M	9CIBAG	
0.009*		25	9	M	9CIBAG	
Photolysis (per day):						
0.151*	SOIL**	25		M	9CIBAG	
0.136*	WATER***	25	7	M	9CIBAG	
Vapor pressure (mPa):						
.64E+1		20		R	9HRLCP(KIM, ET AL),1984	
.975E+1		20		R	9HRLCP(MARTI),1976	
.187E+2		20		H	9MERCK,10TH ED.,p.434,1983	
14.1*		22		M	9CIBAG	
Water solubility (ppm):						
40		30		E	JAFCAU 18:814-818,1970	
68.8		22		E	JPFCD2,VB14(6):627,1979	
40		20		H	9ACHB2,2ND ED.,1987	
60*		22		E	9CIBAG	
Organic solubility (ppm):						
MISCIBLE*	ACETONE,BENZENE	20		H	9PMED8	
MISCIBLE*	CYCLOHEXANE,ETHER	20		H	9PMED8	
MISCIBLE*	DICHLOROMETHANE	20		H	9PMED8	
MISCIBLE*	ETHANOL,OCTAN-1OL	20		H	9PMED8	
MISCIBLE*	TOLUENE	20		H	9PMED8	
Henry's law (Pa m <sup>3</sup> /mol):						
0.072*		25		M	9CIBAG	
Octanol/water partitioning (log Kow):						
3.02				R	9HRLCP(RAO&DAVIDSON),1980	
3.81				R	9HRLCP(BOWMAN&SANS),1983	
3.11				R	9HRLCP(BRIGGS),1981	
3.30*		25		U	9CIBAG	
3.14		20		E	JARJA9, 17(3):176,1983	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
SANDY LOAM		017.9	1539	2.0	5.4	9CIBAG
SILT LOAM		08.2	1007	1.4	7.0	9CIBAG
SILT LOAM		017.3	1653	1.8	6.5	9CIBAG
SAND		015.0	1842	1.4	7.0	9CIBAG
			1520*			
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
32				R	SCSFAD 44:1-8,1985	
7	SNDY LM(CA)			M	9CIBAG	
35				E	PSSCBG 19:101-112,198	
32-48				R	9EINSP PP.23-67	
54				R	8INSFO	
7(2.8-13)*				M	9CIBAG	

Half-life in soil:  
 Soiltype            aerobic            anaerobic      source          reference  
 SANDY LOAM            39\*            17\*            M            9CIBAG  
 Comments:  
 PHOTOLYSIS \*\* NATURAL LIGHT

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: DICAMBA** **CASRN: 1918-00-9**

molecular formula: C<sub>8</sub>H<sub>6</sub>CL<sub>2</sub>O<sub>3</sub>  
 molecular weight : 221.04  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)known, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
87	-	108		M	6SANDO
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25-35	5-9	M	6SANDO
Photolysis (per day):					
0.0035*	SOIL	25		M	6SANDO
0.018*	WATER	25		M	6SANDO
0.0138	WATER	25		M	6SANDO
Vapor pressure (mPa):					
1.66*				M	6SANDO
Water solubility (ppm):					
8310*		-temp-		-source-	-reference-
		25		M	6SANDO
3.6E5*(salt)		RT		H	9HERBH
7.2E5*(salt)		RT		H	9ACHB2 7TH ED.,1977
Organic solubility (ppm):					
2.6E+5*	DICHLOROMETHANE	25		H	9PMED8
1.18E+6*	DIOXANE	25		H	9PMED8
9.22E+5*	ETHANOL	25		H	9PMED8
1.3E+5*	TOLUENE	25		H	9PMED8
1.26E6	ACETONE	25		M	6SANDO
1.37E6	METHANOL	25		M	6SANDO
6.8E5	1-OCTANOL	25		M	6SANDO
5.16E5	CHLOROFORM	25		M	6SANDO
1.27E5	CS2	25		M	6SANDO
3.75E3	HEXANE	25		M	6SANDO
2.02E5	XYLENE	25		M	6SANDO
Henrys law (Pa m <sup>3</sup> /mol):					
4.48E-05*				M	6SANDO
Octanol/water partitioning (log Kow):					
0.54*				M	6SANDO
Acid dissociation (pKa):					
1.90				E	JAFCAU 26:289-292,1978
1.87		25		M	6SANDO
1.9*		25		R	ADCSAJ 111:55-120,1972
Soil sorption:					



soiltype	temp.	Kd	Koc	%om	pH	source	reference
			2			E	JEVQAA 16:422-428,1987
						R	9EINSP PP.23-67
			0			R	8AOACA
			8			C	8GLEAM
			3			C	8CREAM
			4			C	8SWAMD
			0.4			C	8SWAMD
			2			C	8SWAMD
KENYON LOAM		0.16	7.27	3.7	7.1	M	6SANDO
CLAY LOAM		0.10	3.45	4.9	6.9	M	6SANDO
SILT LOAM		0.53	21.20	4.2	5.1	M	6SANDO
SANDY LOAM		0.07	17.5	0.6	8.1	M	6SANDO
LOAM		0.21	17.5	2.1	7.3	M	6SANDO

13(7-21)\*

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
14				H	9ACHB2 1983 ED.
				E	JEVQAA 16:422-428,1987
				R	8INSFO
8				C	8GLEAM
				E	9EINSP PP.23-67
25				E	ETOCKD 8:339-357,1989

16(8-25)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
LOAM	31		M	6SANDO
SILT LOAM	19.8		M	6SANDO
LOAM, CLAY LOAM	4.4		M	6SANDO
	18*			

Comments:

WATER SOLUBILITY VALUE 3.6E5 = KSALT

### ARS PESTICIDE PROPERTIES last update May 1999

**name:DICHLORBENIL**

**CASRN: 1194-65-6**

molecular formula: C7H3CL2N

molecular weight : 172.02

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
270	-	760 mmHg		H	9PMED8
Melting point(deg C):					
145	-	146		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<5E-04*		22	5,7,9	M	7SCHER
Photolysis (per day):					
0.068*	WATER			M	7SCHER
Vapor pressure (mPa):					
2000		50		H	9HERBH

1.3E05	100	H	9HERBH
135	25	M	7SCHER
73*		H	9HERBH
Water solubility (ppm):	-temp-	-source-	-reference-
18	20	H	9ACHB2 1983 ED.
		H	9HERBH
		H	9ACHB2 7TH ED.,1977
25	20	H	9HERBH
21.2*	25	M	7SCHER
Organic solubility (ppm):			
1.0E+4* METHYLENE CHLORIDE	20	H	9PMED8
5.0E+4* ACETONE	20	H	9PMED8
<1E04 * DIOXANE	20	H	9PMED8
<1E04 * XYLENE	20	H	9PMED8
Henry's law (Pa m3/mol):			
0.59*	25	M	7SCHER
Octanol/water partitioning (log Kow):			
2.7*		M	7SCHER
Acid dissociation (pKa):			

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			224			9EINSP PP.23-67
			164			9HFEDP
			316			8CREAM
			235			EESADV
SILT LOAM		5.0	147	1.98	6.2	JAFCAU 18:97-99, 1970
SILT LOAM		6.0	138	2.97	4.6	JAFCAU 18:97-99, 1970
LMY FINE SND		1.9	211	0.52	5.0	JAFCAU 18:97-99, 1970
SILTY CLAY		6.7	126	3.08	5.7	JAFCAU 18:97-99, 1970
LMY FINE SND		3.7	137	1.57	5.4	JAFCAU 18:97-99, 1970
STONEY LOAM		7.8	139	3.26	4.9	JAFCAU 18:97-99, 1970
FINE SNDY LM		5.1	170	1.74	6.8	JAFCAU 18:97-99, 1970
GRAVELLY LOAM		4.4	142	1.80	4.6	JAFCAU 18:97-99, 1970
STONEY LOAM		6.0	107	3.26	4.6	JAFCAU 18:97-99, 1970
GRAVELLY SILT		4.2	162	1.51	6.3	JAFCAU 18:97-99, 1970
SILT LOAM		4.5	155	1.69	5.9	JAFCAU 18:97-99, 1970
GRAVELLY LOAM		5.3	171	1.80	4.8	JAFCAU 18:97-99, 1970
			171*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
23 SEDIMENT	FL(AQU)		M	6UNIRO
69 WATER	OR(AQU)		M	6UNIRO
39 SEDIMENT	OR(AQU)		M	6UNIRO
60-180			H	9ACHB2 1983 ED.
30-120			H	9HERBH
3-23			E	JEVQAA 16:422-428,1987
6-26			R	8FULLE
28-140			M	7SCHER

55(3-180)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DICHLONE

CASRN: 117-80-6

molecular formula: C10H4CL2O2

molecular weight: 227.06

physical state: S

(L=liquid; G=gas; S=solid)  
reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
Boiling point (deg C):					
275 AT 2 MM HG				H	9PME10
Melting point (deg C):					
193				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.01				H	7HOCHE
Water solubility (ppm):					
0.1*		25		H	9PMED9
1.0		25		H	6MONTG
Organic solubility (ppm):					
MODERATELY SOLUBLE (CA.4E4 PPM)					
IN MANY ORGANIC SOLVENTS					
Henry's law (Pa m3/mol):					
0.023				H	7HOCHE
				H	9PMED9
Octanol/water partitioning (log Kow):					
5.62				H	6MONTG
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			9500			9PMED9

Field dissipation halflife(days):

value	test area	pH	source	reference
ca.2	MOIST SOIL		P	6USEPA
ca.90	DRY SOIL		P	6USEPA
82*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DICHLORMID**

**CASRN: 37764-25-3**

molecular formula: C8H11CL2NO

molecular weight: 208.1

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED9

---

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
5.0 - 6.5 (TECH.)				H	9PME10
Decomposition point (deg C):					
>100				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
800		25		H	9PMED9
Water solubility (ppm):					
5000		20		H	9PMED9
Organic solubility (ppm):					
MISCIBLE WITH ACETONE,					
ETHANOL AND XYLENE					
Henry's law (Pa m <sup>3</sup> /mol):					
0.033				H	9PMED9
Octanol/water partitioning (log Kow):					
1.84				H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
	25		49			9PMED9
			40*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
8			H	9PMED9
3-9			E	WEESA6 35:289-294(1987)
7*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:1,3 DICHLOROPROPENE**

**CASRN: 542-75-6**

molecular formula: C<sub>3</sub>H<sub>4</sub>CL<sub>2</sub>

molecular weight : 110

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
108	- (104.1 CIS; 112.6 TRANS)			H	9ACHB2
				M	6DOWCH
Melting point(deg C):					
50	-			M	9ACHB2
Decomposition point(deg C):					

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0613*	20	5-9	E	PSSCBG 19:235-242,1987
0.2236	30	5-9	E	PSSCBG 19:235-242,1987
0.0136	10	5-9	E	PSSCBG 19:235-242,1987

Photolysis (per day):

1.386*	AIR	CIS	C	AECTCV 13:691-700,1984
2.38*	AIR	TRANS	C	AECTCV 13:691-700,1984

Vapor pressure (mPa):

3.7E+6*	20	H	9ACHB2, 1983 ED.
4.56E6 (CIS)	25	M	6DOWCH
3.06E6 (TRANS)	25	M	6DOWCH

Water solubility (ppm):

	-temp-	-source-	-reference-
1000	20	H	9ACHB2 1983 ED.
		H	9ACHB2 7TH ED.,1977
2250*	20	M	7DOWOL
2180	25	M	6DOWCH
2320	25	M	6DOWCH

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

180* (CIS)	25	M	6DOWCH
106 (TRANS)	25	M	6DOWCH

Octanol/water partitioning (log Kow):

2.06*	25	M	6DOWCH
2.03*	25	M	6DOWCH

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			68			E	JEVQAA 16:422-428,1987
			CIS 798			C	8SWAMD
			TRAN1379			R	9EINSP pp.23-67
			98			R	EESADV
			32			M	7DOWOL
			66*		32-98		

CLAY(HI)	1.09	M	6DOWCH	
CLAY(TX)	0.42	M	6DOWCH	
SANDFORD SND(FL)	0.32	M	6DOWCH	
QUINCY(FL)	0.23	M	6DOWCH	
FUQUAY(FL)	1.66-2.84	259-444	M	6DOWCH

Field Dissipation half-life(days):

value	test area	pH	%om	source	reference
18(3-84)*	NORFOLK(FL)			M	6DOWCH
10				R	8EETNS
16				E	JEVQAA 16:422-428,1987
0.6-5.6	SAND(CA)			M	6DOWCH

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
FUQUAY LS	<14*		E	JPFCD2 B24(6):661-676,1989

Comments:

OCTANOL WATER VALUE 2.06 = CIS, VALUE 2.03 = TRANS

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ARS PESTICIDE PROPERTIES last update May 1999

name:DICHLORPROP

CASRN: 120-36-5

molecular formula: C<sub>9</sub>H<sub>8</sub>CL<sub>2</sub>O<sub>3</sub>

molecular weight : 235.1

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
117.5	-	118.1		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5-9	M	9RHPOU
Photolysis (per day):					
Vapor pressure (mPa):					
<0.013	*	20			
<1.3E-2		20		H	9ACHB2 1983 ED.
0.4		20		H	9ACHB2
Water solubility (ppm):					
710		28		H	9HERBH
350*		20		R	EESADV
				H	9ACHB2 1983 ED.
				H	9ACHB2
Organic solubility (ppm):					
5.95E+5*	ACETONE	20		H	9PMED8
8.5E+4*	BENZENE	20		H	9PMED8
5.1E+5*	ISOPROPANOL	20		H	9PMED8
2.1E+3*	KEROSENE	20		H	9PMED8
6.9E+4*	TOLUENE	20		H	9PMED8
5.1E+4*	XYLENE	20		H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
8.8E-6*		20		M	9RHPOU
Octanol/water partitioning (log Kow):					
3.0				M	9RHPOU
Acid dissociation (pKa):					
2.86*				E	JAFCAU 26:289-292,1978
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			170*		
					reference
					EESADV
Field Dissipation halflife(days):					
value	test area		pH	source	reference
8-12				C	8CREAM
10*				R	RREVAH 80:65-135,1981
Halflife in soil:					
Soiltype	aerobic	anaerobic		source	reference
Comments:					

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DICHLORVOS(DDVP)** CASRN: 62-73-7  
 molecular formula: C<sub>4</sub>H<sub>7</sub>CL<sub>2</sub>O<sub>4</sub>P  
 molecular weight: 221  
 physical state: L  
 (L=liquid; G=gas; S=solid)  
 reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
120 AT 14 MM HG				H	6MONTG
Melting point (deg C):					
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
2.16			7	H	6MONTG
33.26			8	H	6MONTG
0.022**			4	H	9PME10
0.239**			7	H	9PME10
0.347**			9	H	9PME10
Photolysis (per day):					
2.295				H	9MONTG
Vapor pressure (mPa):					
2100		25		H	9PME10
1600*		20		E	PSSCAG 4: 137-147 (1973)
4260		32		P	6EPAPF vol. II
Water solubility (ppm):					
8000*		20		H	9PME10
10000		20		H	9ACHB2 1983
Organic solubility (ppm):					
MISCIBLE WITH MANY ORGANIC SOLV.					
Henry's law (Pa m <sup>3</sup> /mol):					
0.044		20		H	9PME10
		20		E	PSSCAG 4: 137-147 (1973)
Octanol/water partitioning (log Kow):					
1.9				H	9PME10
1.423				H	9PME10
1.40-2.29				H	6MONTG
Acid dissociation (pKa):					

Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			27.5			RREVAH 103: 1-59 (1988)
			151			9EINSP pp. 23-67 (1980)
			50*			6MONTG

Field dissipation half-life(days):					
value	test area		pH	source	reference
0.08-0.33				P	6EPAPF vol. II
0.19	PH 9.1			E	6EXTOX
2	PH 1			R	6EXTOX
2	PH 4.7			E	6GHENT 49/3B:1231-239(1984)
<1	PH 4.1			E	6GHENT 49/3B:1231-239(1984)
<1				E	JAFCAU 16: 598-601 (1968)
0.5*				W	

Half-life in soil:					
soiltype	aerobic	anaerobic		source	reference

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: DICLOFOP-ME

CASRN: 51338-27-3

molecular formula: C16H14CL2O4

molecular weight : 341.2  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
39	-	41		H	9ACHB2		
Decomposition point(deg C):							
-		> 400		M	8HOECH		
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
1.91E-3		25	5	M	8HOECH		
2.19E-2		25	7	M	8HOECH		
1.33		25	9	M	8HOECH		
Photolysis (per day):							
6.93E-3	SOIL			M	8HOECH		
3.15E-2	WATER			M	8HOECH		
Vapor pressure (mPa):							
0.25*		20		M	8HOECH		
7.7		50		M	8HOECH		
.03		20		H	9HERBH		
0.16		30		H	9HERBH		
0.466		25		M	8HOECH		
Water solubility (ppm):							
3		22		H	9ACHB2 1983 ED.		
0.8* (pH7)		25		M	8HOECH		
Organic solubility (ppm):							
2.5E+6*	ACETONE	20		H	9PMED8		
2.3E+6*	DIETHYL ETHER	20		H	9PMED8		
1.1E+5*	ETHANOL	20		H	9PMED8		
6.E+4*	LT. PETROLEUM	20		H	9PMED8		
2.5E+7*	XYLENE	20		H	9PMED8		
Henry's law (Pa m3/mol):							
0.196 *		25		M	8HOECH		
Octanol/water partitioning (log Kow):							
4.5775				M	8HOECH		
Acid dissociation (pKa):							
3.43*				M	8HOECH		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			4.85E4			R	8EETNS
			1.6E4*			M	8HOECH
SILT LOAM			14000			M	8HOECH
SAND			14906			M	8HOECH
SILT LOAM			20558			M	8HOECH
HEAVY CLAY			12722			M	8HOECH
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
2						M	8HOECH
37						M	8HOECH
20(2-37)*							





52 CA(SNDY LOAM) M 6ROHMH  
 45 MS(SNDY LOAM) M 6ROHMH  
 68 CA(LMY SAND) M 6ROHMH  
 62 CA(SNDY LOAM) M 6ROHMH  
 57(45-68)\*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SILT LOAM 60.8 16\* M 6ROHMH  
 Comments:  
 AEROBIC VALUE 203=PH7.8  
 ANAEROBIC VALUE 16=PH7.8

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: DICROTOPHOS CASRN: 141-66-2**

molecular formula: C8H16NO5P  
 molecular weight : 237.2  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
130	-	0.1mmHg		H	9PME10		
400		760mmHg		H	9PME10		
Melting point(deg C):							
-							
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
.0059*		25	5	M	9DUPON		
.0096*		25	7	M	9DUPON		
.025*		25	9	M	9DUPON		
Photolysis (per day):							
STABLE*	SOIL	25	5.7	M	9DUPON		
0.014*	WATER	25	7	M	9DUPON		
Vapor pressure (mPa):							
21.3*		25		M	9DUPON		
9.3		20		H	9ACHB2		
Water solubility (ppm):							
MISC.*		-temp-		-source-	-reference-		
		25		M	9DUPON		
Organic solubility (ppm):							
MISCIBLE* ACETONE				H	9PMED8		
MISCIBLE* METHANOL				H	9PMED8		
MISCIBLE* 2-PROPANOL				H	9PMED8		
Henrys law (Pa m3/mol):							
5.1E-6*		25		M	9DUPON		
Octanol/water partitioning (log Kow):							
-0.5*		21	pH7	M	9DUPON		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			20			C	8GLEAM
			64*				
SAND(GA)	25	0.1	16	1.1	6.7	M	9DUPON

SANDY LOAM(CA)	25	0.4	53	1.3	6.4	M	9DUPON
SILTY LOAM(IL)	25	1.0	43	4.0	5.7	M	9DUPON
CLAY LOAM(MS)	25	3.6	188	3.3	5.9	M	9DUPON

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
20				M	9DUPON
8(1-20)*					
<1	FT.VALLEY(GA)	6.8	1.2	M	9DUPON
2	GREENVILLE(MS)	6.2	0.6	M	9DUPON

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM(CA)	3*	7	M	9DUPON

Comments:

SOIL SORPTION KOC VALUE 64(16-188); AEROBIC 3=PH5,7;  
ANAEROBIC 7=PH5,7

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DIELDRLIN CASRN: 60-57-1**

molecular formula: C12H8CL6O  
molecular weight: 380.9  
physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 9PMED7

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
175 - 176				H	6MONTG
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
1.81E-4		25	7	H	6MONTG
Photolysis (per day):					
0.108				H	6MONTG
Vapor pressure (mPa):					
0.4		20		H	9PMED9
0.05				R	RREVAH 103: 1-59 (1988)
0.024*		20		H	6MONTG
Water solubility (ppm):					
0.186		20		H	9PMED7
				H	9ACHB2 1983
0.25		25		H	9PMED9
0.08		10			
0.14*		20		H	6MONTG
0.20		30		H	6MONTG
Organic solubility (ppm):					
4.00E5	BENZENE	20		H	6MONTG
3.80E5	CCL4	20		H	6MONTG
4.80E5	METHYLENE CHLORIDE	20		H	6MONTG
7.26E4	TRIOLEIN	20		H	6MONTG
Henrys law (Pa m3/mol):					



1160 ACETONITRILE H 9PME10  
 4770 N-OCTANOL H 9PME10  
 98320 TETRAHYDROFURAN H 9PME10  
 Henrys law (Pa m3/mol):  
 5.51 H 9PME10  
 Octanol/water partitioning (log Kow):  
 >3.50 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			600			
SILTY LOAM		384	18346	3.6	6.1	9PME10
LOAMY SAND		196	67424	0.5	7.5	9PME10
SILTY CLAY LOAM		269	3921	11.8	6.8	9PME10
SANDY LOAM		311	41148	1.3	6.9	9PME10
			33000*			

Field dissipation halflife(days):

value	test area	pH	source	reference
300			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DIETHATYL-ET CASRN: 58727-55-8**  
 molecular formula: C16H22CLNO3  
 molecular weight : 311.8  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
49	50			H	9ACHB2
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.43*		30		H	9HERBH
		0		H	9ACHB2
1.33		40		H	9HERBH
46		50		H	9HERBH
Water solubility (ppm):					
105*		25		H	9ACHB2
120		25		M	6NORAM
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					

0.00128\* H 9HERBH  
 Octanol/water partitioning (log Kow):  
 3.6 25 M 6NORAM  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 100(78-300)\* M 6NORAM

Field Dissipation halflife(days):  
 value test area pH %om source reference  
 14-21 H 9HERBH  
 20(10-24)\* M 6NORAM

Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 9 6 M 6NORAM

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DIFENZOQUAT ME-SULFATE SALT CASRN: 43222-48-6**

molecular formula: C18H20N2O4S  
 molecular weight : 360.4  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference:9AMCY1

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
146	-	148		M	9AMCY1
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		25	5,7,9	M	9AMCY1
Photolysis (per day):					
Vapor pressure (mPa):					
<0.013		35			9AMCY1
Water solubility (ppm):					
		-temp-		-source-	-reference-
765000		25		H	9ACHB2 1983 ED.
760000		25		H	9FACHB
780000		37		H	9FACHB
850000		56		H	9FACHB
762000		23		H	9HERBH
817000*		25		M	9AMCY1
Organic solubility (ppm):					
588000*	METHANOL			H	9PMED8
71200*	METHYLENE CHLORIDE			H	9PMED8
9750*	ACETONE			H	9PMED8
INSOL.*	XYLENE,HEXANE			H	9PMED8
23000*	PROPAN-2-OL				
Henry's law (Pa m3/mol):					
<5.7E-11				M	9AMCY1
Octanol/water partitioning (log Kow):					
4.45*	ph 5	temp=25		M	9AMCY1

1.20*	6			M	9AMCY1
0.238*	7			M	9AMCY1
0.374*	8			M	9AMCY1
0.479*	9			M	9AMCY1

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
SILT LOAM	25	1093	6.29E+5	3.0	5.2	9AMCY1
SANDY CLY LOAM	25	636	3.53E+4	3.1	6.4	9AMCY1
CLAY LOAM	25	2680	9.24E+4	5.0	7.7	9AMCY1
SANDY LOAM	25	181	3.12E+4	1.0	6.9	9AMCY1
			5.5E+4*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
90			H	9ACHB2 1983 ED.
120			H	9HERBH
10-89	SOIL AZ		M	9AMCY1
87(10-120)*				

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	N.D.	N.D.	M	9AMCY1

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: DIFLUBENZURON**

**CASRN: 35367-38-5**

molecular formula: C14H9CLF2N2O2

molecular weight : 310.69

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					

Melting point(deg C):

230	-	232		H	9ACHB2
-----	---	-----	--	---	--------

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0046*		22	5.7	M	7SCHER
0.016*		22	9	M	7SCHER

Photolysis (per day):

0.1 OD*	WATER			M	7SCHER
---------	-------	--	--	---	--------

Vapor pressure (mPa):

<.03		50		H	9ACHB2
1.2E-04*		25		M	7SCHER

Water solubility (ppm):

	-temp-	-source-	-reference-
0.08*	25	M	7SCHER
		C	8GLEAM

Organic solubility (ppm):

6.5E+3*	ACETONE	20-25	M	7SCHER
2E+3*	ACETONITRILE	20-25	M	7SCHER
2.4E+4*	DIOXANE	20-25	M	7SCHER
1.04E+5*	DIMETHYFORMAMIDE	20-25	M	7SCHER

1.2E+5*	DIMETHYLSULFOXIDE	20-25		M	7SCHER	
1E+3*	METHANOL	20-25		M	7SCHER	
6E+2*	DICHLOFOMETHANE	20-25		M	7SCHER	
Henry's law (Pa m <sup>3</sup> /mol):						
4.7E-04*		25		M	7SCHER	
Octanol/water partitioning (log Kow):						
3.89*				M	7SCHER	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			6790			EESADV
			10600			8GLEAM
			8700*			EESADV
Field Dissipation halflife(days):						
value	test area	pH		source	reference	
3-4				H	9FACHB	
9				C	8GLEAM	
<2-7				P	8EPAGR	
2-6				M	7SCHER	
7-35				M	7SCHER	
8(2-35)*						
Halflife in soil:						
Soiltype	aerobic	anaerobic		source	reference	
VARIOUS TYPES	4	4		M	7SCHER	
Comments:						

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: DIMETHIPIN** **CASRN: 55290-64-7**  
molecular formula: C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>S<sub>2</sub>  
molecular weight : 210.3  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
167	-	169		M	6UNIRO
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
6.9E-5*		25	3	M	6UNIRO
1.5E-5*		25	6	M	6UNIRO
7.9E-4*		25	9	M	6UNIRO
Photolysis (per day):					
9.07E-3*	SOIL	25		M	6UNIRO
0.017*	WATER	25	5-9	M	6UNIRO
Vapor pressure (mPa):					
0.051*		25		M	6UNIRO
Water solubility (ppm):					
4600*		-temp-		-source-	-reference-
3000		25		M	6UNIRO
		25		H	9ACHB2



Organic solubility (ppm):

1.8E+5*	ACETONITRILE	25	M	6UNIRO
11.5*	HEXANE	25	M	6UNIRO
10.7*	METHANOL	25	M	6UNIRO
794*	OCTANOL	25	M	6UNIRO
9E+3*	TOLUENE	25	M	6UNIRO

Henry's law (Pa m<sup>3</sup>/mol):

2.3E-6*		25	M	6UNIRO
---------	--	----	---	--------

Octanol/water partitioning (log Kow):

-0.174			M	6UNIRO
--------	--	--	---	--------

Acid dissociation (pKa):

10.88*		25	M	6UNIRO
--------	--	----	---	--------

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
CLAY		0.092	3.27	4.8	5.9	6UNIRO
SAND		<0.01	<2	0.9	6.5	6UNIRO
SANDY LOAM		<0.01	<1	3.1	6.3	6UNRIO
LOAM		<0.01	<1	0.8	6.7	6UNIRO

3\*

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
168	GA(COTTON)			M	6UNIRO
192	MS(COTTON)			M	6UNIRO

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	413*		M	6UNIRO

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DIMETHIRIMOL

CASRN: 5221-53-4

molecular formula: C11H19N3O

molecular weight: 209.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
102				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE				H	9PME10
Photolysis (per day):					
0.099	WATER			H	9PME10
Vapor pressure (mPa):					
1.46		30		H	9PMED9
Water solubility (ppm):					
1200		25		H	9PMED9
				H	9ACHB2 1983
Organic solubility (ppm):					
1.20E6	CHLOROFORM	25		H	9PME10

3.60E5 XYLENE 25 H 9PME10  
 6.5E4 ETHANOL 25 H 9PME10  
 4.5E4 ACETONE 25 H 9PME10  
 Henrys law (Pa m3/mol):  
 2.55E-4 H 9PME10  
 Octanol/water partitioning (log Kow):  
 1.9 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 -----  
 34 9PMED9  
 87 6GERST  
 151 6GERST  
 155 6GERST  
 174 6GERST  
 186 6GERST  
 219 6GERST  
 240 6GERST  
 309 6GERST  
 347 6GERST  
 90\* W

Field dissipation halflife(days):  
 value test area pH source reference  
 -----  
 120 SANDY SOIL, H 9PMED9  
 GREENHOUSE

Halflife in soil:  
 soiltype aerobic anaerobic source reference  
 -----

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**  
**name: DIMETHOATE CASRN: 60-51-5**

molecular formula: C5H12NO3PS2  
 molecular weight : 229.3  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9MERCK

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
 Boiling point(deg C):  
 -  
 Melting point(deg C):  
 52 - 52.5 H 9MERCK  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 0.0044 25 5 M 9AMCY1  
 0.0010\* 25 7 M 9AMCY1  
 0.154 25 9 M 9AMCY1  
 Photolysis (per day):  
 0.058 SOIL H 9PME10

Vapor pressure (mPa):

1.1	20	H	9ACHB2 1983 ED.
0.37	20	E	PSSCBG 4:137-147,1973
0.24*	25	M	9AMCY1
1.55	35	M	9AMCY1

Water solubility (ppm):

	-temp-	-source-	-reference-
23800 (pH7)	25	H	9PME10
25000	21	H	9ACHB2 1983 ED.
3.98E+4*	25	M	9AMCY1

Organic solubility (ppm):

>3E05 *	ALCS,BENZENE	20	H	9PMED8
>3E05 *	CHLOROFORM	20	H	9PMED8
>3E05 *	DICHLOROMETHANE	20	H	9PMED8
>5E04 *	CCL4,SATD,HC'S	20	H	9PMED8
>5E04 *	OCTAN-1-OL	20	H	9PMED8

Henry's law (Pa m<sup>3</sup>/mol):

1.38E-6 *	25	M	9AMCY1
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Octanol/water partitioning (log Kow):

5.06 *		M	9AMCY1
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Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			9			C	8GLEAM
			17			R	EESADV
SAND		0.06	12	0.9		M	9AMCY1
SANDY LOAM		0.30	34	1.5		M	9AMCY1
SILT LOAM		0.57	28	3.5		M	9AMCY1
LOAM		0.74	17	7.4		M	9AMCY1
			20*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
7*				C	8GLEAM

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	2-4		H	9PME10
	3*			

Comments:

SOIL SORPTION KOC VALUE 15(9-20)

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DIMETHYLARSINIC ACID**

**CASRN: 75-60-5**

molecular formula: C<sub>2</sub>H<sub>7</sub>AsO<sub>2</sub>

molecular weight: 138.0

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

192 - 198

H

9PME10

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):  
Vapor pressure (mPa):  
0 W  
Water solubility (ppm):  
2000000 25 H 9PMED7  
H 9MERCK 1989  
667000 H 9HERBH 4th ED 1979  
880000 P 6USEPA  
Organic solubility (ppm):  
Henry's law (Pa m<sup>3</sup>/mol):  
Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):  
6.29 H 9PMED7  
6.19 E ADCSAJ 111: 55-120 (1972)  
6.288 E JAFCAU 24: 717-721 (1976)  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
-----  
6010 6USEPA  
2759 6USEPA  
17920 6USEPA  
1883 6USEPA  
8276 6USEPA  
1000\* W  
Field dissipation half-life(days):  
value test area pH source reference  
-----  
20 E JAFCAU 30: 580-585 (1982)  
ca.100 E ESTHAG 7: 47-50 (1973)  
ca.225 E ESTHAG 7: 47-50 (1973)  
>125 E ESTHAG 7: 47-50 (1973)  
50\*  
Half-life in soil:  
soiltype aerobic anaerobic source reference  
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Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DINITRAMINE CASRN: 29091-05-2**

molecular formula: C<sub>11</sub>H<sub>13</sub>F<sub>3</sub>N<sub>4</sub>O<sub>4</sub>

molecular weight: 322.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
98 - 99				H	9PME10
Decomposition point (deg C):					
>200				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					

Vapor pressure (mPa):  
 0.479 25 H 9PMED9  
 H 9FACHB 1990  
 H 9ACHB2 1983

Water solubility (ppm):  
 1.1\* 25 H 9PMED9  
 1 20 H 9ACHB2 1983

Organic solubility (ppm):  
 1.04E6 ACETONE 20 H 9PME10  
 6.70E5 CHLOROFORM 20 H 9PME10  
 4.73E5 BENZENE 20 H 9PME10  
 2.27E5 XYLENE 20 H 9PME10  
 1.07E5 ETHANOL 20 H 9PME10  
 6700 N-HEXANE 20 H 9PME10

Henry's law (Pa m3/mol):  
 0.140 25 H 9PMED9

Octanol/water partitioning (log Kow):  
 4.30 H 9PME10

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			34400			9PMED9
			4000			6ECBEN 4: 26-38 (1980)
			3981			6GERST
			4571			6GERST
			358			WEESA6 27: 450-455 (1979)
			133			WEESA6 27: 450-455 (1979)
			336			WEESA6 27: 450-455 (1979)
			568			WEESA6 27: 450-455 (1979)
			336			WEESA6 27: 450-455 (1979)
			194			WEESA6 27: 450-455 (1979)
			115			WEESA6 27: 450-455 (1979)
			223			WEESA6 27: 450-455 (1979)
			202			WEESA6 27: 450-455 (1979)
			4000*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
10-64			H	9PMED9
50-70	CANADA, SPRING		H	7HOICHE
150	WINTER		H	7HOICHE
33	GREENHOUSE		H	7HOICHE
23-30			H	9HERBH 4TH ED 1979
<8			C	8CREAM
25			E	JAFCAU 20:1222-4(1972)
ca.150		5.3	P	6EPAPF VOL. II
30*			H	9ACHB2 1983

Half-life in Soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: DINOCA

CASRN: 39300-45-3

molecular formula: C18H24N2O6

molecular weight : 364.41

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
138	- 140	0.05mmHg		H	9ACHB2	
Melting point(deg C):						
-						
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.003		25	5	H	9PME10	
0.297		25	7	H	9PME10	
0.978		25	9	H	9PME10	
Photolysis (per day):						
Vapor pressure (mPa):						
0.0053*		20		H	9ACHB2	
0.0075		25		H	9PME10	
Water solubility (ppm):						
<0.1		-temp-		-source-	-reference-	
				H	9PME10	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
>0.019		20		H	9ACHB2	
Octanol/water partitioning (log K <sub>ow</sub> ):						
Acid dissociation (pK <sub>a</sub> ):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			630			8CREAM
			550*			CMSHAF 10:833-845,1981
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
5(4.5-6.1)*				H	9PME10	
Halflife in soil:						
Soiltype	aerobic		anaerobic	source	reference	
Comments:						

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: DINOSEB**

**CASRN: 88-85-7**

molecular formula: C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O<sub>5</sub>

molecular weight: 240.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
38 - 42				H	9PMED8
Decomposition point (deg C):					
Heat of vaporization (deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

1.33E5	151	P	6EPADW
6.65		P	6USEPA
0.13*	RT	E	ADCSAJ 111: 55-120 (1972)
183	60	H	9PMED9

Water solubility (ppm):

100	RT	H	9PMED9
52	25	P	6EPADW
50		C	8GLEAM
52		P	6USEPA
52*	20	H	6MONTG

Organic solubility (ppm):

4.80E5	ETHANOL	20	H	6MONTG
2.70E5	N-HEPTANE	20	H	6MONTG

Henry's law (Pa m<sup>3</sup>/mol):

6.01E-4	20	H	6MONTG
	RT	E	ADCSAG 111: 55-120 (1972)

Octanol/water partitioning (log Kow):

2.29	H	6MONTG
------	---	--------

Acid dissociation (pKa):

4.62*	H	6CPCRE
4.4	E	ADCSAJ 111: 55-120 (1972)

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			490			8GLEAM
			124			6ECBEN 4: 26-38 (1980)
			2720			6FLORI
			5900			ETOC DK 8: 339-357 (1989)
			213			ESTHAG 21: 358-366 (1987)
			30*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
23			C	8GLEAM
34-111			P	6USEPA
43-123			R	ARSPPD
30			C	ETOC DK 8: 339-357 (1989)
4-11			H	9ACHB2 1983
30*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

LOW KOC (30) BASED ON ANIONIC NATURE (HIGH SOLUBILITY AND LOW V.P. ABOVE PH 5).

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: DIOXACARB

CASRN: 6988-21-2

molecular formula: C11H13NO4

molecular weight: 223.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
114 - 115				H	9PMED8	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.196	WATER	20	5	H	9PMED8	
0.676	WATER	20	7	H	9PMED8	
1.109	WATER	20	9	H	9PMED8	
Photolysis (per day):						
Vapor pressure (mPa):						
0.04		20		H	9PMED9	
Water solubility (ppm):						
6000		20		H	9PMED9	
Organic solubility (ppm):						
2.80E5	ACETONE	20		H	9PMED8	
2.35E5	CYCLOHEXANONE	20		H	9PMED8	
5.50E5	DIMETHYLFORMAMIDE	20		H	9PMED8	
8.0E4	ETHANOL	20		H	9PMED8	
9000	XYLENE	20		H	9PMED8	
Henry's law (Pa m3/mol):						
1.49E-6		20		H	9PMED8	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			40			
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
2				H	9PMED9	
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	
Comments:						

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: DIPROPETRYN**

**CASRN: 4147-51-7**

molecular formula: C11H21N5S

molecular weight : 255.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

---



Melting point(deg C):  
 104 - 106 H 9ACHB2,2ND ED.,1987  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 STABLE\* 25 5-9 M 9CIBAG  
 Photolysis (per day):  
 0.396\* SOIL 7.7 M 9CIBAG  
 2.89\* WATER 25 M 9CIBAG  
 Vapor pressure (mPa):  
 0.097\* 20 M 9CIBAG  
 Water solubility (ppm): -temp- -source- -reference-  
 16\* 20 M 9CIBAG  
 Organic solubility (ppm):  
 2.7E+5\* ACETONE 20 H 9ACHB2,2ND ED.,1987  
 3.0E+5\* DICHLOROMETHANE 20 H 9ACHB2,2ND ED.,1987  
 2.2E+5\* TOLUENE 20 H 9ACHB2,2ND ED.,1987  
 1.9E+5\* METHANOL 20 H 9ACHB2,2ND ED.,1987  
 1.3E+5\* N-OCTANOL 20 H 9ACHB2,2ND ED.,1987  
 9.0E+3\* HEXANE 20 H 9ACHB2,2ND ED.,1987  
 Henrys law (Pa m3/mol):  
 0.00155\* 20 M 9CIBAG  
 Octanol/water partitioning (log Kow):  
 3.45\* 25 M 9CIBAG  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 1170 EESADV  
 950 EESADV  
 1170 8SWAMD  
 1180 8SWAMD  
 LOAM 024.6 882 4.8 5.9 9CIBAG  
 SAND 01.5 430 0.6 7.7 9CIBAG  
 SANDY LOAM 05.0 717 1.2 7.6 9CIBAG  
 SANDY LOAM 08.9 383 4.0 7.8 9CIBAG  
 860\*

Field Dissipation halflife(days):  
 value test area pH source reference  
 10-30 W  
 20(10-30)\*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SAND (pH7.7) 117 M 9CIBAG  
 Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DIQUAT DIBROMIDE** CASRN: 85-00-7  
 molecular formula: C12H12BR2N2  
 molecular weight : 344.06  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
300	-			H	9ACHB2
Decomposition point(deg C):					
300	-			H	9PMED8
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7	M	8ICIAG
V.SLOW*		25	9	M	8ICIAG
Photolysis (per day):					
Vapor pressure (mPa):					
NONVOLAT*		NR		H	9HERBH
		NR		H	9ACHB2
Water solubility (ppm):					
6.77E05				M	8VALUS
7.18E05*		20		M	8ICIAG
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					
-4.6*		20		M	8ICIAG 03/01/90
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			>10000		
			205-691		
			500*		
Field Dissipation halflife(days):					
value	test area		pH	source	reference
Halflife in soil:					
Soiltype	aerobic	anaerobic		source	reference
	>1000			M	8VALUS
Comments:					
SOIL SORPTION KOC=500(205-1000); WATER SOLUBILITY 7.18E05 AT pH7.2.					

---

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DISULFOTON**

**CASRN: 298-04-4**

molecular formula: C8H19O2PS3

molecular weight : 274.4

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9MILES

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
62	-	0.01mmHg		H	9PMED8, 8TH ED., p.320, 1987
Melting point(deg C):					
108	-			R	9HRLCP
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.023*		40	4	M	6MILES

0.0299*		40	7	M	6MILES
0.0305*		40	9	M	6MILES
Photolysis (per day):					
0.289*	SOIL	2-37	OD	M	6MILES
0.179*	WATER	13-30	OD	M	6MILES
Vapor pressure (mPa):					
7.2*		20		M	6MILES
24		20		H	9PMED8,8TH ED.,p.320,1987
20		NR		R	9HRLCP
45		NR		E	ACSMC8,V.255,p.205,1984

Water solubility (ppm):				-temp-	-source-	-reference-
12.0*		20		M	6MILES	
25.0		22		H	9PMED8,8TH ED.,p.320,1987	
16.3		19.5		E	JPFCD2,VB14(6):627,1979	
23				R	8SOCOS	

Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
2.2E-01		20		R	9HRLCP
1.6E-01		20		M	6MILES
0.16*		20			

Octanol/water partitioning (log Kow):					
4.02		NR		R	9HRLCP(BOWMAN&SANS,1983)
3.95		20		M	6MILES
4.0*		20			

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			1778			R	EESADV, 4:29,1980
			741			R	EESADV, 4:29,1980
			794			E	JPFCD2, VB22(1):67,1987
			1600			E	JEFQAA 16:422-428,1987
			1780			R	EESADV
			740			R	EESADV
			676			C	8CREAM
			3000			C	8CREAM
			4070			E	JPFCD2 22:55-69,1987
			1660			R	8INSFO
SILT LOAM	25	6.85	449**	2.9	5.9	M	6MILES
SAND	25	4.67	888**	1.0	4.3	M	6MILES
CLAY LM	25	4.47	386**	2.2	6.4	M	6MILES
SANDY LOAM	25	9.66	483**	3.8	6.8	M	6MILES
			1345*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
40	SOIL 11-63			M	6MILES
28	SOIL 11-63			M	6MILES
90	SOIL 4-65			M	6MILES
60	SOIL 4-65			M	6MILES
5				E	SCSFAD 44:1-8,1985
70				R	8INSFO
2.01	CA(CHULAR)LMY SND	7.3		M	6MILES
3.70	CA(FRESNO)LMY SND	7.8		M	6MILES

37(2-90)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	2.4		M	6MILES
SANDY LOAM	1.9		M	6MILES
	2.2*			

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED  
 USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72.  
 SELECTED KOC= 1345(349-4070)

ARS PESTICIDE PROPERTIES last update May 1999

name:DIURON

CASRN: 330-54-1

molecular formula: C9H10CL2N2O  
 molecular weight : 233.1  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
 Boiling point(deg C):

Melting point(deg C):

158 - 159 H 9ACHB2

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

<0.0014\* 25 5,7,9 M 9DUPON

Photolysis (per day):

0.004\* (1.4%OM) SOIL 25 6.4 M 9DUPON

0.016\* WATER 25 7 M 9DUPON

Vapor pressure (mPa):

9.2E-3\* 25 M 9DUPON

Water solubility (ppm):

42\* -temp- -source- -reference-  
 25 M 9DUPON

Organic solubility (ppm):

Henry's law (Pa m3/mol):

5.1E-5\* 25 M 9DUPON

Octanol/water partitioning (log Kow):

2.8\* 25 M 9DUPON

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			477*				
SANDY LOAM	25	2.9	453	1.1	6.6	M	9DUPON
SANDY LOAM	25	5.1	418	2.1	6.5	M	9DUPON
SILT LOAM	25	14.0	560	4.3	5.4	M	9DUPON
SILT LOAM	25	13.0	476	4.7	4.3	M	9DUPON

Field Dissipation half-life(days):

value	test area	pH	source	reference
90	MADERA(CA)		M	9DUPON

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM(DE)	372*		M	9DUPON

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:DNOC

CASRN: 534-52-1

molecular formula: C7H6N2O5  
molecular weight : 198.13  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
83	-	85		H	9ACHB2	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
14*		25		H	9ACHB2 1983 ED.	
Water solubility (ppm):						
130*		15		H	9ACHB2 1983 ED.	
				R	EESADV	
Organic solubility (ppm):						
Henrys law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
4.35				C	8CREAM	
				R	ADCSAJ 111:55-120,1972	
4.46				E	JAFCAU 26:289-292,1978	
4.4*						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			300*			EESADV
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
Halflife in soil:						
Soiltype	aerobic	anaerobic		source	reference	
Comments:						

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:DODINE ACETATE SALT** **CASRN: 2439-10-3**  
molecular formula: C15H33N3O2  
molecular weight : 287.44  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					

136 - H 9ACHB2  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 <0.01\* 20 H 9ACHB2 1983 ED.  
 Water solubility (ppm): -temp- -source- -reference-  
 63 25 H 9ACHB2 1983 ED.  
 700\* H 9FACHB  
 630 H 9PME10  
 Organic solubility (ppm):  
 7.23E03\* LOW MW ALCOHOLS H 9PMED8  
 INSOLUBLE MOST ORG. SOLVENTS H 9PMED8  
 Henrys law (Pa m3/mol):  
 Octanol/water partitioning (log Kow):  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 >=10000\* 8CREAM  
 Field Dissipation halflife(days):  
 value test area pH source reference  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

---

**ARS PESTICIDE PROPERTIES DATABASE last update May 199**

**name: DSMA** **CASRN: 144-21-8**  
 molecular formula: CH3AsNa2O3  
 molecular weight: 183.9  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook,(E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference
-----	-----	-----	---	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
133 - 139				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0				W	
Water solubility (ppm):					
279000		20		H	9PMED9
254000				C	ESTHAG 14: 553-556 (1980)
256000		20-25		E	ADCSAJ 111: 55-120 (1972)
Organic solubility (ppm):					
SOLUBLE IN METHANOL,				H	9PME10
INSOLUBLE OTHER ORGANIC SOLVS.					
Henrys law (Pa m3/mol):					

Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			770			ESTHAG 14: 553-556 (1980)
			393		6.1	6WEEDS 15: 299-304 (1967)
			822		6.2	6WEEDS 15: 299-304 (1967)
			110		6.0	6WEEDS 15: 299-304 (1967)
			755		5.3	6WEEDS 15: 299-304 (1967)
			600*			

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
180			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

DSMA = METHYLARSONIC ACID DISODIUM SALT

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: ENDOSULFAN**

**CASRN: 115-29-7**

molecular formula: C9H6CL6O3S

molecular weight : 406.9

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9FMCC3

---

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
70 - 100				H	9PMED8,8TH ED.,p.336,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
7E-04 *	SOIL	24	6.4	M	9FMCC3
Vapor pressure (mPa):					
8.26E-1		20		M	9FMCC3
1.33E+1		40		M	9FMCC3
1.20E+3		80		M	9PMED8,8TH ED.,p.336,1987
0.023 *		25		M	8HOECH
Water solubility (ppm):					
0.32 *		22		M	9FMCC3
1.0E-01		20		R	9HRLCP(W.J.PHILLIPS),1975
3.2E-01		22		H	9ACHB2,2ND ED.,1987
5.3E-01		25		R	9HRLCP(WEIL&QUENTIN),1974
Organic solubility (ppm):					
6.5E+4 * ETHANOL		20		M	9FMCC3
2.0E+5 * TOLUENE		20		M	9FMCC3
2.4E+4 * N-HEXANE		20		M	9FMCC3

2E05 \* DICHLOROMETHANE 20  
 Henrys law (Pa m3/mol):  
 1.09 25 C 9HRLCP(MABEY,W.),1982  
 0.029 \* 25 M 9FMCC3  
 Octanol/water partitioning (log Kow):  
 2.23 E ESTHAG, 22(3):272,1988  
 3.55 NR R 9HRLCP(ALI,S.),1978  
 3.62 NR R 9HRLCP(ALI,S.),1978  
 3.13 \*  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 2.0E+05 8GLEAM  
 2040 ETOCDK 8:339-357,1989  
 1.24E+04\* 8HOECH  
 Field Dissipation halflife(days):  
 value test area pH source reference  
 43 C 8GLEAM  
 120 E JEVQAA 16:422-428,1987  
 50 M 8HOECH  
 10 C 8OUSSD  
 4-8 E JAFCAU 28:1099-1101,1980  
 60-200 P 8EPAHO  
 60(4-200) \*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SILT LOAM(pH6.4) 27 \* M 9FMCC3

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:ENDOTHALL**

**CASRN: 145-73-3**

molecular formula: C8H10O5

molecular weight : 186.2

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

Melting point(deg C):

144 - H 9ACHB2

Decomposition point(deg C):

- 90 (-H2O) H 9PME10

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

STABLE\* SOIL

STABLE\* WATER

Vapor pressure (mPa):

0.0\* RT H 9PME10

Water solubility (ppm):

1E05\* -temp- -source- -reference-

20 H 9HERBH  
 H 9ACHB2 1983 ED.



Organic solubility (ppm):

7E04*	ACETONE	20	H	9PMED8
100*	BENZENE	20	H	9PMED8
7.5E04*	DIOXANE	20	H	9PMED8
2.8E05*	METHANOL	20	H	9PMED8

Henry's law (Pa m<sup>3</sup>/mol):

Octanol/water partitioning (log K<sub>ow</sub>):

Acid dissociation (pK<sub>a</sub>):

3.4 = PK1*	E	7BENCT 32:557-564,1984
6.7 = PK2*	E	7BENCT 32:557-564,1984

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			7.8			EESADV
			110-138			7BENCT 32:557-564,1984
			85*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
2.8*			E	7BENCT

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: ENDRIN**

**CASRN: 72-20-8**

molecular formula: C<sub>12</sub>H<sub>8</sub>CL<sub>6</sub>O

molecular weight: 380.9

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2 1983

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Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
245				H	6MONTG
Melting point (deg C):					
200				H	6MONTG
Decomposition point (deg C):					
>245				H	6MONTG
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.02		20		R	RREVAH 103: 1-59 (1988)
0.026		25		H	9ACHB2 1983
0.093*		25		H	6MONTG
Water solubility (ppm):					
0.23		25		R	WATRAG 14:1095-1100 (1980)
0.24*		25		H	6MONTG
Organic solubility (ppm):					
1.70E5	ACETONE	25		H	6MONTG
1.38E5	BENZENE	25		H	6MONTG
3.3E4	CCL4	25		H	6MONTG
7.1E4	N-HEXANE	25		H	6MONTG
1.83E5	XYLENE	25		H	6MONTG
4.37E4	N-OCTANOL	20		H	6MONTG



Octanol/water partitioning (log Kow):  
 3.85, 5.07\*  
 >5.02  
 Acid dissociation (pKa):

C 8GLEAM  
 H 6MONTG  
 H 9PME10

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			13000			8GLEAM
			1327			ETOC DK 8: 477-484 (1989)
			4000*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
5			C	8GLEAM
14-30			E	JAFCAU 30: 155-161 (1982)
15-30			H	9ACHB2 1983
28-56			P	6EPAPF vol. I
15*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: EPTC CASRN: 759-94-4

molecular formula: C9H19NOS  
 molecular weight : 189.32  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)also hope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
127	20mmHg			H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
-	200			H	9PMED8
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25		M	8ICIAG,03/01/90
Photolysis (per day):					
STABLE*	SOIL	NR		M	8ICIAG,03/01/90
Vapor pressure (mPa):					
4500		25		H	9HERBH
3200*		25		M	8ICIAG
Water solubility (ppm):					
370		-temp-		-source-	-reference-
		20		H	9HERBH
				M	8ICIAG
375*		25		H	9ACHB2 1983 ED.
344				M	8ICIAG
Organic solubility (ppm):					
MISCIBLE* ACETONE,ETHANOL		24		H	9PMED8

MISCIBLE\* KEROSENE,XYLENE 24 H 9PMED8  
MISCIBLE\* 4-METHYLPENTAN-2-ONE 24 H 9PMED8  
Henry's law (Pa m<sup>3</sup>/mol):  
1.62\* 25 M 8ICIAG  
Octanol/water partitioning (log Kow):  
3.3\*  
Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
280 JEFQAA 16:422-428,1987  
240 EESADV  
170 EESADV  
200 8ICIAG  
223\*  
Field Dissipation half-life(days):  
value test area pH source reference  
30 E JEVQAA 16:422-428,1987  
7 H 9HERBH  
R 8KAUGW  
28-32 C 8CREAM  
6 M 8ICIAG  
18(6-32)\*  
Half-life in soil:  
Soiltype aerobic anaerobic source reference  
Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:ESFENVALERATE CASRN: 66230-04-4**  
molecular formula: C<sub>25</sub>H<sub>22</sub>CLNO<sub>3</sub>  
molecular weight : 419.9  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
151	-	167 (tech)		H	9ACHB2
Melting point(deg C):					
59.0	-	60.2		H	9PME10
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7,9	M	9DUPON
Photolysis (per day):					
STABLE*	SOIL	25	6	M	9DUPON
<0.023*	WATER	25	5	M	9DUPON
Vapor pressure (mPa):					
2.0E-4*		25		M	9DUPON
Water solubility (ppm):					
2.0E-4		25		M	9DUPON,1999
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
4.2E-2*		25		M	9DUPON
Octanol/water partitioning (log Kow):					

>4.0\* 25 M 9DUPON

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SAND(CA)	25	4.4	1990	0.38		M	9DUPON
SANDY LM(CA)	25	6.4	1000	1.1	7.3	M	9DUPON
SILTY LM(IA)	25	71	6100	2.0	5.3	M	9DUPON
CLAY LM(GA)	25	105	12,000	1.5	6.4	M	9DUPON

5273\*

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
35					9DUPON
42(22-75)*					
32	OKLAHOMA	7	1.5	M	9DUPON
75	LOUISIANA	5.9	0.8	M	9DUPON
<30	ALABAMA	7.9	2.0	M	9DUPON,1999
<30	ARIZONA	8.5	0.1	M	9DUPON,1999
<30	TEXAS	8.1	2.0	M	9DUPON,1999
14	CALIFORNIA	8.2	0.8	M	9DUPON,1999

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LM(AR)	74		M	9DUPON,1999
SANDY LOAM(CA)		77	M	9DUPON,1999

Comments:

SOIL SORPTION KOC =5273(1000-12000); AEROBIC 108=PH5.7 @25C.

HALFLIFE IN SOIL (AEROBIC) pH5.7, 25 degrees C, 1.3%om

Koc VALUES ARE FOR 0.2% BRTHO X-77 & FENVALENATE AS THE TEST SUBSTANCE

ARS PESTICIDE PROPERTIES last update May 1999

name:ETHALFLURALIN

CASRN: 55283-68-6

molecular formula: C13H14F3N3O4

molecular weight : 333.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
256	-			H	9ACHB2
Melting point(deg C):					
57	-	59		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<0.023*		25	5-9	M	6DOWCH
Photolysis (per day):					
0.049*	SOIL	25		M	6DOWCH
2.6*	WATER	25		M	6DOWCH
Vapor pressure (mPa):					
11		25		H	9HERBH
0.11		25		H	9ACHB2
12*		25		M	7LILLY
Water solubility (ppm):					
0.3*		-temp-		-source-	-reference-
		25		H	HERBH

			H	9FACHB
			M	7LILLY
			H	9FACHB 1990
0.2	25		H	9ACHB2 7TH ED.,1977
Organic solubility (ppm):				
>5E+5*	ACETONE		H	9PMED8
>5E+5*	XYLENE		H	9PMED8
>8.2E+4*	METHANOL		H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):				
13.0*			M	6DOWCH
Octanol/water partitioning (log Kow):				
5.11*			M	6DOWCH
Acid dissociation (pKa):				

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			4000				7LILLY
SAND	25	11.9	4100	0.5	7.7	M	6DOWCH
SNDY LM	25	32.6	4000	1.4	5.7	M	6DOWCH
LOAM	25	53.0	5100	1.8	6.5	M	6DOWCH
CLAY LM	25	97.0	8400	2.0	6.9	M	6DOWCH
			5120*				

Field Dissipation half-life(days):

value	test area	pH	source	reference
60			M	7LILLY
23	SNDY LM(GA)		M	6DOWCH
28	SLTY CLY LM(IL)		M	6DOWCH
51	LOAM(CA)		M	6DOWCH

41(28-60)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	45*		M	6DOWCH

Comments:

SOIL SORPTION KOC = 5120(4000-8400)

HYDROLYSIS: NONE IN 30 DAYS

**Pesticide Properties Database - Data Entered May 1999**

**Name: Ethametsulfuron methyl**

**CASRN: 97780-06-8**

**Molecular Formula:** C 15 H 18 N6 O6 S

**Molecular Weight:** 410.4

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Pesticide Manual, 11th Ed.

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated  
(U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Melting Point(deg C):**

Value	Medium	Temp	pH	Source	Reference
194				M	DuPont

**Decomposition (deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.017	Water	25	5	M	DuPont
Stable	Water	25	7	M	DuPont
Stable	Water	25	9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.009	Soil	25	5.6	M	DuPont
Stable	Water	25	5,7,9	M	DuPont

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
7.7E-10		25		M	DuPont

**Water Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
1.7	Water	25	5	M	DuPont
50	Water	25	7	M	DuPont
410	Water	25	9	M	DuPont

**Organic Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
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**Henry's Law Constant (Pa3/mol):**

Value	Medium	Temp	pH	Source	Reference
1.8E-10		25	5	M	DuPont
6.4E-12		25	7	M	DuPont
7.7E-13		25	9	M	DuPont

**Octanol/Water Partitioning (log Kow):**

Value	Medium	Temp	pH	Source	Reference
0.2		25	5	M	DuPont
-0.051		25	7	M	DuPont

**Acid Dissociation Constant (pKa):**

Value	Medium	Temp	pH	Source	Reference
4.6				M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy loam	25	0.38	60	1.1	6.6	M	DuPont

Sandy loam	25	0.92	76	2.1	6.5	M	DuPont
Silt loam	25	3.1	124	4.3	5.4	M	DuPont
Silt loam	25	4.1	150	4.7	4.3	M	DuPont
Clay loam	25	0.60	14	7.2	7.5	M	DuPont

### Field Dissipation Half-life (days):

Value	Test Area	pH	%OM	Source	Reference
16	Alberta,Canada	6.2	8.4	M	DuPont
54	Alberta,Canada	6.1	6.2	M	DuPont
42	Sask.,Canada	7.8	2.7	M	DuPont
27	DE	6.3	2.0	M	DuPont

### Half-life in Soil(days):

Soil Type	Aerobic	Anaerobic	Source	Reference
Loam	60		M	DuPont

Comments:

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#### ARS PESTICIDE PROPERTIES last update May 1999

name:ETHEPHON

CASRN: 16672-87-0

molecular formula: C2H6ClO3P

molecular weight : 144.5

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
74	-	75		H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
2.77		25	7	M	9RHPOU
STABLE*		25	<3		
Photolysis (per day):					
0.023*	SOIL	25		M	9RHPOU
Vapor pressure (mPa):					
<1.0E-2		20		H	9ACHB2,2ND ED.,1987
<0.013*		25		M	9RHPOU
Water solubility (ppm):					
1.24E+06*		23		M	9RHPOU
Organic solubility (ppm):					
1.15E+6*	METHANOL	23		M	9RHPOU
<2.5E+1*	HEXANE	23		M	9RHPOU
2.5E+3 *	DICHLOROMETHANE	23		M	9RHPOU
Henrys law (Pa m3/mol):					



<1.5E-09\* 25 M 9RHPOU  
 Octanol/water partitioning (log Kow):  
 -.22\* 25 M 9RHPOU  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 1\* R CMSHAF 10:833-845,1981  
 Field Dissipation halflife(days):  
 value test area pH %OM source reference  
 10-20 BARE M 9RHPOU  
 10-21 SOIL M 9RHPOU  
 10-21 SOIL M 9RHPOU  
 15(10-21)\*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SAND\* <7 8 M 9RHPOU  
 Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: ETHOFUMESATE CASRN: 26225-79-6**  
 molecular formula: C13H18O5S  
 molecular weight : 286.3  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
69	-	71		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
7.4E-4 to 3.4E-4		20	5-9	M	6NORAM
Photolysis (per day):					
0.101*	SOIL	OD		M	6NORAM
0.533*	WATER	OD		M	6NORAM
Vapor pressure (mPa):					
.086		25		H	9HERBH
				H	9ACHB2 1983 ED.
				H	9ACHB2
0.65*		25		M	7SCHER
Water solubility (ppm):					
110		25		H	9HERBH
50*		25		M	7SCHER
				H	9ACHB2 1983 ED.
Organic solubility (ppm):					
4E5	ACETONE	25		H	9PME10
4E5	BENZENE	25		H	9PME10
4E5	CHLOROFORM	25		H	9PME10
4E5	DIOXANE	25		H	9PME10

1E5 ETHANOL 25 H 9PME10  
4E3 HEXANE 25 H 9PME10

Henry's law (Pa m<sup>3</sup>/mol):  
3.7E-03\* M 6NORAM

Octanol/water partitioning (log Kow):  
2.7\* 25 M 6NORAM

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			760			E	CMSHAF 10:833-845,1981
SAND			2.1E02			M	6NORAM
SANDY LOAM			1.2E02			M	6NORAM
SILT CLAY LOAM			1.6E02			M	6NORAM
CLAY			1.3E02			M	6NORAM
			276*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
<35->98				H	9ACHB2 1983 ED.
35				H	9HERBH
98				H	9HERBH
20-30				M	7SCHER
75	CA			M	6NORAM
95-150	ND			M	6NORAM
80*					

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
		759	M	6NORAM
LOAM	83		M	6NORAM
SILT LOAM	83		M	6NORAM
SANDY LOAM	122		M	6NORAM
SANDY LOAM	285		M	6NORAM
	143*		M	6NORAM

Comments:

SOIL SORPTION KOC=276(120-760); AEROBIC VALUE 285 = LOW MOISTURE SANDY LOAM.

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:ETHOPROP**

**CASRN: 13194-48-4**

molecular formula: C<sub>8</sub>H<sub>19</sub>O<sub>2</sub>PS<sub>2</sub>

molecular weight : 242.33

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

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Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
86	- 91	0.2mmHg		H	9ACHB2,2ND ED.,1987

Melting point(deg C):

-  
Decomposition point(deg C):

-  
Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.00350\* 25 5 M 9RHPOU

Photolysis (per day):  
0.029\* SOIL 0 M 9RHPOU

Vapor pressure (mPa):  
4.65E+01 26 H 9ACHB2,2ND ED.,1987  
51\* 24 M 9RHPOU

Water solubility (ppm): -temp- -source- -reference-  
843\* 21 M 9RHPOU  
700 20 H 9ACHB2,2ND ED.,1987  
750 20-25 H 9MERCK,10TH ED,p.544,1983

Organic solubility (ppm):  
MISCIBLE ACETONE\* 30 M 9RHPOU  
MISCIBLE HEXANE\* 30 M 9RHPOU  
MISCIBLE XYLENE\* 30 M 9RHPOU

Henry's law (Pa m3/mol):  
1.46E-02\* 25 M 9RHPOU

Octanol/water partitioning (log Kow):  
3.59\* 21 U 9RHPOU

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
SANDY LOAM		01.61	87	3.2	5.7	9RHPOU
			120			JEVQAA 16:422-428,1987
			110			EESADV
			26			ETOC DK 8:339-357,1989
			70			9RHPOU
LOAMY SAND		02.44	66	6.4	7.0	9RHPOU
LOAMY SAND		01.08	186	1.0	7.2	9RHPOU
LOAMY SAND		01.24	112	1.9	5.3	9RHPOU
SILT LOAM		02.10	157	2.3	5.6	9RHPOU
			104*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
87	ORG. SOIL		H	9ACHB2
14-28	SANDY SOIL		H	9ACHB2 1983 ED.
50			E	JEVQAA 16:422-428,1987
63			E	ETOC DK 8:339-357,1989
20-27	87 WI POTATOES		M	9RHPOU
13	87 CA CIT.RDGE.		M	9RHPOU
15-40	87 CA FLTWD.TOM		M	9RHPOU
9	89 NC POTATOES		M	9RHPOU
60	89 WA POTATOES		M	9RHPOU
4	SOIL MO		M	9RHPOU
7	SOIL IL#1		M	9RHPOU
25	SOIL IL#2		M	9RHPOU
12	SOIL NJ		M	9RHPOU
6	SOIL NE		M	9RHPOU

29(4-87)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
LOAMY SAND*	24	100	M	9RHPOU

Comments:  
SOIL SORPTION KOC VALUE=104(26-186)

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: ETHYLENE DIBROMIDE (EDB) CASRN: 109-93-4

molecular formula: C2H4Br2

molecular weight: 187.9

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
131.5				H	9PME10	
Melting point (deg C):						
9.3				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
2.37E-4		25	7	H	6MONTG	
Photolysis (per day):						
Vapor pressure (mPa):						
15E5		25		H	9PMED9	
Water solubility (ppm):						
4300		30		H	9PMED9	
4300*		25		H	9FACHB 1992	
4321		20		H	9MONTG	
Organic solubility (ppm):						
SOLUBLE IN MOST ORGANIC SOLV.						
Henrys law (Pa m3/mol):						
65.55		25		H	9PMED9	
				H	9FACHB 1992	
Octanol/water partitioning (log Kow):						
1.76				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			44			6EXTOX
			14-160			6EXTOX
			21-93			6EXTOX
			40,40			90CHS2 V1: pp. 51-143(1972)
			32			8AOACA
			44			6ECBEN 4: 26-38 (1980)
			28,41			JAFCAU 15: 444-450 (1964)
			34*			W
Field dissipation halflife(days):						
value	test area		pH	source	reference	
28-180				R	ARSPPD	
100*				W		
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
Comments:						

ARS PESTICIDE PROPERTIES last update May 1999

name: ETRIDIAZOLE

CASRN: 2593-15-9

molecular formula: C5H5CL3N2OS

molecular weight : 247.53

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
95	-			H	9ACHB2	
Melting point(deg C):						
19.9	-			H	9ACHB2	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
6.73E-03*		25	6	M	6UNIRO	
8.56E-03*		25	9	M	6UNIRO	
Photolysis (per day):						
0.346*	SOIL			M	6UNIRO	
15*	WATER	25		M	6UNIRO	
Vapor pressure (mPa):						
4E04		38		M	6UNIRO	
1427		25		M	6UNIRO	
Water solubility (ppm):						
117.1*		-temp-		- source-	-reference-	
		25		M	6UNIRO	
Organic solubility (ppm):						
Henry's law (Pa m3/mol):						
3.016		25		M	6UNIRO	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
2.77*		25		M	6UNIRO	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
SILT LOAM		1.41	240	0.7	4.7	6UNIRO
LOAMY SAND		5.31	346	3.8	5.1	6UNIRO
			>=10000			8CREAM
			4400			CMSHAF 10:833-845,1981
			1700*			
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
<14*				M	6UNIRO	
Halflife in soil:						
Soiltype	aerobic		anaerobic	source	reference	
SILT LOAM	9.5			M	6UNIRO	
SAND	9.0			M	6UNIRO	
	9.3*					

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: FENAMINOSULF**

**CASRN: 140-56-7**

molecular formula: C8H10N3NaO3S

molecular weight: 251.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
Decomposition point (deg C):					
>200				H	9PMED8
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0				W	
Water solubility (ppm):					
40000*		20		H	9PMED7
20000		25		P	6USEPA
20000-				P	6EPAPF vol. I
30000					
Organic solubility (ppm):					
INSOLUBLE IN MOST ORGANIC SOLVS.				H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			100			JPFCD2 PT.B 22: 55-69(1987)
			15*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
2			P	6EPAPF vol. I

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: FENAMIPHOS**

**CASRN: 22224-92-6**

molecular formula: C<sub>13</sub>H<sub>22</sub>N<sub>3</sub>O<sub>3</sub>PS

molecular weight : 303.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MILES

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
49				H	9PMED8,8TH ED.,p.367,1987
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					

0.0028*		25	5	M	6MILES
0.0023*		25	7	M	6MILES
0.0029*		25	9	M	6MILES
Photolysis (per day):					
10.4*	SOIL	28		M	6MILES
4.6*	WATER	28		M	6MILES
Vapor pressure (mPa):					
6.27*		20		M	6MILES
Water solubility (ppm):					
		-temp-		-source-	-reference-
329		20		E	JPFCD2,VB18(2):224,1983
700		20		H	9ACHB2,2ND ED.,1987
330*		20		M	6MILES
560		20		M	6MILES
306		10		E	JPFCD2,VB20(6):627,1985
419		30		E	JPFCD2,VB20(6):627,1985
400				C	8GLEAM
Organic solubility (ppm):					
>1.0E+4*	2-PROPANOL	20		H	6MILES
>1.0E+4*	DICHLOROMETHANE	20		H	6MILES
>1.0E+4*	TOLUENE	20		H	6MILES
Henry's law (Pa m <sup>3</sup> /mol):					
5.8E-03*		20		M	6MILES
Octanol/water partitioning (log Kow):					
3.25*		20		M	6MILES
Acid dissociation (pKa):					
10.5*		25		R	RREVAH, 53:82,1974
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			148		
			117		
			171		
			110		
			119		
			330		
			371		
			90		
			103		
SAND	25	2.86	543**	1.0	4.3
SANDY LOAM	25	0.96	166**	1.1	6.6
SILT LOAM	25	3.46	227**	2.9	5.9
CLAY LOAM	25	1.98	171**	2.2	6.4
			197*		
Field Dissipation halflife(days):					
value	test area	pH	%OM	source	reference
21				C	8GLEAM
2	SULFOXIDE			E	9JCOHY 1:211-225,1986
8	SULFOXIDE			E	9JCOHY 1:211-225,1986
3				R	8INSFO
30				H	9ACHB2
10				E	JEVQAA 16:422-428,1987
16.2	CA(CHUALAR)			M	6MILES
17	CA(FRESNO)			M	6MILES
13(2-21)*					
Halflife in soil:					
Soiltype	aerobic		anaerobic	source	reference
SANDY LOAM	22			M	6MILES
SANDY LOAM	19*		87.9	M	6MILES

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72.

SELECTED SOIL SORPTION KOC VALUE=197(90-543)

ARS PESTICIDE PROPERTIES last update May 1999

name:FENARIMOL

CASRN: 60168-88-9

molecular formula: C17H12CL2N2O

molecular weight : 331.2

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):

Melting point(deg C):

117 - 119 H 9ACHB2

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

<0.023\* 25 5-9 M 6DOWCH

Photolysis (per day):

0.0052\* SOIL 25

28\* WATER 28

Vapor pressure (mPa):

<0.013 H 9ACHB2

0.03\* M 7LILLY

Water solubility (ppm):

13.7 25 H 9ACHB2 1983 ED.

C EESADV

14\* 25 M 7LILLY

Organic solubility (ppm):

>2.5E5\* ACETONE 25 H 9PMED8

1.25E5\* METHANOL 25 H 9PMED8

5E04\* XYLENE 25 H 9PMED8

Henrys law (Pa m3/mol):

<3.22E-4 M 6DOWCH

Octanol/water partitioning (log Kow):

3.69\* M 9DOWCH

Acid dissociation (pKa):

Soil sorption:

soiltype temp. Kd Koc %om pH source reference

1030 R EESADV

600 M 7LILLY

760\*

SAND 25 1.5 520 0.5 7.7 M 6DOWCH

SNDY LM 25 5.1 630 1.4 5.7 M 6DOWCH

LOAM 25 8.1 780 1.8 6.5 M 6DOWCH

CLAY LM 25 11.9 1000 2.0 6.9 M 6DOWCH

Field Dissipation halflife(days):

value test area pH source reference

360 M 7LILLY

274(165-360)

248 LOAM/TURF(CA) M 6DOWCH

165-263 CLAY LM/TURF(NE) M 6DOWCH



Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 SANDY LOAM 840\* M 6DOWCH  
 Comments:  
 SOIL SORPTION KOC VALUE 760(520-1030)  
 HYDROLYSIS: NONE IN 30 DAYS

ARS PESTICIDE PROPERTIES last update May 1999

name: FENBUTATIN OXIDE CASRN: 13356-08-6  
 molecular formula: C60H78OSn2  
 molecular weight : 1052.7  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
138	-	139		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<0.0069*		25	5-9	M	9DUPON
Photolysis (per day):					
0.0054* (1%OM)	SOIL	25	6.4	M	9DUPON
0.0063*	WATER	25	7	M	9DUPON
Vapor pressure (mPa):					
2.4E-6*		25			9DUPON
Water solubility (ppm):					
0.0127*		-temp-		-source-	-reference-
		20			
0.005		23		H	9ACHB2 1983 ED.
12.7 PPB		20		M	9DUPON
Organic solubility (ppm):					
Henry's law (Pa m3/mol):					
2.0E-4*		25		M	9DUPON
Octanol/water partitioning (log Kow):					
5.1*		25		M	9DUPON
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH reference
SAND(CA)		6.9	3391	0.35	ND 9DUPON
SANDY LOAM(CA)		13.3	2158	1.06	7.3 9DUPON
SANDY CLY LM(IA)		30.4	2614	2.00	5.3 9DUPON
SANDY CLY LM(GA)		3587.4	4.1E05	1.50	6.4 9DUPON
			2721*		
Field Dissipation half-life(days):					
value	test area		pH	source	reference
90				M	9DUPON
95(90-100)*				M	9DUPON
>100				M	9DUPON
Half-life in soil:					
Soiltype	aerobic	anaerobic		source	reference
LOAM(CA)	>365*			M	9DUPON

LOAM(IA) >365 M 9DUPON  
LOAM(CA) >365 M 9DUPON

Comments:

SOIL SORPTION KOC=2721(2158-3391); AEROBIC >365=PH5-7 @ 25  
DEGREES C.

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FENFURAM

CASRN: 24691-80-3

molecular formula: C12H11NO2

molecular weight: 201.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
109 - 110 (TECH.)				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.020		20		H	9PMED9
Water solubility (ppm):					
100		20		H	9PMED9
				H	9FACHB 1990
				H	9FACHB 1992
Organic solubility (ppm):					
3.00E5	ACETONE	20		H	9PME10
3.40E5	CYCLOHEXANONE	20		H	9PME10
1.45E5	METHANOL	20		H	9PME10
2.0E4	XYLENE	20		H	9PME10
Henry's law (Pa m <sup>3</sup> /mol):					
4.02E-5		20		H	9PME10
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			300			

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
ca.42			H	9FACHB 1992
			H	9ACHB2 1983
			H	9PME10

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FENITROTHION

CASRN: 122-14-5

molecular formula: C9H12NO5PS

molecular weight: 277.2

physical state: L

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
140 - 145 AT 0.1 MM HG				H	9PME10	
Melting point (deg C):						
3.4				H	9PME10	
Decomposition point (deg C):						
>145				H	9PME10	
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.006		22	4	H	9PME10	
0.008		22	7	H	9PME10	
0.009		22	9	H	9PME10	
Photolysis (per day):						
Vapor pressure (mPa):						
18.6		20		H	9PMED9	
				H	ESTHAG 15: 1006-1014 (1981)	
Water solubility (ppm):						
21*		20		H	9PME10	
30				H	6DEGRA	
				C	8GLEAM	
25.4				E	SSSJD4 41:514-8(1977)	
Organic solubility (ppm):						
2.4E4	HEXANE	20		H	9PME10	
1.38E5	ISOPROPANOL	20		H	9PME10	
Henry's law (Pa m <sup>3</sup> /mol):						
0.246		20		H	9PME10	
Octanol/water partitioning (log Kow):						
3.43		20		H	9PME10	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			2000			8GLEAM
			7150*			RREVAH 103: 1-59 (1988)
						6PRZMO
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
12-28				H	9PME10	
12-28				R	6RPPRE 12: 1-10 (1979)	
4-20				R	6RPPRE 12: 1-10 (1979)	
14				E	PSSCBG 12: 37-44 (1981)	
42				H	9PME10	
18*						
Halflife in soil:						

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: FENOPROP** **CASRN: 93-72-1**

molecular formula: C9H7CL3O3  
 molecular weight: 269.5  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
179 - 181				H	9PMED8	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
<0.1				W		
Water solubility (ppm):						
140*		25		H	9PMED7	
176				H	9ACHB2 1983	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
<1.93E-4		25		H	9PMED7, W	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
2.84				H	9PMED7	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	--	--	-----
			2600			8SWAMD 9AQTOX pp.78-115 (1980)
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
14,15,21**				E	WEESA6 21: 556-560 (1973)	
12				C	8CREAM	
21*				W		
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	

Comments:

FENOPROP = 2,4,5-TP = SILVEX  
 \*\*FIELD DISS. HALFLIFE VAUES FOR  
 DIETHANOLAMINE SALT

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: FENOXAPROP-ET** **CASRN: 66441-23-4**

molecular formula: C18H16CLN05

molecular weight : 361.8  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-	>300			M	8HOECH
Melting point(deg C):					
84	-	87		H	9ACHB2
Decomposition point(deg C):					
-	320			M	8HOECH
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
1E-3		20	5	M	8HOECH
6.65E-3		20	7	M	8HOECH
0.29		20	9	M	8HOECH
Photolysis (per day):					
0.69	SOIL			M	8HOECH
0.097	WATER			M	8HOECH
Vapor pressure (mPa):					
.002		20		H	9ACHB2
0.004*		25		M	8HOECH
.0025		20		H	9HERBH 6TH ED.,1989
Water solubility (ppm):					
0.9		25		H	9ACHB2 7TH ED.,1977
0.9*		25		M	8HOECH
Organic solubility (ppm):					
>5E05*	ACETONE	25		H	9PMED8
>1E04*	CYCLOHEXANE	25		H	9PMED8
>1E04*	OCTAN-1-OL	25		H	9PMED8
>2E05*	ETHYL ACETATE	25		H	9PMED8
>3E05*	TOLUENE	25		H	9PMED8
Henry's law (Pa m3/mol):					
0.0016*		25		M	8HOECH
Octanol/water partitioning (log Kow):					
4.28				M	8HOECH
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			5.37E04		
			9490*		
					reference
					9ACHB2
					8HOECH
Field Dissipation half-life(days):					
value	test area	pH		source	reference
14.1	IN			M	8HOECH
9.4	MD			M	8HOECH
12*					
Half-life in soil:					
Soiltype	aerobic	anaerobic		source	reference
	1*	30*		M	8HOECH

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:FENOXYCARB

CASRN: 79127-80-3

molecular formula: C17H19NO4

molecular weight : 301.3  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
53	-	54		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7,9	M	9CIBAG
Photolysis (per day):					
STABLE*	SOIL			M	9CIBAG
2.92*	WATER			M	9CIBAG
Vapor pressure (mPa):					
8.65E-4*		25		M	9CIBAG
Water solubility (ppm):					
5.66*		25		M	9CIBAG
6				H	9FACHB
Organic solubility (ppm):					
5E03*	HEXANE	20		H	9PMED8
>2.5E05	MOST ORGANIC SOL.	20		H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
4.6E-5*		25		M	9CIBAG
Octanol/water partitioning (log Kow):					
4.07		25		H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LOAM		77	6321	2.09		M	9CIBAG
SANDY LOAM		49	1985	4.25		M	9CIBAG
SANDY LOAM		18	2186	1.42		M	9CIBAG
LOAM		77	2395	5.53		M	9CIBAG
			3220*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
8.8(4.85-17.6)*					
4.85	SCL(TX)			M	9CIBAG
7.88				M	9CIBAG
17.6	SNDY LM			M	9CIBAG
5	SAND			M	9CIBAG

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SNDY LM(%OM 2.1)	51	230	M	9CIBAG
SNDY LM(%OM 4.3)	75	167	M	9CIBAG
LOAM(%OM 5.6)	69	83	M	9CIBAG
AQUATIC	48	1322	M	9CIBAG

Comments:

PHOTOLYSIS - ARTIFICIAL LIGHT

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FENPROPATHRIN

CASRN: 64257-84-7

molecular formula: C22H23NO3

molecular weight: 349.41

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
45 - 50				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
0.037	WATER			H	9PME10
Vapor pressure (mPa):					
1.3				P	6USEPA
1.3		20		H	9ACHB2 1983
0.730*		20		H	9PME10
Water solubility (ppm):					
0.014*		25		H	9PME10
0.33		25		H	9ACHB2 1983
				H	9PMED9
Organic solubility (ppm):					
1.00E6	XYLENE	25		H	9PME10
1.00E6	CYCLOHEXANONE	25		H	9PME10
3.37E5	METHANOL	25		H	9PME10
Henry's law (Pa m <sup>3</sup> /mol):					
18.22				H	9PME10
Octanol/water partitioning (log Kow):					
6.00		20		H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			3.4E5			6USEPA
			5000*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
8	NY		P	6USEPA
14	CA		P	6USEPA
144	WA		P	6USEPA
1-5			H	9PME10

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FENSULFOTHION

CASRN: 115-90-2

molecular formula: C11H17O4PS2  
 molecular weight: 308.3  
 physical state: L  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
138 - 141 AT 0.01 MM HG				H	6MONTG
Melting point (deg C):					
>25				H	6MONTG
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
4				P	6USEPA
Water solubility (ppm):					
1540*				H	9PMED9
				H	9ACHB2 1983
1500				M	9CIBAG 1990
2000				E	JAFCAU 30: 147-150 (1982)
Organic solubility (ppm):					
MISCIBLE WITH MOST ORGANIC SOLVS.,					
EXCEPT ALIPHATICS					
Henry's law (Pa m <sup>3</sup> /mol):					
8.01E-4				H	9PMED9
				P	6USEPA
Octanol/water partitioning (log Kow):					
2.23				H	6MONTG
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			210			6USEPA
			375			6USEPA
			206			6USEPA
			164			6USEPA
			360			JPFCD2 B16: 309-324 (1981)
			262			JPFCD2 B16: 309-324 (1981)
			371			JPFCD2 B16: 309-324 (1981)
			281			JPFCD2 B16: 309-324 (1981)
			300*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
24			C	8GLEAM
28			P	6USEPA
60			E	6CJPSC 54: 667-671 (1974)
3-7			P	6EPAPF vol. I
28			P	6EPAPF vol. I
30-39			M	6ROHMH 1989
7			E	8BULEV 22: 312-318 (1979)



30\* W  
 Halflife in soil:  
 soiltype            aerobic   anaerobic            source   reference  
 -----            -----   -----            -----   -----  
 Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:FENTHION** **CASRN: 55-38-9**

molecular formula: C10H15O3PS2  
 molecular weight : 278.33  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference: 9MILES

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
87	-	0.01mmHg		H	9ACHB2, 2ND ED.,1987
Melting point(deg C):					
7	-			H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.022*		30	5	M	6MILES
0.027*		30	7	M	6MILES
0.029*		30	9	M	6MILES
Photolysis (per day):					
2.52*	SOIL	OD		M	6MILES
34.7*	WATER	23		M	6MILES
Vapor pressure (mPa):					
0.37		20		M	6MILES
4.0		20		H	9ACHB2,2ND ED.,1987
10.0		30		H	9ACHB2,2ND ED.,1987
0.37*		20			
Water solubility (ppm):					
9.3		20		E	JPFCD2,VB20(6):627,1985
6.4		10		E	JPFCD2,VB20(6):627,1985
11.3		30		E	JPFCD2,VB20(6):627,1985
4.2*		20		M	6MILES
7.5		20		E	JPFCD2,VB18(2):225,1983
2.0		20		H	9PMED8,8TH ED.,p.387,1987
Organic solubility (ppm):					
5.0E+5	2-PROPANOL LOW	20		M	6MILES
1.2E+6	2-PROPANOL HIGH	20		M	6MILES
>1.0E+6*	DICHLOROMETHANE	20		M	6MILES
>1.0E+6*	TOLUENE	20		M	6MILES
9E+5*	2-PROPANOL	20			
Henrys law (Pa m3/mol):					
2.2E-2		20		R	9HRLCP
2.4E-2		20		M	6MILES
0.024*		20			
Octanol/water partitioning (log Kow):					
4.84*		20		M	6MILES
Acid dissociation (pKa):					
Soil sorption:					

soiltype	temp.	Kd	Koc	%om	pH	reference
SANDY LOAM		38.0	2179	3.0	5.5	6MILES
SILT LOAM		19.8	1622	2.1	6.7	6MILES
SAND		36.2	1683	3.7	6.9	6MILES
SANDY LOAM		7.7	946	1.4	7.7	6MILES
SILT LOAM		12.4	1066	2.0	6.3	6MILES
SAND	25	8.621	1638**	1.0	4.3	6MILES
SANDY LOAM	25	6.424	1110**	1.1	6.6	6MILES
SILT LOAM	25	15.81	1036**	2.9	5.9	6MILES
CLAY LOAM	25	16.21	1400**	2.2	6.4	6MILES
			1390*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
112	KS		M	6MILES
32	KS		M	6MILES
26	KS		M	6MILES
35	KS		M	6MILES
28	KS		M	6MILES
10	KS		M	6MILES
10	FL		M	6MILES
20	FL		M	6MILES

34(10-112)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM	<1*		M	6MILES

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72. SELECTED=1390(946-2179)

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FENURON

CASRN: 101-42-8

molecular formula: C9H12N2O

molecular weight: 164.2

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
133 - 134				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
21		60		H	9PMED9
5*				R	RREVAH 103: 1-59 (1988)
Water solubility (ppm):					
3850*		25		H	9PMED9
				H	9ACHB2 1983
2900		20		E	ADCSAJ 111: 55-120 (1972)
4800(FENURON.TCA)				H	9PME10

Organic solubility (ppm):

1.09E5	ETHANOL	20-25	H	9PME10
5500	DIETHYL ETHER	20-25	H	9PME10
8.02E4	ACETONE	20-25	H	9PME10
3100	BENZENE	20-25	H	9PME10
1.25E5	CHLOROFORM	20-25	H	9PME10
200	HEXANE	20-25	H	9PME10

Henry's law (Pa m<sup>3</sup>/mol):

2.13E-4	25	H	9PMED9
		R	RREVAH 103: 1-59 (1988)

Octanol/water partitioning (log K<sub>ow</sub>):

Acid dissociation (pK<sub>a</sub>):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	---	---	---	---	-----
			27			6ECBEN 4: 26-38 (1980)
			42			9EINSP pp. 23-67 (1980)
			13			JAFCAU 29: 1050-1059 (1981)
			42			6AJSOR 19: 61-68 (1981)
			17			6AJSOR 19: 61-68 (1981)
			22			6AJSOR 19: 61-68 (1981)
			21			6AJSOR 19: 61-68 (1981)
			14			6AJSOR 19: 61-68 (1981)
			31			6AJSOR 19: 61-68 (1981)
			22			6AJSOR 19: 61-68 (1981)
			22			6AJSOR 19: 61-68 (1981)
			45			6AJSOR 19: 61-68 (1981)
			16			6AJSOR 19: 61-68 (1981)
			33			6AJSOR 19: 61-68 (1981)
			33			6AJSOR 19: 61-68 (1981)
			17			6AJSOR 19: 61-68 (1981)
			31			6AJSOR 19: 61-68 (1981)
			43			6AJSOR 19: 61-68 (1981)
			17			6AJSOR 19: 61-68 (1981)
			27			6GERST
			12			PSSCBG 11: 401-408 (1980)
			135			CJSSAR 55: 127-135 (1975)
			29			CJSSAR 55: 127-135 (1975)
			33			CJSSAR 55: 127-135 (1975)
			68			CJSSAR 55: 127-135 (1975)
			29			CJSSAR 55: 127-135 (1975)
			42*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	---	-----	-----
135			R	RREVAH 52: 89-115 (1974)
60*			E	6GHENT 46: 281-296 (1981)
7-60			H	9HERBH 6th ED 1989

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: FENVALERATE

CASRN: 51630-58-1

molecular formula: C<sub>25</sub>H<sub>22</sub>CLNO<sub>3</sub>

molecular weight : 419.9

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)ncnown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
-							
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		25	5-9	M	9DUPON		
Photolysis (per day):							
0.04*	SOIL	18-27	5.8	M	9DUPON		
<0.023*	WATER	25	5	M	9DUPON		
Vapor pressure (mPa):							
3.7E-2		25		H	9ACHB2 1983 ED.		
1.5E-3		25			9FACHB		
2.0E-4*		25			9DUPON		
Water solubility (ppm):							
<1				H	9ACHB2 1983 ED.		
0.1				E	8GLEAM		
<0.002*		25			9DUPON		
Organic solubility (ppm):							
>1E06*	ACETONE	23		H	9PMED8		
>1E06*	CHLOROFORM	23		H	9PMED8		
>1E06*	CYCLOHEXANONE	23		H	9PMED8		
>1E06*	ETHANOL	23		H	9PMED8		
>1E06*	XYLENE	23		H	9PMED8		
1.55E5*	HEXANE	23		H	9PMED8		
Henry's law (Pa m <sup>3</sup> /mol):							
4.2E-02		25		M	9DUPON		
0.042*		25					
Octanol/water partitioning (log Kow):							
>4*		25		M	9DUPON		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SAND(CA)	25	4.4	1990	0.38		M	9DUPON
SNDY LM(CA)	25	6.4	1000	1.1	7.3	M	9DUPON
SILT LM(IA)	25	71	6100	2.0	5.3	M	9DUPON
CLY LM(GA)	25	105	12000	1.5	6.4	M	9DUPON
Field Dissipation halflife(days):							
value	test area		pH	%om	source	reference	
50					R	8EETNS	
70					C	8GLEAM	
14-28					R	RREVAH	97:93-100,1986
30-60					P	8EPAHO	
65-240					R	8FULLE	
35					M	9DUPON	
57(22-240)*							
32	OK		7	1.5	M	9DUPON	
75	LA		5.9	0.8	M	9DUPON	
44	AL		7.9	2	M	9DUPON	

22 AZ 8.5 0.1 M 9DUPON

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	163*			
SANDY LM(CA)	88		M	9DUPON
SILT LM(IA)	114		M	9DUPON
CLAY LM(GA)	287		M	9DUPON

Comments:

SOIL SORPTION KOC VALUE 5273(1000-12000); AEROBIC 163(88-287)

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ARS PESTICIDE PROPERTIES last update May 1999

name: FERBAM

CASRN: 14484-64-1

molecular formula: C9H18FEN3S6

molecular weight : 416.5

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
---------	----------	--------	------	----------	-------------

Boiling point(deg C):

-

Melting point(deg C):

180	-			H	9ACHB2
-----	---	--	--	---	--------

Decomposition point(deg C):

-	>180			M	9FMCC3
---	------	--	--	---	--------

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

NEGLIG.*	20			H	9ACHB2
----------	----	--	--	---	--------

Water solubility (ppm):	-temp-			-source-	-reference-
-------------------------	--------	--	--	----------	-------------

130	RT			H	9ACHB2 1983 ED.
-----	----	--	--	---	-----------------

130*	20			R	EESADV
------	----	--	--	---	--------

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

Octanol/water partitioning (log Kow):				H	9PME10
0.80					

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			300*			R	EESADV

Field Dissipation half-life(days):

value	test area	pH		source	reference
17*				P	8EPAGR

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FLUAZIFOP-BUTYL

CASRN: 69806-50-4

molecular formula: C19H20F3NO4

molecular weight: 383.4

physical state: L

(L=liquid; G=gas; S=solid)  
reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
165 AT 0.02 MM HG				H	9PME10
Melting point (deg C):					
13				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.055		20		H	9PMED9
Water solubility (ppm):					
1*		20	6.5	H	9PMED9
2				H	9ACHB2 1983
				P	6USEPA
Organic solubility (ppm):					
2.4E4	PROPYLENE GLYCOL	20		H	9PME10
MISCIBLE WITH MANY ORGANIC SOLVS.					
Henry's law (Pa m3/mol):					
0.018		20		H	9PME10
Octanol/water partitioning (log Kow):					
4.5				H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			191000			9PME10
			3000*			6USEPA

Field dissipation halflife(days):

value	test area	pH	source	reference
21-84(ACID)			P	6USEPA
<7			H	9PME10
21*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: FLUAZIFOP-P-BUTYL** **CASRN: 79241-46-6**

molecular formula: C19H20F3NO4

molecular weight : 383.4

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9PME10

---

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
164	-	0.02mmHg		H	9PME10
Melting point(deg C):					
5	-			H	9PME10
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.033*		RT			9PMED8(MOIST SOIL)
STABLE		25	5	M	8ICIAG
0.0089		25	7	M	8ICIAG
0.554		25	9	M	8ICIAG
Photolysis (per day):					
STABLE*		RT		H	9PMED8
Vapor pressure (mPa):					
0.033*		20		M	8ICIAG
Water solubility (ppm):					
2		RT		H	9HERBH
2*		20		H	9FACHB, 1990
1				H	9PMED8
Organic solubility (ppm):					
MISCIBLE*	ACETONE			H	9PMED8
MISCIBLE*	DICHLOROMETHANE			H	9PMED8
MISCIBLE*	ETHYL ACETATE			H	9PMED8
MISCIBLE*	HEXANE			H	9PMED8
MISCIBLE*	METHANOL			H	9PMED8
MISCIBLE*	TOLUENE			H	9PMED8
MISCIBLE*	XYLENE			H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
0.0063*		20		M	8ICIAG
Octanol/water partitioning (log Kow):					
4.5*				M	8ICIAG 03/01/90
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			5700*		
					reference
					8ICIAG
Field Dissipation half-life(days):					
value	test area		pH	source	reference
20(ACID)*				H	9ACHB2
15(10-25)ACID				M	8ICIAG
Half-life in soil:					
Soiltype	aerobic	anaerobic		source	reference
Comments:					
*BUTYL ESTER RAPIDLY HYDROLYZED TO PARENT ACID, WHICH HAS A HALF LIFE OF 35-140 DAYS(9PMED8-9TH ED. 1991)					

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FLUCLORALIN

CASRN: 33245-39-5

molecular formula: C<sub>12</sub>H<sub>13</sub>ClF<sub>3</sub>N<sub>3</sub>O<sub>4</sub>

molecular weight: 355.7

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment, (C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
42 - 43				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
4*		20		H	9PMED9	
				H	9ACHB2 1983	
3.7		20		H	9HERBH 6th ED 1989	
3.3		30		H	9HERBH 6th ED 1989	
13.3		40		H	9HERBH 6th ED 1989	
53		50		H	9HERBH 6th ED 1989	
Water solubility (ppm):						
<1		20		H	9PMED9	
				H	9HERBH 6th ED 1989	
0.90*		20		P	6USEPA	
Organic solubility (ppm):						
2.51E5	CYCLOHEXANE	20		H	9PME10	
1.77E5	ETHANOL	20		H	9PME10	
VERY SOLUBLE (>1E6) IN:						
ACETONE, BENZENE,						
CHLOROFORM, DIETHYL ETHER,						
ETHYL ACETATE						
Henry's law (Pa m <sup>3</sup> /mol):						
1.42		20		H	9PMED9	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			3600			6ECBEN 4: 26-38 (1980)
			3388			6GERST
			3631			6GERST
			387			WEESA6 27: 450-455 (1979)
			204			WEESA6 27: 450-455 (1979)
			422			WEESA6 27: 450-455 (1979)
			541			WEESA6 27: 450-455 (1979)
			483			WEESA6 27: 450-455 (1979)
			302			WEESA6 27: 450-455 (1979)
			144			WEESA6 27: 450-455 (1979)
			209			WEESA6 27: 450-455 (1979)
			252			WEESA6 27: 450-455 (1979)
			341			WEESA6 27: 450-455 (1979)
			3446			WEESA6 22: 120-124 (1974)
			3000*			W
Field dissipation half-life(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
4, 7.5, 50				P	6USEPA	
<32-120				P	6EPAPF vol. I	
<310				E	6PESTB 6:229-238(1976)	
60*				W		





ARS PESTICIDE PROPERTIES last update May 1999

name: FLUMETRALIN

CASRN: 62924-70-3

molecular formula: C16H12CLF4N3O4

molecular weight : 421.7

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

-

Melting point(deg C):

101 - 103

H 9AHCB2

Decomposition point(deg C):

- 250

H 9PME10

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE\* 25 5-9 M 9CIBAG

Photolysis (per day):

1.16\* SOIL 22.5 M 9CIBAG

4.41\* WATER 25 7 M 9CIBAG

Vapor pressure (mPa):

0.032\* 25 H 9PME10

Water solubility (ppm): -temp- -source- -reference-

0.07\* 20 H 9PME10

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

0.193 H 9PME10

Octanol/water partitioning (log Kow):

5.45\* 25 H 9PME10

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
LOAMY SAND		541	56055	1.66		M	9CIBAG
SAND		405	57570	1.21		M	9CIBAG
SILT LOAM		1119	80195	2.4		M	9CIBAG
SILT LOAM		2655	63074	7.24		M	9CIBAG
HUMIC		8091	41173	33.8		M	9CIBAG
			59600*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
170	SILT LOAM(KY)			M	9CIBAG
212	LOAMY SAND(NC)			M	9CIBAG
191*					

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM(NC)	2000	14	M	9CIBAG

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: FLUMETSULAM

CASRN: 98967-40-9

molecular formula: C12H9N5F2O2S

molecular weight: 325.3

physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 6DOWCH

\*\*\*\*\*  
Key to sources: (M)anufacturer, (R)eview, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
251 - 253				H	9PME10
Decomposition point (deg C):					
Heat of vaporization:					
183 kJ/mole				M	6DOWCH
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE				M	6DOWCH
Photolysis (per day):					
STABLE	SOIL			M	6DOWCH
STABLE	WATER			M	6DOWCH
Vapor pressure (mPa):					
4E-10		25		M	6DOWCH
Water solubility (ppm):					
49			2.5	H	9PME10
5650*		25	7	M	6DOWCH
Organic solubility (ppm):					
1.6E4 ACETONE		25		M	6DOWCH
Henrys law (Pa m3/mol):					
2E-14		25		M	6DOWCH
Octanol/water partitioning (log Kow):					
0.21				M	6DOWCH
Acid dissociation (pKa):					
4.6				M	6DOWCH
Soil sorption:					
soiltype	temp.	Kd	Koc	pH	source reference
-----	-----	--	---	--	-----
		0.05-2.4	5-182		H 9PME10
			5-75		M 6DOWCH
			28*		M 6DOWCH
Field dissipation halflife(days):					
value	test area		pH		source reference
-----	-----		--		-----
18-68					M 6DOWCH
<30					H 9PME10
30-60					H 9PME10
47*					M 6DOWCH
Halflife in soil:					
soiltype	aerobic	anaerobic			source reference
-----	-----	-----			-----
LAB SOIL	3-130	183			M 6DOWCH
	AV.51*				M 6DOWCH

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: FLUOMETURON

CASRN: 2164-17-2

molecular formula: C10H11F3N2O

molecular weight : 232.21

physical state : S

(L=liquid; G=gas; S=solid)  
reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
163	- 164			M	9CIBAG		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE		25	5,7,9	M	9CIBAG		
Photolysis (per day):							
0.071*	SOIL***	25		M	9CIBAG		
STABLE*	WATER***	25	5-9	M	9CIBAG		
Vapor pressure (mPa):							
0.12*		25		M	9CIBAG		
6.7E-02		20		H	9ACHB2,2ND ED.,1987		
Water solubility (ppm):							
80		25		P	9EPARH, p.84,1979		
105		20		H	9ACHB2,2ND ED.,1987		
90		25		R	9MNNCP, p.233,1971		
110*		22		M	9CIBAG		
Organic solubility (ppm):							
1.1E+5*	METHANOL	20		H	9ACHB2,2ND ED.,1987		
1.1E+5*	ACETONE	20		H	9ACHB2,2ND ED.,1987		
2.3E+4*	DICHLOROMETHANE	20		H	9ACHB2,2ND ED.,1987		
1.7E+2*	N-HEXANE	20		H	9ACHB2,2ND ED.,1987		
Henry's law (Pa m <sup>3</sup> /mol):							
2.53E-4		25		M	9CIBAG		
Octanol/water partitioning (log Kow):							
2.38*		25		M	9CIBAG		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			200			E	JPFCD2,VB22(1):67,1987
			175			R	EESADV, 4:29,1980
			107			E	JPFCD2 22:55-69,1987
LOAM		01.64	59	4.8	5.9	M	9CIBAG
SAND		00.15	29	0.9	6.5	M	9CIBAG
SANDY LOAM		00.74	106	1.2	7.6	M	9CIBAG
SANDY LOAM		02.81	121	4.0	7.8	M	9CIBAG
			100*				
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
30						P	8EPAGR
60-75						R	8FULLE
171						M	9CIBAG
103						M	9CIBAG
95*							
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
SANDY LOAM(MD)	189*		378*			M	9CIBAG
Comments:							

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**Pesticide Properties Database -Data Entered May 1999****Name: Flupyr sulfuron methyl****CASRN: 144740-54-5****Molecular Formula:** C 15 H 13 F3 N5 Na 07 S**Molecular Weight:** 487.4**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Pesticide Manual, I 11h Ed.**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated  
(U)nknown, (EPA)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Melting Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
165-170				M	DuPont

**Decomposition (deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.016	Water	20	5	M	DuPont
0.058	Water	20	7	M	DuPont
1.65	Water	20	9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.017	Water	20	5	M	DuPont
0.077	Water	20	7	M	DuPont
1.73	Water	20	9	M	DuPont

**Vapor Pressure(mPa):**

Value	Medium	Temp	pH	Source	Reference
1.0E-6		20		M	DuPont

**Water Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
62.7	Water	20	5	M	DuPont
603	Water	20	6	M	DuPont
Unstable	Water	20	9	M	DuPont

**Organic Solubility(ppm):**

Value	Medium	Temp	pH	Source	Reference
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**Henry's Law Constant (Pa<sup>3</sup>/mol):**

Value	Medium	Temp	pH	Source	Reference
7.7E-9		25	5	M	DuPont
8.1E-10		25	6	M	DuPont

**Octanol/Water Partitioning (log Kow):**

Value	Medium	Temp	pH	Source	Reference
0.96		20	5	M	DuPont
0.11		20	6	M	DuPont
Unstable		20	9	M	DuPont

**Acid Dissociation Constant (pKa):**

Value	Medium	Temp	pH	Source	Reference
4.9				M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy loam	25	0.27	18	2.6	7.4	M	DuPont
Sandy loam	25	0.13	19	1.2	8.8	M	DuPont
Silt loam	25	0.30	24	2.2	7.4	M	DuPont
Clay loam	25	0.46	24	3.3	8.1	M	DuPont
Loamy sand	25	0.48	21	4.0	5.8	M	DuPont
Silt loam	25	0.31	36	1.5	8.0	M	DuPont
Loam	25	0.71	56	2.2	6.6	M	DuPont
Sandy loam	25	0.64	31	3.6	7.9	M	DuPont

**Field Dissipation Half-life(days):**

Value	Test Area	pH	%OM	Source	Reference
10	UK	7.3	3.3	M	DuPont
11	UK	7.3	3.3	M	DuPont
6	France	7.6	1.9	M	DuPont
6	DE	6.1	3.3	M	DuPont

**Half-life in Soil (days):**

Soil Type	Aerobic	Anaerobic	Source	Reference
Sandy loam	26		M	DuPont

Sandy loam	58 (10 C)		M	DuPont
Sandy loam	8		M	DuPont
Silt loam	16		M	DuPont
Clay loam	10		M	DuPont
Loam	16		M	DuPont
Sandy loam		31	M	DuPont

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: FLURIDONE

CASRN: 59756-60-4

molecular formula: C19H14F3NO

molecular weight : 329.3

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
154	-	155		H	9ACHB2		
Decomposition point(deg C):							
200	-	219					
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		100	3-9				
Photolysis (per day):							
0.55*	WATER	28		M	6DOWCH		
Vapor pressure (mPa):							
<.013		25		H	9HERBH		
0.013*		25		H	9ACHB2		
				M	7LILLY		
Water solubility (ppm):							
12		RT		H	9HERBH		
10*				M	7LILLY		
Organic solubility (ppm):							
>1E+4*	CHLOROFORM			H	9PMED8		
>1E+4*	METHANOL			H	9PMED8		
>500*	HEXANE			H	9PMED8		
Henry's law (Pa m3/mol):							
3.66E-4*				M	6DOWCH		
Octanol/water partitioning (log Kow):							
1.87*				M	6DOWCH		
Acid dissociation (pKa):							
12.3				E	WEESAG 38:421-428,1990		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			450			M	7LILLY
			883-2462			E	JEVQAA 9:151-156,1980
LOAMY SAND	25	3	350	1.5	8.1	M	6DOWCH
SAND	25	6	1000	1.0	6.5	M	6DOWCH

CLAY LOAM	25	11	1000	1.9	7.4	M	6DOWCH
SILTY CLAY LM	25	11	460	4.1	5.7	M	6DOWCH
LOAM	25	16	1100	2.6	5.7	M	6DOWCH

862\*

Field Dissipation half-life(days):

value	test area	pH	source	reference
21	(aquatic env.)		H	7HCHPH
			H	9HERBH
90			H	9HERBH 6TH ED., 1989
4-7			E	JEVQAA 9:151-156, 1980

34(4-90)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference

Comments:

SOIL SORPTION KOC VALUE=862(350-2462)

## Pesticide Properties Database Data Entered May 1999

**Name:** Flusilazole

**CASRN:** 85509-19-9

**Molecular Formula:** C 16 H 15 F2 N3 Si

**Molecular Weight:** 315.4

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Pesticide Manual, 11th Ed.

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated  
(U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

### Boiling Point (deg C):

Value	Medium	Temp	pH	Source	Reference

### Melting Point(deg C):

Value	Medium	Temp	pH	Source	Reference
53 - 55				M	DuPont

### Decomposition (deg C):

Value	Medium	Temp	pH	Source	Reference

### Hydrolysis(per day):

Value	Medium	Temp	pH	Source	Reference
Stable	Water	25	5,7,9	M	DuPont



**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.007	Soil	25	4.5	M	DuPont
Stable	Water	25	5,7,9	M	DuPont

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
3.9E-2		25		M	DuPont

**Water Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
50	Water	25	5.7	M	DuPont
45	Water	25	7.8	M	DuPont

**Organic Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference

**Henry's Law Constant (Pa 3/mol):**

Value	Medium	Temp	pH	Source	Reference
2.7E-4		25	7.8	M	DuPont

**Octanol/Water Partition Coefficient (log Kow):**

Value	Medium	Temp	pH	Source	Reference
3.75		25		M	DuPont

**Acid Dissociation Constant (pKa):**

Value	Medium	Temp	pH	Source	Reference
12.5		25		M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy loam	25	13	2038	1.1	6.6	M	DuPont
Sandy loam	25	12	985	2.1	6.6	M	DuPont
Silt loam	25	47	1885	4.3	5.4	M	DuPont
Silt loam	25	76	1747	7.5	5.2	M	DuPont

**Field Dissipation Half-life (days):**

Value	Test Area	pH	%OM	Source	Reference
239	DE	6.4	2.8	M	DuPont
389	NC	5.9	1.2	M	DuPont
294	MS	6.4	1.4	M	DuPont
328	FL	6.3	2.4	M	DuPont
509	ID	6.3	1.9	M	DuPont
26	Germany	7.2	1.7	M	DuPont
51	Germany	6.4	2.8	M	DuPont
55	Germany	6.9	2.2	M	DuPont

63	Germany	7.4	2.4	M	DuPont
153	Germany	7.2	1.7	M	DuPont

**Half-life in Soil(days):**

Soil Type	Aerobic	Anaerobic	Source	Reference
Sandy loam	420		M	DuPont
Silt loam	420		M	DuPont

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:FOMESAFEN**

**CASRN: 72178-02-0**

molecular formula: C15H10CLF3N2O6S

molecular weight : 438.5

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
220 - 221				H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
V. SLOW*				M	8ICIAG
Photolysis (per day):					
Vapor pressure (mPa):					
<0.1		50		H	9ACHB2 7TH ED.,1977
<13*		25		M	8ICIAG
Water solubility (ppm):		-temp-		-source-	-reference-
50				H	9HERBH 6TH ED.,1989
				M	8ICIAG
6E05 Na Salt				H	9HERBH 6TH ED.,1989
7E05 Na Salt				M	8ICIAG
Organic solubility (ppm):					
3E+5* ACETONE		20		H	9PMED8
1.5E+5* CYCLOHEXANE		20		H	9PMED8
1E+4* DICHLOROMETHANE		20		H	9PMED8
500* HEXANE		20		H	9PMED8
1.9E+3* XYLENE		20		H	9PMED8
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					
2.9*			pH 1	M	8ICIAG 03/01/90
-1.2*				M	8ICIAG 03/01/90

Acid dissociation (pKa):  
 2.7\* M 8ICIAG

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 60\* 8ICIAG

Field Dissipation halflife(days):  
 value test area pH source reference  
 180-360 H 9HERBH 6TH ED., 1989  
 100 M 8ICIAG  
 185(100-360)\*

Halflife in soil:  
 Soiltype aerobic anaerobic source reference

Comments:  
 WATER SOLUBILITY VALUE IS A FUNCTION OF pH.  
 OCTANOL WATER VALUE -1.2 Na Salt  
 VAPOR PRESSURE VALUE 0.0 Na Salt

ARS PESTICIDE PROPERTIES last update May 1999

name:FONOFOS CASRN: 944-22-9

molecular formula: C10H15OPS2  
 molecular weight : 246.32  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
130	0.1mmHg			H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.00161*		25	5,7	M	8ICIAG
0.00533*		25	9	M	8ICIAG
Photolysis (per day):					
0.077*	SOIL	25	5	M	8ICIAG,03/01/90
Vapor pressure (mPa):					
45*		25		M	8ICIAG
28				H	9ACHB2 7TH ED.,1977
27		25		E	JAFCAU 18:814-818,1970
Water solubility (ppm):					
13		25		E	JAFCAU 18:814-818,1970
				H	9ACHB2 1983 ED.
				C	8GLEAM
				H	9ACHB2 7TH ED.,1977
14				E	ETOCKD 8:339-357,1989
16.9*				M	8ICIAG
Organic solubility (ppm):					
MISCIBLE* ACETONE,ETHANOL				H	9PMED8
MISCIBLE* KEROSENE,XYLENE				H	9PMED8
MISCIBLE* 4-METHYLPENTAN-2-ONE				H	9PMED8
Henrys law (Pa m3/mol):					
0.656*				M	8ICIAG

Octanol/water partitioning (log Kow):

3.9\* 25 M 8ICIAG

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			68			E	JEVQAA 16:422-428,1987
						E	SCSFAD 44:1-8,1985
			3000			C	8GLEAM
			5105			E	ETOC DK 8:339-357,1989
			532			M	8ICIAG
			870			M	8ICIAG
			1920*				

Field Dissipation halflife(days):

value	test area	pH	source	reference
60			E	SCSFAD 44:1-8,1985
			E	JEVQAA 16:422-428,1987
				8CREAM
25			E	ETOC DK 8:339-357,1989
20			M	8ICIAG

37(20-60)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:FORMETANATE HCl

CASRN: 23422-53-9

molecular formula: C11H16CLN3O2

molecular weight : 257.72

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

-

Melting point(deg C):

191.2 - 202 H 9ACHB2

Decomposition point(deg C):

- 202 H 9PME10

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.011\* 22 5 M 6NORAM

0.72\* 22 7 M 6NORAM

8.32\* 22 9 M 6NORAM

Photolysis (per day):

1.02\* SOIL <30 M 6NORAM

0.0125\* WATER 28 5 M 6NORAM

0.98\* WATER 28 7 M 6NORAM

5.73\* WATER 28 9 M 6NORAM

Vapor pressure (mPa):

.025 25 H 9ACHB2

1.6E-03\* 25 H 9PME10

Water solubility (ppm): -temp- -source- -reference-

8.2E05\* 25 H 9PME10

5E05 25 H 9ACBH2 1983 ED.

Organic solubility (ppm):  
 2.83E5 METHANOL H 9PME10  
 1 ETHYL ACETATE H 9PME10  
 74 ACETONE H 9PME10  
 303 DICHLOROMETHANE H 9PME10  
 10 TOLUENE H 9PME10  
 Henrys law (Pa m3/mol):  
 5.0E-10\* 22 M 6NORAM  
 Octanol/water partitioning (log Kow):  
 -2.70\*  
 Acid dissociation (pKa):  
 8.0\* 25 H 9PMED8  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 16 C 8CREAM  
 275(16-620)\* H 9PME10  
 Field Dissipation halflife(days):  
 value test area pH %OM source reference  
 <1-9\* H 9PME10  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 12 M 6NORAM

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:FOSAMINE AMMONIUM CASRN: 25954-13-6**

molecular formula: C3H11N2O4P

molecular weight : 170.1

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)eviw, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
175	-			H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		25	5-9	M	9DUPON,1999
Photolysis (per day):					
0.0085*	SOIL	25	6.8	M	9DUPON
STABLE	WATER	25	5,7,9	M	9DUPON,1999
Vapor pressure (mPa):					
2.1*		25		M	9DUPON
Water solubility (ppm):					
1.79E+06*		25			9DUPON
Organic solubility (ppm):					
300*	ACETONE	25		M	9DUPON,1999
400*	BENZENE	25		M	9DUPON,1999
1.4E03*	DIMETHYL FORMAMIDE	25		M	9DUPON,1999
1.2E04*	ETHANOL	25		M	9DUPON,1999

200            HEXANE                            25                            M                            9DUPON,1999  
 1.58E05\*    METHANOL                            25                            M                            9DUPON,1999  
 Henrys law (Pa m3/mol):  
 2.0E-7                                            25                            7                            M                            9DUPON,1999  
 Octanol/water partitioning (log Kow):  
 -2.9                                            25                                                            9DUPON

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LOAM		0.22	34	1.1	6.6	M	9DUPON
SANDY LOAM		0.59	48	2.1	6.5	M	9DUPON
SANDY LOAM		2.7	108	4.3	5.4	M	9DUPON
SANDY LOAM		350	12800	4.7	4.3	M	9DUPON

63\*

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
<1	TENNESSEE	5.2	0.5	M	9DUPON
<1	DELAWARE	5.5	0.7	M	9DUPON
~5	N.CAROLINA	6.5	1.0	M	9DUPON

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM(DE)	7*		M	9DUPON,1999
SILT LOAM(DE)	7		M	9DUPON,1999
SILT LOAM(DE)	0.5		M	9DUPON,1999
SANDY LOAM(MD)		4	M	9DUPON,1999

Comments:

SOIL SORPTION KOC VALUE=63(34-108);

AEROBIC 7=PH6.5 @24 DEGREES C.

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:FOSETYL-ALUMINUM**

**CASRN: 39148-24-8**

molecular formula: C6H18AlO9P3

molecular weight : 354.1

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
Decomposition point(deg C):					
- 200				H	9PME10
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.122*		25	5	M	9RHPOU
Photolysis (per day):					
Vapor pressure (mPa):					
<1.3				H	9ACHB2 1983 ED.
<1.3E-2*		25		M	9RHPOU
Water solubility (ppm):					
1.2E+5		-temp-		-source-	-reference-
		20-25		H	9PMED8,8TH ED.,p.438,1987

1.2E+5*		20		M	9RHPOU
Organic solubility (ppm):					
9.2E+2*	METHANOL	20		M	9RHPOU
.5E+1*	ETHYL ACETATE	20		M	9RHPOU
1.3E+1*	ACETONE	20		M	9RHPOU
8.0E+1*	ACETONITRILE	20		H	9ACHB2,2ND ED.,1987
8.0E+1*	PROPYLENE GLYCOL	20		H	9ACHB2,2ND ED.,1987
Henrys law (Pa m3/mol):					
<3.9E-8*		20		M	9RHPOU
Octanol/water partitioning (log Kow):					
-2.28		25		M	9RHPOU
-2.77		25		M	9RHPOU
-2.53*		25			
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			20			9RHPOU
SANDY LOAM		06.5	311	3.6	5.3	9RHPOU
			166*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
2-10*	FOLIAGE		H	9ACHB2 1983 ED.
<1HR*	SOIL		M	9RHPOU

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM	.01*	.58*	M	9RHPOU

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:GLUFOSINATE-AMMONIUM**

**CASRN: 77182-82-2**

molecular formula: C5H15N2O4P

molecular weight : 198.19

physical state : S

(L=liquid; G=gas; S=solid)

reference:

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
ca.210	-			M	8HOECH
Decomposition point(deg C):					
- ca. 210					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<2.3E-3		25	5,7,9	M	8HOECH
Photolysis (per day):					
1.95E-2	SOIL			M	8HOECH
<2.3E-3	WATER			M	8HOECH
Vapor pressure (mPa):					
<0.1		25		M	8HOECH
Water solubility (ppm):					
1.37E06*		-temp-		-source-	-reference-
				H	9ACHB2
				M	8HOECH

Organic solubility (ppm):

140	ETHYL ACETATE	25		M	8HOECH
160	ACETONE	25		M	8HOECH
140	TOLUENE	25		M	8HOECH
200	N-HEXANE	25		M	8HOECH
650	ETHYL ALCOHOL	25		M	8HOECH

Henry's law (Pa m<sup>3</sup>/mol):

<1.4E-8 M 8HOECH

Octanol/water partitioning (log Kow):

<0.1	22	7		M	8HOECH
------	----	---	--	---	--------

Acid dissociation (pKa):

<2 pK1				M	8HOECH
2.9 pK2				M	8HOECH
9.8 pK3				M	8HOECH

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SILT LOAM			352			M	8HOECH
SILT LOAM			156			M	8HOECH
SAND			9.6			M	8HOECH
VOLCANIC ASH			1229			M	8HOECH
			430*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
30-40				H	9ACHB2
13(6-20)*				M	8HOECH

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	3.7		M	8HOECH
SILT LOAM	8.3		M	8HOECH
LOAMY SAND	6.4		M	8HOECH
MARSHY SOIL	6.6		M	8HOECH
PEAT SOIL	10.0		M	8HOECH
	7*		M	8HOECH
		5-10	M	8HOECH

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: GLYPHOSATE CASRN: 1071-83-6**

molecular formula: C<sub>3</sub>H<sub>8</sub>NO<sub>5</sub>P

molecular weight : 169.1

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
200	-			H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE *		5-30	3,6,9	M	9MONSA
Photolysis (per day):					



STABLE *	SOIL	22				
STABLE *	WATER	24.5	5-9	M	9MONSA	
Vapor pressure (mPa):						
<0.010 *		25		M	9MONSA	
Water solubility (ppm):						
1.2E+04 *		25			9HERBH	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
<1.4E-07 *		25		M	9MONSA	
Octanol/water partitioning (log K <sub>ow</sub> ):						
-1.6 *				M	9MONSA	
Acid dissociation (pK <sub>a</sub> ):						
5.6 *				M	9MONSA	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			2640			EESADV
			2100 *			EESADV
			500			8GLEAM
DUPO SILT LOAM		33				9MONSA
DRMMER SLTY CLY		324				9MONSA
Field Dissipation half-life(days):						
value	test area		pH	source		reference
21				H		9ACHB2 1983 ED.
38				R		9EINSP PP.23-67
<60				H		9HERBH
30				C		8GLEAM
47.2				M		9MONSA
14.8	FOREST SOIL					
24.2	FOREST SOIL					
2-174	SOIL 5-77 FIELD			M		9MONSA
27-56	SOIL 2-82 FIELD			M		9MONSA
27.9-30.9	SOIL 3-79 FIELD			M		9MONSA
9.5-14.3	FOLIAGE 6-79 FILED			M		9MONSA
37(2-174) *						
Half-life in soil:						
Soiltype	aerobic	anaerobic		source		reference
	0.9 *			M		9MONSA

Comments:

AEROBIC 0.9=(0.6-1.1)

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: HALOXYFOP-METHYL** **CASRN: 69806-40-2**

molecular formula: C<sub>16</sub>H<sub>13</sub>ClF<sub>3</sub>N<sub>2</sub>O<sub>4</sub>

molecular weight: 375.7

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
55 - 57				H	9PME10

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

0.086	25	H	9PMED9
0.80*	25	H	9PME10
Water solubility (ppm):			
9.3*	25	H	9PME10
43(PARENT)	25	H	9HERBH 6th ED 1989
Organic solubility (ppm):			
MISCIBLE IN MANY ORGANIC SOLVS.		H	9PME10
Henry's law (Pa m <sup>3</sup> /mol):			
0.032	25	H	9PME10
Octanol/water partitioning (log Kow):			
4.068		H	9PME10
Acid dissociation (pKa):			

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			91			WEESA6 35: 282-288 (1987)
			75*			6PNCWC 38: 10 (1983)

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
<1			H	9PMED9
27 (PARENT)	SANDY LOAM		E	JAFCAU 33: 972-976
38 (PARENT)	CLAY		E	JAFCAU 33: 972-976
92 (PARENT)	CLAY LOAM		E	JAFCAU 33: 972-976
22-100(AV.55)*			E	6PNCWC 38: 10 (1983)
			H	9HERBH 6th ED 1989

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: HEPTACHLOR**

**CASRN: 76-44-8**

molecular formula: C<sub>10</sub>H<sub>5</sub>CL<sub>7</sub>

molecular weight: 373.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2 1983

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
135 - 145 AT 1-1.5 MM HG				H	6MONTG
Melting point (deg C):					
95 - 96				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.128		25	4.5	H	6MONTG

0.160 25 5.0 H 6MONTG  
 0.155 25 6.0 H 6MONTG  
 0.155 25 7.0 H 6MONTG  
 0.230 25 8.0 H 6MONTG  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 40 25 C 6RENCT 99: 120-164 (1987)  
 H 9FACHB 1990  
 53\* 25 H JEVGAA 12: 195-197 (1983)  
 H 9ACHB2 1983  
 H 9PME10  
 30 R RREVAH 103: 1-59 (1988)  
 Water solubility (ppm):  
 0.056\* 25-29 H 9PMED9  
 H 9ACHB2 1983  
 0.18 25 R 6EXTOX  
 0.030 C ESTHAG 14: 553-556 (1980)  
 Organic solubility (ppm):  
 SOLUBLE IN MANY ORGANIC SOLVS. H 6MONTG  
 Henrys law (Pa m3/mol):  
 353.3 25 H 9PME10  
 Octanol/water partitioning (log Kow):  
 4.4-5.5 H 6MONTG  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			661000			RREVAH 103: 1-59 (1988)
			30000			CMSHAF 10: 833-846 (1981)
			24000*			ESTHAG 14: 553-556 (1980)
			13330			JEVQAA 16: 422-428 (1987)
						ETOC DK 8: 339-357 (1989)

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
182-1277			R	6EXTOX
40-69			C	6JENEN 114: 689-703 (1988)
2000			C	JEVQAA 16: 422-428 (1987)
			R	RREVAH 85: 139-147 (1983)
2000			C	SCSFAD 44: 1-8 (1985)
336-551			P	6USEPA
330,227,246			C	8CREAM
109			C	ETOC DK 8: 339-357 (1989)
270-300			H	9ACHB2 1983
426			C	9EINSP pp. 23-67 (1980)
250*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: HEXACHLOROBENZENE(HCB)

CASRN: 118-74-1

molecular formula: C6CL6

molecular weight: 284.8

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
323 - 326				H	9PME10	
Melting point (deg C):						
227 - 230				H	6MONTG	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE		85	3,7,11	H	6MONTG	
Photolysis (per day):						
Vapor pressure (mPa):						
1.45		20		H	9PME10	
				H	6MONTG	
Water solubility (ppm):						
0.005		25		R	6EXTOX	
0.006				E	6RAOKR pp. 53-63 (1978)	
0.040*		20		H	6MONTG	
Organic solubility (ppm):						
SOLUBLE IN HOT BENZENE,CS2, CHLOROFORM AND DIETHYL ETHER						
Henry's law (Pa m <sup>3</sup> /mol):						
10.32		20		H	6MONTG	
Octanol/water partitioning (log Kow):						
3.93-6.42				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			10965			6GERST
			1.71E6			ESTHAG 14: 553-556 (1980)
			1.02E7			6EXTOX
			8.65E5			6RAOKR pp. 53-63 (1978)
			34674			CMSHAF 17: 67-77 (1988)
			20893			CMSHAF 17: 67-77 (1988)
			501			CMSHAF 17: 67-77 (1988)
			363			CMSHAF 17: 67-77 (1988)
			6730-			JAFCAU 32: 243-6 (1984)
			30764			
		462.8	30649	2.60		6MONTG
			50000*			W
Field dissipation half-life(days):						
value	test area		pH	source	reference	
985-2080				H	6DEGRA	
1155				C	8CREAM	
14(0-20CM)				E	WEESA6 31: 368-372 (1983)	
				E	JEVQAA 20: 420-424 (1991)	
1000*				W		
Half-life in soil:						
soiltype	aerobic	anaerobic		source	reference	

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Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:HEXAZINONE

CASRN: 51235-04-2

molecular formula: C12H20N4O2

molecular weight : 252.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
115	-	117		M	9DUPON,1999		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		25	5,7,9	M	9DUPON		
Photolysis (per day):							
0.0085*	SOIL	30	6.4(1%OM)	M	9DUPON		
<0.0023*	WATER	25	7	M	9DUPON		
Vapor pressure (mPa):							
8.5		86		M	9DUPON,1999		
<1.3E-5		25		M	9DUPON,1999		
Water solubility (ppm):							
29800		25	5,7,9	M	9DUPON,1999		
Organic solubility (ppm):							
7.9E05*	ACETONE	25		H	9PMED8		
9.4E05*	BENZENE	25		H	9PMED8		
3.88E6*	CHLOROFORM	25		H	9PMED8		
8.36E5*	DIMETHYL FORMAMIDE	25		H	9PMED8		
3E03*	HEXANE	25		H	9PMED8		
2.65E6*	METHANOL	25		H	9PMED8		
3.86E5*	TOLUENE	25		H	9PMED8		
Henry's law (Pa m3/mol):							
1.1E-7*		25	5,7,9	M	9DUPON,1999		
Octanol/water partitioning (log Kow):							
1.17(1.16-1.19)		25		M	9DUPON		
Acid dissociation (pKa):							
2.2*							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LM(CA)	25	0.24	41	1.0	6.4	M	9DUPON
SANDY LM(MD)	25	0.45	37	2.1	6.5	M	9DUPON
SILT LM(IL)	25	1.03	41	4.3	5.4	M	9DUPON
LOAM(CA)	25	10.80	<300	0.8	8.0	M	9DUPON
SANDY LM(NJ)	25	0.18	34	0.9	6.4	M	9DUPON,1999
SANDY LM(ID)	25	0.56	74	1.3	8.3	M	9DUPON,1999
LOAM(CA)	25	0.59	54	1.9	7.7	M	9DUPON,1999
SILT LOAM(IL)	25	0.53	38	2.4	6.8	M	9DUPON,1999
Field Dissipation halflife(days):							
value	test area	pH	%OM	source	reference		

<30				E	SCSFAD 44:18-24,1985
90				M	9DUPON
79(30-180)*					
75	SILT LOAM(DE)	6.4	2.7	M	9DUPON
75	SILT LOAM(IL)	5.0	4.0	M	9DUPON
154	SILT LOAM(MS)	7.0	0.7	M	9DUPON,1999
123	LOAM(DE)	6.3	1.5	M	9DUPON,1999
140	SANDY LOAM(CA)	8.1	1.1	M	9DUPON,1999

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	88*		M	9DUPON
SANDY LOAM	216DARK		M	9DUPON,1999
SILT LOAM	39-54		M	9DUPON,1999
SANDY LOAM	27-72		M	9DUPON,1999

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:HYDRAMETHYLNON**

**CASRN: 67485-29-4**

molecular formula: C25H24F6N4

molecular weight : 494.5

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
185	-	190		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.024*			4.9	H	9PME10
0.066*			7.03	H	9PME10
0.060			8.87	H	9PME10
Photolysis (per day):					
16.6				H	9PME10
Vapor pressure (mPa):					
.0027*		25		H	9ACHB2
Water solubility (ppm):					
0.006*		25		H	9PMED8
Organic solubility (ppm):					
Henry's law (Pa m3/mol):					
0.223*		25		H	9ACHB2
Octanol/water partitioning (log Kow):					
2.31*				H	9PME10
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			7.3E+5*		
Field Dissipation half-life(days):					
value	test area		pH	source	reference
7-28				H	9ACHB2

18(7-28)\*

Half-life in soil:

Soiltype aerobic anaerobic source reference

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: IMAZALIL

CASRN: 35554-44-0

molecular formula: C14H14CL2N2O

molecular weight: 297.18

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
>340				H	9PME10
Melting point (deg C):					
52.7				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.0093		20		H	9ACHB2 1983
0.158*		20		H	9PME10
Water solubility (ppm):					
293		20		H	9FACHB 1990
180*		20	7.6	H	9PME10
Organic solubility (ppm):					
>5E5	ACETONE	20		H	9PME10
>5E5	DICHLOROMETHANE	20		H	9PME10
>5E5	ETHANOL	20		H	9PME10
>5E5	METHANOL	20		H	9PME10
>5E5	ISOPROPANOL	20		H	9PME10
>5E5	XYLENE	20		H	9PME10
>5E5	TOLUENE	20		H	9PME10
>5E5	BENZENE	20		H	9PME10
1.9E4	HEXANE	20		H	9PME10
Henry's law (Pa m3/mol):					
2.61E-4		20		H	9PME10
Octanol/water partitioning (log Kow):					
3.82			9.2	H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			4166			6USEPA
			4463			6USEPA
			4169			6GERST
			6918			6GERST
			4704			6GHENT 53:1433-1442 (1988)

3543	6GHENT 53:1433-1442 (1988)
8150	6GHENT 53:1433-1442 (1988)
5534	6GHENT 53:1433-1442 (1988)
4000*	W

Field dissipation half-life(days):

value	test area	pH	source	reference
120-150			E	6EXTOX
189			P	6USEPA
170			E	6GHENT 50: 895-906 (1985)
30-170			H	9PME10
150*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

**name: IMAZAMETHABENZ-ME(P-ISOMER) CASRN: 81405-85-8**

molecular formula: C16H20N2O3

molecular weight : 288.35

physical state : S

(L=liquid; G=gas; S=solid)

reference:9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)author  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
113	-	153**		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):**					
0.0015*				M	9AMCY1
Water solubility (ppm):					
857*		-temp-		-source-	-reference-
				H	9ACHB2
				M	9AMCY1
				M	9AMCY1
Organic solubility (ppm):**					
2.3E05*	ACETONE	25		H	9ACHB2
2.16E05*	DIMETHYL SULFIDE	25		H	9ACHB2
600*	N-HEPTANE	25		H	9ACHB2
1.83E05*	ISOPROPANOL	25		H	9ACHB2
3.09E05*	METHANOL	25		H	9ACHB2
1.72E05*	DICHLOROMETHANE	25		H	9ACHB2
4.5E04*	TOLUENE	25		H	9ACHB2
Henry's law (Pa m3/mol):					
5.05E-7*					
Octanol/water partitioning (log Kow):					
1.54				H	9PME10
Acid dissociation (pKa):					
2.9*		24		H	9PME10



Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			35			9AMCY1

Field Dissipation halflife(days):

value	test area	pH	source	reference
30-276			H	9ACHB2
45(30-276)*			M	9AMCY1

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference

Comments:  
\*\* VALUES FOR MIXED O,P ISOMERS

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:IMAZAPYR ACID** **CASRN: 81334-34-1**  
molecular formula: C13H15N3O3  
molecular weight : 261.3  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference:9ACHB2

---

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
169	-	173		H	9ACHB2	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE*			5-9	H	9PME10	
Photolysis (per day):						
0.116*	WATER		5-9	H	9PME10	
Vapor pressure (mPa):						
<0.013E*		60		H	9PME10	
Water solubility (ppm):						
1.5E04*		-temp-		-source-	-reference-	
1.13E4		25		H	9PME10	
1.1E4*		25		M	9AMCY1	
Organic solubility (ppm):						
Henry's law (Pa m3/mol):						
3.0E-7*				H	9PME10	
Octanol/water partitioning (log Kow):						
0.114*		22		H	9PME10	
Acid dissociation (pKa):						
1.9				H	9PME10	
3.6				H	9PME10	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			100(EST)*			W
Field Dissipation halflife(days):						
value	test area	pH	source	reference		
90-712			H	9HERBH 6TH ED.,1989		
			H	9ACHB2		
90*			M	9AMCY1		
Halflife in soil:						

Soiltype aerobic anaerobic source reference  
Comments:

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ARS PESTICIDE PROPERTIES last update May 1999

**name: IMAZAPYR ISOPROPYLAMINE SALT** CASRN: 81510-83-0

molecular formula: C16H24N4O3

molecular weight : 320.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9PMED8

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
128	-	130		H	9PMED8	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE (parent)			5-9	H	9PMED8	
Photolysis (per day):						
0.115			5-9	H	9PMED8	
Vapor pressure (mPa):						
0.0*						
Water solubility (ppm):						
6.5E05*		-temp-		-source-	-reference-	
				H	9PMED8	
Organic solubility (ppm):						
Henry's law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
0.1 (parent)				H	9PMED8	
Acid dissociation (pKa):						
3.6* (parent)				H	9PMED8, 9TH ED.	
1.9* (parent)				H	9PMED8, 9TH ED.	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
Field Dissipation halflife(days):						
value	test area		pH	source		reference
90-712				H		9HERBH 6TH ED.,1989
90				M		9AMCY1
Halflife in soil:						
Soiltype	aerobic		anaerobic	source		reference
	ca. 4.5			H		9PMED8

Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: IMAZAQUIN ACID** CASRN: 81335-37-7

molecular formula: C17H17N3O3

molecular weight: 311.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

---

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook,(E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
219 - 224				H	9PME10	
Decomposition point (deg C):						
224				H	9PME10	
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
<0.013		60		H	9PME10	
Water solubility (ppm):						
60		25		P	6USEPA	
60-120				H	9ACHB2 1983	
				R	WEESAG 37: 712-718 (1989)	
Organic solubility (ppm):						
400	TOLUENE	25		H	9PME10	
6.8E4	DIMETHYLFORMAMIDE	25		H	9PME10	
1.59E5	DIMETHYL SULFOXIDE	25		H	9PME10	
1.4E4	DICHLOROMETHANE	25		H	9PME10	
Henrys law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
0.34		22		H	9PME10	
Acid dissociation (pKa):						
3.8				H	9PMED9	
				E	WEESA6 36: 78-83 (1988)	
				E	6RAOKR pp. 53-63 (1978)	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			15		5.3	6USEPA
			16		5.3	6USEPA
			19		5.3	6USEPA
			17-36			6GERST
			4-		7.8-	WEESAG 37: 712-718 (1989)
			245		4.5	
			AV.75			
			2638		5	WEESA6 38: 67-73 (1990)
			541		6	WEESA6 38: 67-73 (1990)
SANDY CLAY			359		7	WEESA6 38: 67-73 (1990)
SANDY LOAM			125		5	WEESA6 38: 67-73 (1990)
			20*		7	W
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
30-90				H	9PMED9	
7-30				H	9ACHB2 1983	
60-120				R	WEESAG 37: 712-718 (1989)	
60*				W		
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	
Comments:						

ARS PESTICIDE PROPERTIES last update May 1999

name: IMAZAQUIN-AMMONIUM

CASRN: 81335-47-9

molecular formula: C17H20N4O3  
 molecular weight : 328.37  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
219	-	224	(parent)	H	9ACHB2
Decomposition point(deg C):					
219	-	224	(parent)	H	9HERBH,6THED,1989
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<0.023*					
Photolysis (per day):					
Vapor pressure (mPa):					
0.0*		45		H	9HERBH 6TH ED.,1989
Water solubility (ppm):					
60-120	(parent)	25		H	9ACHB2
600	(parent)			H	9HERBH 6TH ED.,1989
160,000*				C	8CREAM
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					
0.342*	(parent)			H	9PME10
Acid dissociation (pKa):					
3.8*	(parent)			E	WEESA6, 36:786(1988)
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			20(EST.)*		7
					W
Field Dissipation halflife(days):					
value	test area		pH	source	reference
90*				H	9HERBH 6TH ED.,1989
Halflife in soil:					
Soiltype		aerobic	anaerobic	source	reference
Comments:					

ARS PESTICIDE PROPERTIES last update May 1999

name: IMAZETHAPYR

CASRN: 81335-77-5

molecular formula: C15H19N3O3  
 molecular weight : 289.3  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):

169 - 173

H 9PME10

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

<0.013 60 H 9PME10

Water solubility (ppm): -temp- -source- -reference-

1400\* 25 H 9HERBH 6TH ED.,1989

1415 H 9FACHB 1990

Organic solubility (ppm):

1.05E5 METHANOL H 9PME10

4.82E4 ACETONE H 9PME10

5E3 TOLUENE H 9PME10

1.8TE5 CL2ME H 9PME10

Henry's law (Pa m3/mol):

Octanol/water partitioning (log Kow):

1.04 (pH5) H 9PME10

1.5 (pH7) H 9PME10

1.2 (pH9) H 9PME10

Acid dissociation (pKa):

3.9\* E WEESA6, 36:78(1988)

Soil sorption:

soiltype temp. Kd Koc %om pH reference  
7\* CSMHAF 10:833-845,1981

Field Dissipation halflife(days):

value test area pH source reference  
60-130 E WEESA6 38:421-428,1990 95(60-130)\*

Halflife in soil:

Soiltype aerobic anaerobic source reference

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: IPRODIONE**

**CASRN: 36734-19-7**

molecular formula: C13H13CL2N3O3

molecular weight : 330.17

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

Melting point(deg C):

136 - H 9ACHB2,2ND ED.,1987

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.00770\* 25 5 M 9RHPOU

Photolysis (per day):  
0.069 SOIL 0 M 9RHPOU  
0.165\* SOIL 25 M 9RHPOU  
Vapor pressure (mPa):  
<1.3E-02\* 25 M 9RHPOU  
Water solubility (ppm): -temp- -source- -reference-  
13.9\* 25 M 9RHPOU  
13 20 H 9ACHB2,2ND ED.,1987  
Organic solubility (ppm):  
1.9E+5\* ACETONITRILE 20 M 9RHPOU  
2.5E+4\* ETHANOL 20 H 9ACHB2,2ND ED.,1987  
1.5E+5\* TOLUENE 20 H 9ACHB2,2ND ED.,1987  
2.0E+5\* BENZENE 20 H 9ACHB2,2ND ED.,1987  
5.0E+5\* DICHLOROMETHANE 20 H 9ACHB2,2ND ED.,1987  
5.0E+5\* DIMETHYLFORMAMIDE 20 H 9ACHB2,2ND ED.,1987  
3.0E+5\* ACETOPHENONE 20 H 9PMED8,8TH ED.,p.484,1987  
3.0E+5\* ANISOLE 20 H 9PMED8,8TH ED.,p.484,1987  
3.3E+5\* ACETONE 20 M 9RHPOU  
8.0E+2\* HEXANE 20 M 9RHPOU  
Henry's law (Pa m3/mol):  
3.17E-04\* 25 M 9RHPOU  
Octanol/water partitioning (log Kow):  
3.10\* 22 M 9RHPOU  
Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
LOAM 30.4 30.4 4.6 6.0 CMSHAF 10:833-845,1981  
666\* 9RHPOU  
Field Dissipation halflife(days):  
value test area pH source reference  
<7 SOIL-NON CROP R RREVAH 99:83-117,1987  
M 9RHPOU  
Halflife in soil:  
Soiltype aerobic anaerobic source reference  
LOAM 50\* 20\* M 9RHPOU  
Comments:  
SOIL SORPTION KOC VALUE=666(30-1300)

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: ISAZOFOS CASRN: 42509-80-8**

molecular formula: C9H17CLN3O3PS

molecular weight : 313.7

physical state : L

(L=liquid; G=gas; S=solid)

reference:

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):  
100 - 0.001mmHg H 9ACHB2 7TH ED.,1977  
Melting point(deg C):

-  
Decomposition point(deg C):

- 210

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0060*		25	5	M	9CIBAG
0.0136*		25	7	M	9CIBAG
0.0495*		25	9	M	9CIBAG

Photolysis (per day):

0.173*	SOIL	25	7.5	M	9CIBAG
0.04	SOIL	25	7.5	M	9CIBAG
0.017*	WATER	25	5	M	9CIBAG

Vapor pressure (mPa):

11.6*		25		M	9CIBAG
4.3		20		H	9ACHB2 7TH ED.,1977

Water solubility (ppm):

69*	-temp-			-source-	-reference-
34	20			M	9CIBAG
				M	9CIBAG

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

0.0527*	25			M	9CIBAG
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Octanol/water partitioning (log Kow):

3.1\*

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
CLAY		3.92	139	4.8	5.9	9CIBAG
SAND		0.28	52.9	0.9	6.5	9CIBAG
SILT LOAM		2.38	385	1.0	7.5	9CIBAG
SANDY LOAM		0.54	91.3	1.0	8.5	9CIBAG
SANDY LOAM		1.18	105.9	1.9	7.5	9CIBAG
			155*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
5.9	FL		M	9CIBAG
2.5	NJ		M	9CIBAG
48.4	NJ		M	9CIBAG
34	CA		M	9CIBAG
13			M	9CIBAG
4.9			M	9CIBAG

18(2.5-48.4)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	40.5*	14	M	9CIBAG

Comments:

PHOTOLYSIS VALUE 0.173 = NAT; VALUE 0.04 = ART

SOIL SORPTION KOC VALUE=155(53-385); AEROBIC=40.5(4-77);

ANAEROBIC=14(8.1-20)

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: ISOFENPHOS**

**CASRN: 25311-71-1**

molecular formula: C<sub>15</sub>H<sub>24</sub>NO<sub>4</sub>

molecular weight : 345.4

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9MILES

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):  
-12 - H 9ACHB2,2ND ED., 1987

Decomposition point(deg C):  
- -

Heat of vaporization(deg C):  
--RATE CONSTANTS--

Hydrolysis (per day):  
<0.023\* 25 5,7,9 M 6MILES

Photolysis (per day):  
0.0096\* SOIL 12-27 OD M 6MILES  
0.0007\* WATER 25 M 6MILES

Vapor pressure (mPa):  
0.293\* 25 M 6MILES  
0.53 20 H 9PMED8,8TH ED.,p.486,1987  
0.4 20 H 9ACHB2 1983 ED.

Water solubility (ppm): -temp- -source- -reference-  
22.1 20 E JPFCD2,VB18(2):225,1983  
18\* 20 M 6MILES  
24 20 H 9PMED8,8TH ED.,p.486,1987  
23.8 20 H 9ACHB2  
20 20 H 9FACHB 1990

Organic solubility (ppm):  
>2.0+5\* 2-PROPANOL 20 M 6MILES  
>2.0+5\* DICHLOROMETHANE 20 M 6MILES  
>2.0E+5\* TOLUENE 20 M 6MILES  
>6.0E+5\* CYCLOHEXANONE 20 H 9PMED8,8TH ED.,p.486,1987

Henrys law (Pa m3/mol):  
4.2E-03\* 20 M 6MILES

Octanol/water partitioning (log Kow):  
3.30\* 20 M 6MILES

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			17			R	EESADV
SILT LOAM		5.6	535	1.8	2.6	M	6MILES
SANDY LOAM		10.3	611	2.9	2.5	M	6MILES
SAND	25	7.76	1474**	1.0	4.3	M	6MILES
SANDY LOAM	25	5.81	1004**	1.1	6.6	M	6MILES
SILT LOAM	25	10.1	663**	2.9	5.9	M	6MILES
CLAY LOAM	25	8.64	746**	2.2	6.4	M	6MILES
			777*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
69				P	8EPAGR
127				P	8EPAGR
30->270				P	8EPAGR
>90				P	8EPAGR
>365				P	8EPAGR
45-200				P	8EPAHO
100-200				R	8FULLE
67	TX SANDY LOAM	7.0		M	6MILES
100	AZ SANDY LOAM	6.6		M	6MILES
31	KS, SILT LOAM	6.2		M	6MILES
32	KS, SLTY CLY LOAM	6.1		M	6MILES
22	MN, SANDY LOAM	7.0		M	6MILES
12	GA, LOAMY SAND	6.0		M	6MILES

103(12-365)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM	59		M	6MILES





Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: ISOXABEN

CASRN: 82558-50-7

molecular formula: C18H24N2O4

molecular weight: 332.4

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2 1983

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
176 - 179				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE			5-9	H	9PME10
Photolysis (per day):					
Vapor pressure (mPa):					
0.053		25		H	9ACHB2 1983
<0.05				H	9ACHB2 1983
5.5E-4*		25		H	9PME10
Water solubility (ppm):					
1-2		25		H	9ACHB2 1983
1				H	9HERBH 6th ED 1989
1.42*		20		H	9PME10
Organic solubility (ppm):					
SOLUBLE IN MANY ORGANIC SOLVS.				H	9PME10
Henry's law (Pa m3/mol):					
1.29E-4		25		H	9PME10
Octanol/water partitioning (log Kow):					
0.937		20	5.1	H	9PME10

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			6730			9ACHB2 1983
						CMSHAF 10: 833-846 (1981)
			1453			6USEPA
			1442			6USEPA
			1457			6USEPA
			357			6USEPA
			1400*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
150-180			H	9ACHB2 1983
			H	9HERBH 6th ED 1989
30-40	FL		P	6USEPA
90-120			H	9PME10
100*			W	



**Molecular Weight:** 234.3

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Pesticide Manual, 11th Ed.

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment  
(C)alculated, (U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
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**Melting Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
315.6-3				H	Pest. Manual

**Decomposition (deg C):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
Stable	Water	25	5	M	DuPont
Stable	Water	25	7	M	DuPont
Stable	Water	25	9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
Stable	Water	25	5	M	DuPont
Stable	Water	25	7	M	DuPont
0.014	Water	25	9	M	DuPont

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
2.7E-4		25		M	Dupont

**Water Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
4	Water	20	5	M	DuPont
3	Water	20	7	M	DuPont
3	Water	20	9	M	DuPont

**Organic Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
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**Henry's Law Constant (Pa 3/mol):**

Value	Medium	Temp	pH	Source	Reference
1.59E-5		25	5	M	DuPont
2.11 E-5		25	7	M	DuPont

2.11 E-5                                              25                                              9                                              M                                              DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
2.31		25		M	DuPont

**Acid Dissociation Constant (pKa):**

Value	Medium	Temp	pH	Source	Reference
10.3				M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Loamy sand	25	0.35	75	0.8		M	DuPont
Sandy loam	25	0.61	81	1.3		M	DuPont
Loam	25	2.8	254	1.9		M	DuPont

**Field Dissipation Half-life (days):**

Value	Test Area	pH	%OM	Source	Reference
20	Puch, Germany			M	DuPont
59	Pattensen, Germany			M	DuPont
78	Speyer, Germany			M	DuPont
44	Birkenmoor, Germany			M	DuPont
63	Aarbergen, Germany			M	DuPont

**Half-life in Soil(days):**

Soil Type	Aerobic	Anaerobic	Source	Reference
Silt loam	82		M	DuPont
Sandy loam	84		M	DuPont
Sandy loam	150		M	DuPont

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:** LINDANE **CASRN: 58-89-9**  
 molecular formula: C<sub>6</sub>H<sub>6</sub>CL<sub>6</sub>  
 molecular weight : 290.85  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
112	-	113		H	9FACHB
Decomposition point(deg C):					
-		180			
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

1.2	20	H	9ACHB2 1983 ED.
4.4	20	E	JAFCAU 18:529-530,1970
17	30	E	JAFCAU 18:529-530,1970
5.6	20	H	9ACHB2
2.9	20	R	9HRLCP
4.4*		M	9RHPOU

Water solubility (ppm):

	-temp-	-source-	-reference-
7*	20	E	ESTHAG 9:1178-1180,1975
		C	8GLEAM
		M	9RHPOU
11		E	ETOC DK 8:339-357,1989
6.6	20	E	JAFCAU 18:814-818,1970

Organic solubility (ppm):

7.4E+3*	METHANOL	20	H	9PMED8
6.4E+3*	ETHANOL	20	H	9PMED8
2.89E+4*	BENZENE	20	H	9PMED8
2.76E+4*	TOLUENE	20	H	9PMED8
2.47E+4*	XYLENE	20	H	9PMED8
2.08E+4*	DIETHYL ETHER	20	H	9PMED8
3.57E+4*	ETHYL ACETATE	20	H	9PMED8
2.4E+4*	CHLOROFORM	20	H	9PMED8
6.7E+3*	CARBON TETRACHLORIDE	20	H	9PMED8
3.14E+4*	DIOXANE	20	H	9PMED8
2.9E+3*	PETROLEUM ETHER	20	H	9PMED8
4.35E+4*	ACETONE	20	H	9PMED8

Henry's law (Pa m<sup>3</sup>/mol):

0.183*	20	M	9RHPOU
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Octanol/water partitioning (log K<sub>ow</sub>):

Acid dissociation (pK<sub>a</sub>):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			1081			9EINSP pp.23-67
			1300			JEVQAA 16:422-428,1987
						8AOACA
						SCSFAD 44:1-8,1985
			911			EESADV
			12400			EESADV
			2300			8GLEAM
			686			8CREAM
			1727			ETOC DK 8:339-357,1989
			1610			8INSFO
			1940			8SWAMD
			911			8SWAMD
			1080			8SWAMD
			1355*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
100			C	8GLEAM
569			E	ETOC DK 8:339-357,1989
200			M	9RHPOU
266			R	9EINSP pp.23-67
			R	SCSFAD
			R	8AOACA
356-1424			R	8KAUGW

600 P 8EPADR  
 38-630 C 8CREAM  
 423(100-1424)\*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:LINURON CASRN: 330-55-2

molecular formula: C9H10CL2N2O2  
 molecular weight : 249.1  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
93	-	94		H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
0.00061*		25	5,7,9	M	9DUPON		
0.00086		25	5	M	9DUPON		
0.00051		25	9	M	9DUPON		
Photolysis (per day):							
0.0091	SOIL	25	4.5	M	9DUPON		
0.014*	WATER	25	5	M	9DUPON		
Vapor pressure (mPa):							
2.0		24		H	9ACHB2 1983 ED.		
1.5		20		R	9HRLCP		
2.3		0		M	8HOECH		
2.0		25		M	9DUPON		
0.19*		25		M	9DUPON		
Water solubility (ppm):							
55				M	8HOECH		
81		25		H	9FACHB 1990		
75*		25		M	9DUPON		
Organic solubility (ppm):							
Henrys law (Pa m3/mol):							
6.2E-4*		25		M	9DUPON		
0.0044	SOIL	25	4.3	M	9DUPON		
Octanol/water partitioning (log Kow):							
3.0*		25		M	9DUPON		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			863			E	JEFQAA 16:4220428,1987
			400			H	9HERBH
			93			R	EESADV
			820			R	EESADV
			410			R	EESADV
			603			C	8CREAM

			393			M	8HOECH
			718			R	8INSFO
			653			C	8SWAMD
			820			C	8SWAMD
			863			C	8SWAMD
			267			C	8SWAMD
			229			C	8SWAMD
			496*				
SNDY LM(DE)	25	2.7	422	1.1	6.6	M	9DUPON
SNDY LM(NC)	25	5.0	410	2.1	6.5	M	9DUPON
SILT LM(FL)	25	7.7	308	4.3	5.4	M	9DUPON
SILT LM(DE)	25	7.2	165	7.5	5.2	M	9DUPON

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
30				H	9ACHB2 1983 ED.
75				E	JEVQAA 16:422-428,1987
60-150				H	9HERBH
230				R	9EINSP PP.23-67
25-178				C	8CREAM
75				M	8HOECH
60				M	9DUPON
82(30-230)*					
60	SILT LM(DE)	6.4	2.7	M	9DUPON
30	SILT LM(DE)	6.4	2.7	M	9DUPON
30	SILT LM(MS)	5.5	1.3	M	9DUPON

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	81*			

Comments:

SOIL SORPTION KOC VALUE=496(93-863); AEROBIC=81(49-133)  
 AT PH6.5 25 DEGREES C.

ARS PESTICIDE PROPERTIES last update May 1999

name: MALATHION CASRN: 121-75-5

molecular formula: C10H19O6PS2  
 molecular weight : 330.4  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference: 9MERCK

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
156	-	157		H	9MERCK
Melting point(deg C):					
2.9	-			H	9MERCK
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.00650*		25	5	M	9AMCY1
0.11		25	7	M	9AMCY1
1.41		25	9	M	9AMCY1
Photolysis (per day):					
Vapor pressure (mPa):					
0.7		20		E	PSSCBG 4:137-147,1973



5.3		30		H		9ACHB2
0.45*		25		M		9AMCY1
3.0		35		M		9AMCY1
18.6		45		M		9AMCY1
Water solubility (ppm):	-temp-			-source-		-reference-
145				H		9ACHB2 1983 ED.
130*				M		9AMCY1
Organic solubility (ppm):						
MISCIBLE MOST ORGANIC SOLVS.				H		9PMED8
LIMITED PETROLEUM OILS				H		9PMED8
Henry's law (Pa m <sup>3</sup> /mol):						
0.00114*				M		9AMCY1
Octanol/water partitioning (log Kow):						
2.7*				M		9AMCY1
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			1797			JEVQAA 16:422-428,1987
			280			EESADV
			93			JAFCAU 29:1050-1059,1981
			1800			SCSFAD 44:1-8,1985
			1790			8INSFO
			1778			8AGMAW
			1200*			
Field Dissipation halflife(days):						
value	test area		pH	source		reference
25				C		8GLEAM
0.2-1.6				E		PSSCBG 19:101-112,1987
CA 1				M		9AMCY1
9(0.2-25)*						
Halflife in soil:						
Soiltype	aerobic		anaerobic	source		reference
SNDY LOAM, SLT LOAM	<1*			M		9AMCY1
Comments:						

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: MALEIC HYDRAZIDE ACID**

**CASRN: 123-33-1**

molecular formula: C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>

molecular weight: 112.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
298 - 300				H	9PME10
Decomposition point (deg C):					
260				H	6MONTG
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE				H	9PME10
Photolysis (per day):					
0.012			5,7	H	9PME10

0.020		9	H	9PME10
Vapor pressure (mPa):				
<1E-5	20		P	6EPAPF vol. II
<0.01*	25		H	9PME10
Water solubility (ppm):				
4507*	25		H	9PME10
4417		4.3	H	9PME10
6000	25		H	9PMED9
Organic solubility (ppm):				
4179	25		H	9PME10
METHANOL				
Henrys law (Pa m3/mol):				
<2.5E-7	25		H	9PME10
Octanol/water partitioning (log Kow):				
0.011*		7	H	9PME10
-1.96			H	6MONTG
Acid dissociation (pKa):				
5.62	20		H	9PME10

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			25-450			6USEPA
			251*			6GERST

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
45			P	6USEPA
3-7	NEW MEX.		P	6USEPA
28-70			R	9KKDOH V2,CHAP17:815-33,1976
14-56			H	9ACHB2 1983
63			E	WEREAT 15: 53-58 (1975)
0.5			H	9PME10
30*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:MALEIC HYDRAZIDE K SALT**

**CASRN: 51542-52-0**

molecular formula: C4H3KN2O2

molecular weight : 150.2

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
-----	-----	-----	-----	-----	-----
Boiling point(deg C):					
-					

Melting point(deg C):

298 - 300 (parent)

M 6UNIRO

Decomposition point(deg C):

225 - (parent)

M 6UNIRO

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE*		25	3,6,9	M	6UNIRO
Photolysis (per day):					
STABLE*	SOIL	25		M	6UNIRO
0.02*	WATER	25	9	M	6UNIRO
0.012	WATER	25	5,7	M	6UNIRO
Vapor pressure (mPa):					
1E-02 (parent)		25		M	6UNIRO
0.0 SALT					
Water solubility (ppm):					
4500* (parent)		25			
3.4E5*		25			
4417 (parent)				M	6UNIRO
4507 (parent)		25.5		M	6UNIRO
337,000		AMB.		M	6UNIRO
400,000*		25		H	9ACHB2 1983 ED.
Organic solubility (ppm):(parent)					
<1*	HEXANE			M	6UNIRO
4.18E3*	METHANOL			M	6UNIRO
<1*	TOLUENE			M	6UNIRO
Henry's law (Pa m <sup>3</sup> /mol):(parent)					
3.3E-7*		25		M	6UNIRO
Octanol/water partitioning (log Kow):					
-0.68* (pH5)				M	6UNIRO
-2.41* (pH9)				M	6UNIRO
-1.96* (pH7)				M	6UNRIO
Acid dissociation (pKa):					
5.65*				E	PSSCBG 19:101-112,1987
5.62		20		M	6UNIRO
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			40*		
					reference
					EESADV
Field Dissipation half-life(days):					
value	test area		pH	source	reference
15.9				M	6UNIRO
14-100				P	8EPAGR
36(14-100)*					
Half-life in soil:					
Soiltype	aerobic		anaerobic	source	reference
	0.46*			M	6UNIRO

Comments:

HENRY'S LAW VALUE 3.3E-07=PARENT, PH7;

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:MANCOZEB**

**CASRN: 8018-01-7**

molecular formula: (C<sub>4</sub>H<sub>6</sub>MnN<sub>2</sub>S<sub>4</sub>)X(Zn)Y

molecular weight :

physical state : S

(L=liquid; G=gas; S=solid)

reference:

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
192	-	194		H	9PME10
Decomposition point(deg C):					

-	150			M	6ROHMH, AD
-	172			M	6ROHMH, EEC

Heat of vaporization(deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):

0.46		5		M	6ROHMH, EEC
0.30		7		M	6ROHMH, EEC
1.04		9		M	6ROHMH, EEC

Photolysis (per day):

STABLE	SOIL	25		M	9DUPON
>5.5*	WATER	25		M	9DUPON
STABLE	WATER			M	6ROHMH, EEC

Vapor pressure (mPa):

1E-5		20		H	9ACHB2 1983 ED.
1.76E-5*		25		M	9DUPON
1.3E-2		25		M	6ROHMH, AD

Water solubility (ppm):

	-temp-			-source-	-reference-
6.2* (pH7.5)		25		M	9DUPON
6		25		M	9DUPON

Organic solubility (ppm):  
ESSENTIALLY INSOLUBLE

				M	6ROHMH, AD
--	--	--	--	---	------------

Henry's law (Pa m3/mol):  
<5.9E-4

				M	6ROHMH, EEC
--	--	--	--	---	-------------

Octanol/water partitioning (log Kow):  
1.33

				M	6ROHMH, EEC
--	--	--	--	---	-------------

Acid dissociation (pKa):  
Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			>2000			9DUPON
			10000			8GLEAM
			6000*			
SILT LOAM			363-892			M 6ROHMH, AD
SAND			2334			M 6ROHMH, AD
SAND			20726			M 6ROHMH, AD
SANDY LOAM			618			M 6ROHMH, EEC
CLAY LOAM			675			M 6ROHMH, EEC

Field Dissipation halflife(days):

value	test area	pH	source	reference
35			C	8GLEAM
36-139			R	8FULLE
7			M	9DUPON
43(7-139)*				
6			M	6ROHMH, AD
C.A.5			M	6ROHMH, AD
STABLE	LMY SOILS		M	6ROHMH, EEC

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LM(PA)	<2*		M	9DUPON

Comments:  
WATER SOLUBILITY VALUE 6.2=PH7.5; AEROBIC <2=PH6.1

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: MANEB**

**CASRN: 12427-38-2**

molecular formula: C4H6MnNS4

molecular weight : 265.29

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9PME10

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
-						
Decomposition point(deg C):						
192	-	204		H	9PME10	
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
ca.0.69	WATER		5,7,9	H	9PME10	
Photolysis (per day):						
STABLE						
				H	9PME10	
Vapor pressure (mPa):						
<0.01		20		H	9ACHB2	
0.0*		20				
Water solubility (ppm):						
6*				-source-	-reference-	
				W		
Organic solubility (ppm):						
Henry's law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			240*			8GLEAM
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
12				C	8GLEAM	
28-56				E	JAFC AU 25:528-533,1977	
36				E	JAFC AU 28:322-330,1980	
30(12-56)*						
Halflife in soil:						
Soiltype		aerobic	anaerobic	source	reference	
Comments:						
WATER SOLUBILITY=SLIGHT, REF. 9ACHB2						
VAPOR PRESSURE - NEGLIGIBLE						

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: MCPA**

**CASRN: 94-74-6**

molecular formula: C9H9ClO3

molecular weight : 200.62

physical state : S

(L=liquid; G=gas; S=solid)

reference:9ACHB2

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
118	-	119		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

0.2*	20	H	9ACHB2
Water solubility (ppm):	-temp-	-source-	-reference-
825*	20		
825	RT	H	9ACHB2
2.7E05	RT	M	9RHPOU
8.66E05	RT	M	9RHPOU

Organic solubility (ppm):

1.53E+6*	ETHANOL	25	H	9PMED8
7.7E+5*	DIETHYL ETHER	25	H	9PMED8
6.2E+4*	TOLUENE	25	H	9PMED8
4.9E+4*	XYLENE	25	H	9PMED8
5E+3*	HEPTANE	25	H	9PMED8

Henry's law (Pa m<sup>3</sup>/mol):

4.86E-5*	20	H	9ACHB2
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Octanol/water partitioning (log Kow):

2.8	M	9RHPOU
-----	---	--------

Acid dissociation (pKa):

3.05	25	E	ESTHAG 3:1186-1183,1969
3.11		C	8CREAM
		R	ADCSAJ 111:55-120,1972
3.13		E	JAFCAU 26:289-292,1978
3.07		H	9ACHB2 7TH ED.,1977
3.09*	20		

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			10			C	8CREAM
			110*				

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
30				H	9ACHB2 1983 ED.
7-60				H	9HERBH
6				R	PSSCBG 19:101-112,1987
25				C	8OUSSD
15-43				R	RREVAH 80:65-135,1981

25(6-60)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

WATER SOLUBILITY 2.7E05=NaSALT; 8.66E05=DIMETHYLAMINE SALT

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ARS PESTICIDE PROPERTIES last update May 1999

name:MCPB

CASRN: 94-81-5

molecular formula: C<sub>11</sub>H<sub>13</sub>ClO<sub>3</sub>

molecular weight : 228.67

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
---------	----------	--------	------	----------	-------------

Boiling point(deg C):

Melting point(deg C):

100 - H 9ACHB2  
Decomposition point(deg C):  
-  
Heat of vaporization(deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):  
STABLE 25 5-9 M 9RHPOU  
Photolysis (per day):  
Vapor pressure (mPa):  
0.058 20 H 9ACHB2  
Water solubility (ppm): -temp- -source- -reference-  
44\* RT C EESADV  
H 9ACHB2 1983 ED.  
H 9FACHB 1990  
Organic solubility (ppm):  
> 2E05 MG/ACETONE 25 H 9PMED8  
1.6E05 MG/DICHLOROMETHANE 25 H 9PMED8  
1.5E05 MG/ETHANOL 25 H 9PMED8  
6.5E04 MG/HEXANE 25 H 9PMED8  
8E03 MG/L TOLUENE 25 H 9PMED8  
Henry's law (Pa m3/mol):  
3.0E-4 20 H 9PME10  
Octanol/water partitioning (log Kow):  
2.79 H 9PME10  
Acid dissociation (pKa):  
4.84 H 9PME10  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
540\* EESADV  
Field Dissipation half-life(days):  
value test area pH source reference  
14 H 9ACHB2 1983 ED.  
6 C 8CREAM  
Half-life in soil:  
Soiltype aerobic anaerobic source reference  
Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: MECOPROP**

**CASRN: 7085-19-0**

molecular formula: C10H11ClO3  
molecular weight : 214.65  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):  
-  
Melting point(deg C):  
94 - 95 H 9ACHB2  
Decomposition point(deg C):  
-  
Heat of vaporization(deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):

Photolysis (per day):  
Vapor pressure (mPa):  
0.31 20 H 9PME10  
Water solubility (ppm): -temp- -source- -reference-  
6.6E05\*(limexylemine salt) 20 H 9HERBH  
620\* (parent) 20 H 9HERBH  
Organic solubility (ppm):  
Henrys law (Pa m3/mol):  
Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):  
3.11\* E JAFCAU 26:289-292,1978  
3.78 20-25 H 9PME10  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
Field Dissipation halflife(days):  
value test area pH source reference  
21\* H 9ACHB2 1983 ED.  
Halflife in soil:  
Soiltype aerobic anaerobic source reference  
Comments:  
WATER SOLUBILITY 660,000 @20C=DIMETHYLAMINE SALT;

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: MEFLUIDIDE CASRN: 53780-34-0**

molecular formula: C11H13F3N2O3S  
molecular weight: 310.3  
physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
183 - 185				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
<10		25		H	9PMED9
Water solubility (ppm):					
180		23		H	9PMED9
				H	9ACHB2 1983
				H	9HERBH 6th ED 1989
Organic solubility (ppm):					
3.50E5 ACETONE		23		H	9PME10
6.4E4 ACETONITRILE		23		H	9PME10
310 BENZENE		23		H	9PME10
3.10E5 METHANOL		23		H	9PME10
5.0E4 ETHYL ACETATE		23		H	9PME10
3900 ETHYL ETHER		23		H	9PME10
2100 DICHLOROMETHANE		23		H	9PME10
120 XYLENE		23		H	9PME10
Henrys law (Pa m3/mol):					



<0.017 H 9PME10

Octanol/water partitioning (log Kow):

2.08 H 6MONTG

Acid dissociation (pKa):

4.6 H 6MONTG

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			47			9PMED9
			200			9PMED9
			6 (AMINE)			W
			250			6MONTG
			200*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
14			P	6USEPA
<7			H	9PME10
			H	9ACHB2 1983
4*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

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ARS PESTICIDE PROPERTIES last update May 1999

name:MEPIQUAT CHLORIDE

CASRN: 24307-26-4

molecular formula: C7H16CLN

molecular weight : 149.7

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

Melting point(deg C):

285 - H 9ACHB2

Decomposition point(deg C):

- 285

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

<0.01\* 20 H 9ACHB2

Water solubility (ppm):

	-temp-	-source-	-reference-
>1E06*	20	H	9ACHB2 7TH ED.,1977
		H	9ACHB2 1983 ED.

Organic solubility (ppm):

2E04\* ACETONE 20 H 9PMED8

1.05E04\* CHLOROFORM 20 H 9PMED8

1.62E05\* ETHANOL 20 H 9PMED8

Henry's law (Pa m<sup>3</sup>/mol):  
 Octanol/water partitioning (log K<sub>ow</sub>):  
 Acid dissociation (pK<sub>a</sub>):  
 Soil sorption:

soiltype	temp.	Kd	Koc 1E6	%om	pH	source	reference
Field Dissipation half-life(days):							
value	test area			pH	%OM	source	reference
1000						W	
Half-life in soil:							
Soiltype		aerobic		anaerobic		source	reference
Comments:							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: METALAXYL** **CASRN: 57837-19-1**

molecular formula: C<sub>15</sub>H<sub>21</sub>N<sub>4</sub>  
 molecular weight : 279.34  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
71.8	-	72.3		H	9PMED8,8TH ED.,p.533,1987
Decomposition point(deg C):					
	-	300		H	9PMED8
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7	M	9CIBAG
0.0079*		25	9	M	9CIBAG
Photolysis (per day):					
STABLE*	WATER	25	7	M	9CIBAG
0.05*	SOIL	25		M	9CIBAG
Vapor pressure (mPa):					
0.75*		25		M	9CIBAG
Water solubility (ppm):					
8400		-temp-		-source-	-reference-
		22		H	9PME10
8400*		22		M	9CIBAG
Organic solubility (ppm):					
7.5E+5*	DICHLOROMETHANE	20		H	9ACHB2,2ND ED.,1987
6.5E+5*	METHANOL	20		H	9ACHB2,2ND ED.,1987
5.5E+5*	BENZENE	20		H	9ACHB2,2ND ED.,1987
2.7E+5*	ISOPROPANOL	20		H	9ACHB2,2ND ED.,1987
9.1E+3*	N-HEXANE	20		H	9ACHB2,2ND ED.,1987
Henry's law (Pa m <sup>3</sup> /mol):					
2.5E-5*		25		M	9CIBAG
Octanol/water partitioning (log K <sub>ow</sub> ):					
1.5		25		M	9CIBAG
1.75*		25		H	9PME10
Acid dissociation (pK <sub>a</sub> ):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
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CLAY		35				8GLEAM
SAND	8.012	284	4.8	5.9	M	9CIBAG
LOAM	0.157	30	0.9	6.5	M	9CIBAG
SANDY LOAM	1.401	200	1.2	7.6	M	9CIBAG
SANDY LOAM	0.400	136	0.5	6.5	M	9CIBAG

171\*

Field Dissipation half-life(days):

value	test area	pH	source	reference
296	MN		M	9CIBAG
36	CA		M	9CIBAG
27	CA		M	9CIBAG
56	CA		M	9CIBAG
50	CA		M	9CIBAG
38	NC		M	9CIBAG
39	NC		M	9CIBAG

77(27-296)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
LOAMY SAND	40*	130	M	9CIBAG

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:METALDEHYDE**

**CASRN: 108-62-3**

molecular formula: C8H16O4

molecular weight : 176.2

physical state : S

(L=liquid; G=gas; S=solid)

reference:9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):

246				H	9ACHB2
-----	--	--	--	---	--------

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

Water solubility (ppm):	-temp-	-source-	-reference-
200 *	17	H	9ACHB2 1983 ED.
		R	EESADV

260 *	30	H	9ACHB2 1983 ED.
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Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			240*			EESADV

Field Dissipation half-life(days):

value	test area	pH	source	reference
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Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

VAPOR PRESSURE=rt:LOW; MELTING POINT=(SEALED TUBE)

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ARS PESTICIDE PROPERTIES last update May 1999

name:METHAM-SODIUM

CASRN: 137-42-8

molecular formula: C2H4NNAS2

molecular weight : 129.18

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
-						
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.693*		25	5	M	8ICIAG,03/01/90	
0.092*		25	7	M	8ICIAG,03/01/90	
0.361*		25	9	M	8ICIAG,03/01/90	
Photolysis (per day):						
10.4*	SOIL	25	7	M	8ICIAG,03/01/90	
Vapor pressure (mPa):						
0.0*				M	8ICIAG 03/01/90	
21*(parent)				M	8ICIAG	
Water solubility (ppm):						
-temp- -source- -reference-						
963000*		20		M	8ICIAG	
7.22E04		20		H	9HERBH	
				H	9ACHB2 1983 ED.	
				H	9FACHB 1990	
Organic solubility (ppm):						
Henrys law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
<1*		25		M	8ICIAG 03/01/90	
Acid dissociation (pKa):						
17.6*				M	8ICIAG	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
Field Dissipation half-life(days):						
value	test area		pH	source	reference	
5-7				H	9HERBH	
3				M	8ICIAG	
4.5(3-7)*						
Half-life in soil:						
Soiltype		aerobic	anaerobic	source	reference	
Comments:						
VAPOR PRESSURE=rt:NONVOLATILE(SALT) REF. 9ACHB2 1983 ED. &						
VAPOR PRESSURE 0.0 = AS SALT; 21 = PARENT						

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ARS PESTICIDE PROPERTIES last update May 1999

name:METHAMIDOPHOS

CASRN: 10265-92-6

molecular formula: C2H8NO2PS  
 molecular weight : 141.13  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 6MILES

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
44.5	-			H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
Hydrolysis (per day):					
0.002	*	25	5	M	6MILES
0.025	*	25	7	M	6MILES
0.215	*	25	9	M	6MILES
Photolysis (per day):					
0.210	*				
	SOIL	26	OD	M	6MILES
0.0079	*				
	WATER	9-42	OD	M	6MILES
Vapor pressure (mPa):					
106		0		M	8VALUS
4.27	*	20		M	6MILES
40		30		H	9ACHB2,2ND ED.,1987
Water solubility (ppm):					
-temp-					
-source-					
-reference-					
MISCIBLE	*	20		M	6MILES
2E+06		20		H	9ACHB2 7TH ED., 1977
Organic solubility (ppm):					
>2.0E+5	*	20		M	6MILES
>2.0E+5	*	20		M	6MILES
<1.0E+4	*	20		M	6MILES
<2.5E+4	*	20		H	9ACHB2, 2ND ED.,1987
<1.0E+4	*	20		H	9ACHB2, 2ND ED.,1987
<1.0E+5	*	20		H	9ACHB2, 2ND ED.,1987
Henry's law (Pa m3/mol):					
3E-07	*	20		M	6MILES
Octanol/water partitioning (log Kow):					
-.79	*	20		M	6MILES
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			<1	*	reference
					8VALUS
Field Dissipation halflife(days):					
value	test area		pH	source	reference
6-15				H	9ACHB2 1983 ED.
2-6				M	8VALUS
<1	CA(CHUALAR)	LMY SND	7.3	M	6MILES
<<1	CA(FRESNO)	LMY SND	7.8	M	6MILES
3.5(<1-15)				*	
Halflife in soil:					
Soiltype	aerobic	anaerobic		source	reference
MOORETOWN,N.J. LOAM	4.8			M	6MILES
FLORIDA SANDY LOAM	6.1			M	6MILES
LOAMY SAND		11		M	6MILES

SANDY LOAM                    0.583                    4                    M                    6MILES  
                                  4 \*                    7.5 \*

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: METHAZOLE**

**CASRN: 20354-26-1**

molecular formula: C9H6CL2N2O3  
molecular weight : 261.07  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
123	-	124		H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
Photolysis (per day):							
Vapor pressure (mPa):							
1.33*		25		H	9ACHB2		
<1.33		25		H	9HERBH		
Water solubility (ppm):							
1.5*		25		H	9HERBH		
				H	9ACHB2 1983 ED.		
				C	EESADV		
Organic solubility (ppm):							
4E+4*	ACETONE	25		H	9PMED8		
6.5E+3*	METHANOL	25		H	9PMED8		
5.5E+4*	XYLENE	25		H	9PMED8		
Henrys law (Pa m3/mol):							
0.231*		25		H	9HERBH		
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			2620			R	EESADV
			3500			R	EESADV
			3060*				
Field Dissipation halflife(days):							
value	test area		pH	%OM		source	reference
<30						H	9ACHB2 1983 ED.
14(3-30)*							
Halflife in soil:							
Soiltype		aerobic		anaerobic		source	reference
Comments:							

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: METHIOCARB**

**CASRN: 2032-65-7**

molecular formula: C11H15NO2S  
molecular weight : 225.31

physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 6MILES

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
119	-			H	9ACHB2,2ND ED.,1987		
Decomposition point(deg C):							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
0.0009*		25	5	M	6MILES		
0.025*		25	7	M	6MILES		
2.31*		25	9	M	6MILES		
0.311*		25		M	6MILES		
Photolysis (per day):							
0.025*	SOIL	9-42	OD	M	6MILES		
0.008*	WATER	10-37	OD	M	6MILES		
Vapor pressure (mPa):							
2.8E-02		20		M	6MILES		
1.5E+01		60		H	9ACHB2,2ND ED.,1987		
0.028*		20					
Water solubility (ppm):							
24*		20		M	6MILES		
30		20		H	9ACHB2,2ND ED.,1987		
10		20		H	9FACHB, p.145,1988		
Organic solubility (ppm):							
8.0E+04*	2-PROPANOL	20		M	6MILES		
5E+5*	DICHLOROMETHANE	20		M	6MILES		
7.0E+04*	TOLUENE	20		M	6MILES		
Henry's law (Pa m3/mol):							
2.6E-04*		20		M	6MILES		
Octanol/water partitioning (log Kow):							
2.97		20		M	6MILES		
3.34*		20		M	6MILES		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			209			C	8SWAMD
			670			E	CMSHAF 10:833-845,1981
SAND	27	5.3	1000**	1.0	4.3	M	6MILES
SANDY LOAM	27	4.3	632**	1.3	4.9	M	6MILES
SILT LOAM	27	9.0	600**	2.9	5.9	M	6MILES
CLAY LOAM	27	4.9	408**	2.2	6.3	M	6MILES
			585*				
Field Dissipation halflife(days):							
value	test area		pH	%OM	source	reference	
19	OR, SAND				M	6MILES	
4	OR, SANDY LOAM				M	6MILES	
12*							
Halflife in soil:							
Soiltype	aerobic		anaerobic		source	reference	
SANDY LOAM	17.7		64.4*		M	6MILES	

SANDY LOAM 111  
64\*

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED  
USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72.  
SELECTED SOIL SORPTION KOC VALUE=510(209-1000);

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ARS PESTICIDE PROPERTIES last update May 1999

name: METHOMYL

CASRN: 16752-77-5

molecular formula: C5H10N2O2S

molecular weight : 162.2

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
77				M	9DUPON,1999		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		25	5,7	M	9DUPON,1999		
0.014		25	9	M	9DUPON,1999		
Photolysis (per day):							
0.020*(1.4%OM)	SOIL	26	6.8	M	9DUPON		
0.14*	WATER	25	5	M	9DUPON		
Vapor pressure (mPa):							
0.75		25		M	9DUPON,1999		
Water solubility (ppm):							
		-temp-		-source-	-reference-		
5.8E+4		25	7	M	9DUPON,1999		
Organic solubility (ppm):							
Henry's law (Pa m <sup>3</sup> /mol):							
2.0E-6*		25		M	9DUPON		
Octanol/water partitioning (log Kow):							
0.57		25		M	9DUPON,1999		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SNDY LM(MD)	25	0.72	59	2.1	6.5	M	9DUPON
SLT LM(IL)	25	1.0	40	4.3	5.4	M	9DUPON,1999
SLT LM(DE)	25	1.4	32	7.5	5.2	M	9DUPON
SNDY LM(DE)	25	9.23	36	1.1	6.6	M	9DUPON,1999
Field Dissipation halflife(days):							
value	test area		pH	%OM	source	reference	
>42	CA				P	8EPAGR	
45					P	8EPAGR	
8					C	8GLEAM	
<30-42					P	8KAUGW	
<30					P	8EPAGR	
CA.5					M	9DUPON	



28(5-54)\*  
 5-10 DE 5 M 9DUPON  
 54 CA 7.9 M 9DUPON  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 30\*  
 SNDY LM(DE) 14-21 M 9DUPON  
 SLT LM(IL) 42 M 9DUPON  
 LOAM(CA) 12 M 9DUPON,1999  
 SILT LM(DE) 42 M 9DUPON,1999  
 Comments:  
 SOIL SORPTION KOC VALUE=86(9-160); AEROBIC=30(14-62) PH6.2

ARS PESTICIDE PROPERTIES last update May 1999

name: METHOXYCHLOR CASRN: 72-43-5  
 molecular formula: C16H15CL3O2  
 molecular weight : 345.65  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
89	-			H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
STABLE SOIL					
Vapor pressure (mPa):					
Water solubility (ppm):					
0.1*		25		C	8GLEAM
				R	7ANALY
0.12		25		E	JAFCAU 24:727-733,1976
				H	9ACHB2 1983 ED.
Organic solubility (ppm):					
4.4E05*	CHLOROFORM	22		H	9PMED8
5E04*	METHANOL	22		H	9PMED8
4.4E05*	XYLENE	22		H	9PMED8
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH reference
			80,000		EESADV
			107,000		EESADV
			22,000		7ASTMB
			93,000		7ASTMB
			80,000		8GLEAM
					8SWAMD
			76,000*		
Field Dissipation halflife(days):					

value	test area	pH	source	reference
170			C	8GLEAM
151-210			C	8CREAM
7-60			R	8FULLE
128(7-210)*				
Halflife in soil:				
Soiltype	aerobic	anaerobic	source	reference
Comments:				

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: METHYL BROMIDE** **CASRN: 74-83-9**

molecular formula: CH3BR  
molecular weight : 94.94  
physical state : G  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
4.5	-			H	9ACHB2
Melting point(deg C):					
-93	-			H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
2.27E08*		25		H	9ACHB2 1983 ED.
Water solubility (ppm):					
13400*		-temp-		-source-	-reference-
				H	9ACHB2 1983 ED.
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
1610*		25		H	9ACHB2
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			22*		
			9		
			10		
					SCSFAD 44:1-8,1985
					JAFAU 29:1050-1059,1981
					CMSHAF 10:833-845,1981
Field Dissipation halflife(days):					
value	test area	pH		source	reference
31				R	8INSFO
55				R	8FULLE
43*					
Halflife in soil:					
Soiltype	aerobic	anaerobic		source	reference
Comments:					

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: METHYL ISOTHIOCYANATE** **CASRN: 556-61-6**

molecular formula: C2H3N5  
molecular weight : 73.11

physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-	119				
Melting point(deg C):					
35	-	6		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
2.7E06*		20		H	9ACHB2
Water solubility (ppm):		-temp-		-source-	-reference-
7600*		20		H	9ACHB2
				H	9ACHB2 7TH ED.,1977
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
26*		20		M	6NORAM
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			10			8EETNS
			6			8SWAMD
						8INSFO
			8*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
0-6C:14			H	9ACHB2 1983 ED.
6-12C:10			H	9ACHB2 1983 ED.
18-20C:7			H	9ACHB2 1983 ED.
7*				

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	10		M	6NORAM
	30		M	6NORAM

Comments:  
AEROBIC 10 = 20 DEGREES C; 30 = 5 DEGREES C.

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:METHYL PARATHION**

**CASRN: 298-00-0**

molecular formula: C8H10NO5PS  
molecular weight : 263.21  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
154	-	1.0mmHg		H	9ACHB2	
Melting point(deg C):						
35	-	36		H	9ACHB2	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.010		25	5	H	9PME10	
0.017		25	7	H	9PME10	
0.021		25	9	H	9PME10	
Photolysis (per day):						
Vapor pressure (mPa):						
2.3		25		E	JAFCAU 27:273-278,1979	
5.3		30		E	JAFCAU 27:273-278,1979	
1.3		20		E	PSSCBG 4:137-147,1973	
0.2*		20		H	9PME10	
0.41		25		H	9PME10	
Water solubility (ppm):						
55-60		25		H	9ACHB2 1983 ED.	
55*		20		H	9PME10	
Organic solubility (ppm):						
Henry's law (Pa m <sup>3</sup> /mol):						
9.57E-4*		20		H	9PME10	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			5100			JEVQAA 16:422-428,1987
						9EINSP PP.23-67
						SCSFAD 44:1-8,1985
			424			WATRAG 13:375-380,1979
			14000			8GLEAM
			560			8CREAM
			7330			8INSFO
			7079			8AGMAW
			9800			8SWAMD
			6300*			
Field Dissipation half-life(days):						
value	test area	pH		source	reference	
15				E	JEVQAA 16:422-428,1987	
				C	SCSFAD 44:1-8,1985	
5				C	8GLEAM	
4-15				R	9EINSP PP.23-67	
4				R	8INSFO	
3-11				R	9KAUGW	
1				C	SCSFAD 44:1-8,1985	
30				R	8FULLE	
10(1-30)*						
Half-life in soil:						
Soiltype	aerobic	anaerobic		source	reference	
Comments:						

ARS PESTICIDE PROPERTIES last update May 1999

name:METIRAM

CASRN: 9006-42-2

molecular formula: C16H33N11S16ZN3

molecular weight : 1088.7  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
140	-			H	9ACHB2	
Decomposition point(deg C):						
140	-			H	9PME10	
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
<0.010*		20		H	9PME10	
Water solubility (ppm):						
NEGLIG.		-temp-		-source-	-reference-	
				H	9PME10	
Organic solubility (ppm):						
Henrys law (Pa m3/mol):						
Octanol/water partitioning (log Kow):						
0.3				H	9PME10	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			5E05			W
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
20				W		
Halflife in soil:						
Soiltype	aerobic		anaerobic	source	reference	
Comments:						

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:METOLACHLOR**

**CASRN: 51218-45-2**

molecular formula: C15H22CLNO2  
molecular weight : 283.8  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9CIBAG

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
100	-	0.001mmHg		H	9ACHB2,2ND ED.,1987
Melting point(deg C):					
-					
Decomposition point(deg C):					
-	300			H	9PME10
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE\* 25 5-9 M 9CIBAG

Photolysis (per day):

3.47\* WATER\*\*\* 25 7 M 9CIBAG

0.087 SOIL\*\* 15-52 M 9CIBAG

0.0187 SOIL\*\*\* 25-28 M 9CIBAG

0.0097 WATER\*\* 8-45 M 9CIBAG

Vapor pressure (mPa):

4.17 25 P 8EPAGR

4.27 25 E ACSMC8, 225:236,1983

4.2\* 25 M 9CIBAG

1.73 20 H 9ACHB2,2ND ED.,1987

Water solubility (ppm): -temp- -source- -reference-

500 20 C 8GLEAM

488\* 22 M 9CIBAG

5.3E+2 20 E PSSCBG, 12:222,1981

5.5E+2 20 E ACSMC8, 225:236,1983

Organic solubility (ppm):

SOLUBLE\* BENZENE,HEXANE 20 H 9PMED8

SOLUBLE\* METHANOL,OCTANE 20 H 9PMED8

SOLUBLE\* DICHLOROMETHANE 20 H 9PMED8

Henry's law (Pa m3/mol):

2.44E-3\* 25 M 9CIBAG

Octanol/water partitioning (log Kow):

3.28 25 E PSSCBG, 12:222,1981

3.04 20 E ACSMC8, 225:236,1983

2.93 25 M 9CIBAG

2.6\* 25

Acid dissociation (pKa):

Soil sorption:

soiltype temp. Kd Koc %om pH source reference

SAND 1.54 120 2.2 7.8 M 9CIBAG

SANDY LOAM 10.0 307 5.6 6.7 M 9CIBAG

SANDY LOAM 3.18 152 3.6 6.1 M 9CIBAG

SAND 1.69 242 1.2 6.3 M 9CIBAG

70\*

SANDY LOAM(CA) 76 M 9CIBAG

FIVE SOILS 22-110 M 9CIBAG

Field Dissipation halflife(days):

value test area pH source reference

30-50 H 9HERBH

15-25 H 9HERBH

42 C JEVQAA 16:422-428,1987

44 E ETOCDK 8:339-357,1989

180 R 8INSFO

97-132 M 9CIBAG

12-38 M 9CIBAG

141(97-292)\*

144 IA M 9CIBAG

Halflife in soil:

Soiltype aerobic anaerobic source reference

SANDY LOAM(MD) 26\* 37\* M 9CIBAG

Comments:

PHOTOLYSIS \*\* NATURAL LIGHT \*\*\* ARTIFICIAL LIGHT

ARS PESTICIDE PROPERTIES last update May 1999

name:METRIBUZIN

CASRN: 21087-64-9

molecular formula: C8H14N4OS

molecular weight : 214.29

physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9MOBAY

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)unknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
125.5 - 126.5				H	9ACHB2,2ND ED.,1987		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		25	5-9	M	6MILES		
Photolysis (per day):							
0.28	SOIL	OD		M	6MILES		
0.05*	SOIL	OD		M	6MILES		
3.83*	WATER	OD		M	6MILES		
Vapor pressure (mPa):							
<1.3		20		H	8HERBH		
0.017		20		M	6MILES		
26.7		60		H	9HERBH		
0.017*		20					
Water solubility (ppm):							
1000*		20					
1220		20		H	9HERBH		
				H	9ACHB2 1983 ED.		
1.0E+03		20		M	6MILES		
1.2E+03		20		H	9ACHB2,2ND ED.,1987		
Organic solubility (ppm):							
7.7E+4*	2-PROPANOL	20		M	6MILES		
3.4E+5*	DICHLOROMETHANE	20		M	6MILES		
8.7E+4*	TOLUENE	20		M	6MILES		
1.8E+6*	DIMETHYLFORMAMIDE	20		H	9ACHB2,2ND ED.,1987		
1.0E+6*	CYCLOHEXANONE	20		H	9ACHB2,2ND ED.,1987		
8.5E+5*	CHLOROFORM	20		H	9ACHB2,2ND ED.,1987		
8.2E+5*	ACETONE	20		H	9ACHB2,2ND ED.,1987		
4.5E+5*	METHANOL	20		H	9ACHB2,2ND ED.,1987		
2.2E+5*	BENZENE	20		H	9ACHB2,2ND ED.,1987		
1.9E+5*	ETHANOL	20		H	9ACHB2,2ND ED.,1987		
9.0E+4*	XYLENE	20		H	9ACHB2,2ND ED.,1987		
1.5E+5*	N-BUTANOL	20		H	9ACHB2,2ND ED.,1987		
Henrys law (Pa m3/mol):							
3.55E-06*		20		M	6MILES		
Octanol/water partitioning (log Kow):							
1.70				E	CMSHAF, 13(2):276,1984		
1.60*		20		M	6MILES		
Acid dissociation (pKa):							
1.00*				E	WEESA6, 30(6):631,1982		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			95			R	EESADV, 4:30,1980
			88			R	EESADV, 4:30,1980
			24			E	JEVQAA 16:422-428,1987

			95			R	EESADV
			88			R	EESADV
			95			C	8GLEAM
			9			E	JAFCAU 29:1050-1059,1981
SAND	25	0.246	46.7**	1.0	4.3	M	6MILES
SANDY LOAM	25	0.0182	3.14**	1.1	6.6	M	6MILES
SILT LOAM	25	0.221	14.5**	2.9	5.9	M	6MILES
CLAY LOAM	25	0.196	17.0**	2.2	6.4	M	6MILES

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
30				H	9ACHB2 1983 ED.
30-60				H	9HERBH
37				E	JEVQAA 16:422-428,1987
24				C	8GLEAM
35-65				P	8EPAGR
128	CA(CHUALAR)LMY SND	7.3		M	6MILES
39.5	CA(FRESNO)LMY SND	7.8		M	6MILES

47(23-128)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	172*	439*	M	6MILES

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72. SELECTED SOIL SORPTION KOC VALUE=52(3-95)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:METSULFURON ME**

**CASRN: 74223-64-6**

molecular formula: C14H15N5O6S

molecular weight : 381.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment, (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
158	-			M	9DUPON,1999
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.033*		25	5	M	9DUPON
STABLE		25	7,9	M	9DUPON,1999
Photolysis (per day):					
0.16* (4.7%om)	SOIL	25	4.3	M	9DUPON
0.041*	WATER	25	5	M	9DUPON
STAB;E	WATER	25	7,9	M	9DUPON,1999
Vapor pressure (mPa):					
3.3E-7*		25			9DUPON
Water solubility (ppm):					
	-temp-		-pH-	-source-	-reference-



548		25	5	M	9DUPON
2790		25	7	M	9DUPON
213,000		25	9	M	9DUPON
Organic solubility (ppm):					
3.6E04*	ACETONE	20		M	9DUPON,1999
1.21E05*	DICHLOROMETHANE	20		M	9DUPON,1999
2.3E03*	ETHANOL	20		M	9DUPON,1999
0.79*	HEXANE	20		M	9DUPON,1999
7.3E03*	METHANOL	20		M	9DUPON,1999
580*	XYLENE	20		M	9DUPON,1999

Henrys law (Pa m3/mol):					
2.32E-10		25	5	M	9DUPON,1999
4.5E-11*		25	7	M	9DUPON
5.97E-13		25	9	M	9DUPON,1999

Octanol/water partitioning (log Kow):					
-1.7*		25	7	M	9DUPON

Acid dissociation (pKa):					
3.3*				M	9DUPON

Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			35			9DUPON
			61			9HERBH 6TH ED., 1989
			CA.35			9DUPON
			42*			
SAND(NC)	25	0.36	206	0.3	6.1	9DUPON
SANDY LM(DE)	25	0.41	50	1.40	5.6	9DUPON
SILT LM(DE)	25	0.84	53	2.75	6.4	9DUPON
SILT LM(IL)	25	1.40	60	4.02	6.5	9DUPON
SANDY LM(ALBTA)	25	4.9	44	19.0	5.4	9DUPON
SANDY LM(ALBTA)	25	0.05	4	2.3	7.1	9DUPON
CLAY LM(ALBTA)	25	0.3	12	4.4	5.3	9DUPON
S.CLAY LM(MANIT)	25	0.3	9	5.8	7.5	9DUPON
LOAM(SASK)	25	0.15	7	3.6	7.6	9DUPON
LOAM(SASK)	25	0.65	29	3.9	5.4	9DUPON
S.LOAM(SASK)	25	0.35	12	5.2	7.7	9DUPON
CLAY LM(MANIT)	25	0.6	14	7.2	7.5	9DUPON

Field Dissipation halflife(days):						
value	test area	pH	%OM	source	reference	
14-28				E	8PBCPW 2:531-540,1987	
28(8-105)*	12 SITES				9DUPON	
15	CANADA	7.8	6.4	M	9DUPON,1999	
71	ID	8.0		M	9DUPON,1999	
15	NC	4.9	0.3	M	9DUPON,1999	
4	DE	6.4	1.4	M	9DUPON,1999	

Halflife in soil:						
Soiltype	aerobic	anaerobic	source	reference		
8 SOILS**	28*(14-38)		M	9DUPON		
SANDY LM(DE)	10		M	9DUPON,1999		
SILT LM(DE)	13		M	9DUPON,1999		
SILT LM(DE)	11		M	9DUPON,1999		
SANDY LM(DE)	38		M	9DUPON,1999		
LOAM	38		M	9DUPON,1999		
LOAM	27		M	9DUPON,1999		
SILT LM	14-21		M	9DUPON,1999		

Comments:  
SOIL SORPTION KOC VALUE=42(4-206); WATER SOLUBILITY VALUE  
548=PH5, 2790=PH7, 213000=PH9; HENRY'S LAW 4.5E-11=PH7;  
OCTANOL WATER -1.7=PH7;AEROBIC=28(14-38) 25 DEGREES C.

**name:MEVINPHOS**

**CASRN: 7786-34-7**

molecular formula: C7H13O6P  
molecular weight : 224.15  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
110	-	1.6mmHg		H	9ACHB2	
Melting point(deg C):						
-						
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.0058*		RT	6	H	9PMED8	
0.0198*		RT	7	H	9PMED8	
0.231*		RT	9	H	9PMED8	
11.88		RT	11	H	9PME10	
Photolysis (per day):						
Vapor pressure (mPa):						
17*		20		H	9ACHB2	
Water solubility (ppm):						
6E05*		20		E	JAFCAU 29:1050-1059,1981	
Organic solubility (ppm):						
MISCIBLE*	ALCS,KETS,CL,HR,HC'S			H	9PMED8	
SL.SOLUBLE*	ALIPHATIC HC'S			H	9PMED8	
Henry's law (Pa m3/mol):						
6.35E-6*		20		H	9PMED8	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			0.6			JAFCAU 29:1050-1059,1981
			240			8GLEAM
			44*			9WARER,14,1095(1980)
Field Dissipation half-life(days):						
value	test area		pH	source		reference
3*				C		8GLEAM
2				C		8CREAM
Half-life in soil:						
Soiltype	aerobic		anaerobic	source		reference
Comments:						

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: MEXACARBATE**

**CASRN: 315-18-4**

molecular formula: C12H18N2O2  
molecular weight: 222  
physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2 1983

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
85				H	9ACHB2
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
1.33E4				H	9FACHB 1990
Water solubility (ppm):					
1000*		25		H	9ACHB2 1983
100		25		H	9FACHB 1990
Organic solubility (ppm):					
5.1E4	XYLENE	25		H	9ACHB2 1989
1.02E5	BENZENE	25		H	9ACHB2 1989
1.16E5	ETHANOL	25		H	9ACHB2 1989
1.38E5	ACETONE	25		H	9ACHB2 1989
Henry's law (Pa m <sup>3</sup> /mol):					
2.95E-4				H	9ACHB2 1989
				H	9FACHB 1990

Octanol/water partitioning (log Kow):

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			300			

Field dissipation halflife(days):

value	test area	pH	source	reference
1-4			H	9ACHB2 1983
10*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: MIREX**

**CASRN: 2385-85-5**

molecular formula: C10CL12

molecular weight: 545.59

physical state: S

(L=liquid; G=gas; S=solid)

reference: RREVAH 103: 1-59 (1988)

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
Decomposition point (deg C):					

485 H 9MERCK  
Heat of vaporization (deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):  
Photolysis (per day):  
Vapor pressure (mPa):  
0.1 R RREVAH 103: 1-59 (1988)  
Water solubility (ppm):  
7E-5 22 R RREVAH 103: 1-59 (1988)  
Organic solubility (ppm):  
1.53E5 DIOXANE RT H 9MERCK  
1.22E5 BENZENE RT H 9MERCK  
7.2E4 CCL4 RT H 9MERCK  
5.6E4 ME-ET-KETONE RT H 9MERCK  
Henrys law (Pa m3/mol):  
779 R RREVAH 103: 1-59 (1988)  
Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH reference  
-----  
85100 RREVAH 103:1-59 (1988)  
CMSHAF 10:833-846 (1981)  
995000 CMSHAF 14:1503-1538 (1985)  
1E6\* W  
Field dissipation halflife(days):  
value test area pH source reference  
-----  
1825-3650 R ESTHAG 12: 520-528 (1978)  
4380 E 9SCINE 194: 939-941 (1976)  
3000\* W  
Halflife in soil:  
soiltype aerobic anaerobic source reference  
-----

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:MOLINATE**

**CASRN: 2212-67-1**

molecular formula: C9H17NOS  
molecular weight : 187.3  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-----  
-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):  
202 - 10mmHg H 9ACHB2  
Melting point(deg C):  
-  
Decomposition point(deg C):  
- 200 H 9PMED8  
Heat of vaporization(deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):

STABLE\* M 8ICIAG  
 Photolysis (per day):  
 STABLE\* SOIL NR M 8ICIAG,03/01/93  
 Vapor pressure (mPa):  
 746 25 H 9HERBH  
 H 9ACHB2 1983 ED.  
 H 9ACHB2  
 665\* 25 M 8ICIAG

Water solubility (ppm): -temp- -source- -reference-  
 800 20 H 9HERBH  
 H 9ACHB2 1983 ED.  
 970\* 25 M 8ICIAG

Organic solubility (ppm):  
 MISCIBLE\* ACETONE,METHANOL 20 H 9PMED8  
 MISCIBLE\* KEROSENE,XYLENE 20 H 9PMED8  
 MISCIBLE\* 4-METHYLPENTAN-2 20 H 9PMED8

Henry's law (Pa m<sup>3</sup>/mol):  
 0.128\* 25 M 8ICIAG

Octanol/water partitioning (log Kow):  
 2.9\* 25 M 8ICIAG

Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH source reference  
 110 H EESADV  
 50 H 8ICIAG  
 190 H 8ICIAG  
 117\*

Field Dissipation half-life(days):  
 value test area pH %OM source reference  
 21 H 9HERBH  
 H 9ACHB2 1983 ED.  
 5 M 8ICIAG

13(5-21)\*  
 Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: MONOCROTOPHOS CASRN: 6923-22-4**

molecular formula: C<sub>7</sub>H<sub>14</sub>N<sub>5</sub>O<sub>5</sub>P

molecular weight : 223.2

physical state : S

(L=liquid; G=gas; S=solid)

reference:

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

125 - 0.0005mmHg H 9PME10

Melting point(deg C):

54 - 55 H 9ACHB2

Decomposition point(deg C):

-

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0072\* 20 5 H 9PMED8  
 0.0105\* 20 7 H 9PMED8  
 0.0408\* 20 9 H 9PMED8  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 0.29\* 20 H 9PME10  
 0.98 20 H 9PME10  
 Water solubility (ppm): -temp- -source- -reference-  
 1E06\* 20 H 9ACHB2 1983 ED.  
 Organic solubility (ppm):  
 7E05\* ACETONE 20 H 9PMED8  
 8E05\* DICHLOROMETHANE 20 H 9PMED8  
 1E06\* METHANOL 20 H 9PMED8  
 2.5E05\* OCTAN-1-OL 20 H 9PMED8  
 6E04\* TOLUENE 20 H 9PMED8  
 Henrys law (Pa m3/mol):  
 6.5E-8\* 20 H 9PMED8  
 Octanol/water partitioning (log Kow):  
 -0.22 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 1\* CSMHAF 10:833-845,1981

Field Dissipation halflife(days):  
 value test area pH source reference  
 13-16 R 8FULLE  
 30\* P 6EPAFH

Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 1-5 H 9PME10

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: MONOLINURON CASRN: 1746-81-2**

molecular formula: C9H11CLN2O2  
 molecular weight: 214.6  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PME10

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
80 - 83				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
6400		65		H	9PMED7
				H	9PMED9
20		20		E	ADCSAJ 111:55-120 (1972)
1.3*		20		H	9PME10

100	50	H	9PME10
Water solubility (ppm):			
580	20	E	WEESA6 31:368-372 (1983)
735*	25	H	6GHENT 53:1455-1458 (1988)
		H	9PME10

Organic solubility (ppm):			
SOLUBLE IN MANY ORGANIC SOLVS.			
		H	9PME10
Henry's law (Pa m <sup>3</sup> /mol):			
3.8E-4		H	9PME10
Octanol/water partitioning (log Kow):			
2.20		H	9PME10
Acid dissociation (pKa):			

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	---	---	---	---	-----
			85			9PMED9
						CMSHAF 10: 833-846 (1981)
			250-500			9PME10
			198			90CHS2 V.1:pp.51-143(1972)
			69			JAFCAU 29: 1050-1059(1981)
			93			6AJSOR 19: 61-68 (1981)
			54			6AJSOR 19: 61-68 (1981)
			61			6AJSOR 19: 61-68 (1981)
			47			6AJSOR 19: 61-68 (1981)
			93			6AJSOR 19: 61-68 (1981)
			57			6AJSOR 19: 61-68 (1981)
			26			6AJSOR 19: 61-68 (1981)
			54			6AJSOR 19: 61-68 (1981)
			85			6AJSOR 19: 61-68 (1981)
			31			6AJSOR 19: 61-68 (1981)
			52			6AJSOR 19: 61-68 (1981)
			95			6AJSOR 19: 61-68 (1981)
			74			6AJSOR 19: 61-68 (1981)
			62			6AJSOR 19: 61-68 (1981)
			66			6AJSOR 19: 61-68 (1981)
			83			6AJSOR 19: 61-68 (1981)
			99			6AJSOR 19: 61-68 (1981)
			2025			WEESA6 31: 368-372 (1983)
			321			WEESA6 31: 368-372 (1983)
			225			WEESA6 31: 368-372 (1983)
			211			WEESA6 31: 368-372 (1983)
			224			WEESA6 31: 368-372 (1983)
			520			WEESA6 31: 368-372 (1983)
			273			WEESA6 31: 368-372 (1983)
			517			WEESA6 31: 368-372 (1983)
			533			CJSSAR 55: 127-135 (1975)
			147			CJSSAR 55: 127-135 (1975)
			150			CJSSAR 55: 127-135 (1975)
			246			CJSSAR 55: 127-135 (1975)
			117			CJSSAR 55: 127-135 (1975)
			200*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	---	-----	-----
45-60			H	9PME10
60*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: MONURON

CASRN: 150-68-5

molecular formula: C<sub>9</sub>H<sub>11</sub>CLN<sub>2</sub>O

molecular weight: 198.7

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
185 - 200				H	6MONTG	
Melting point (deg C):						
174 - 175				H	6MONTG	
Decomposition point (deg C):						
200				H	6MONTG	
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
3.9E-3		20	13.7	H	6MONTG	
Photolysis (per day):						
Vapor pressure (mPa):						
0.067*		25		H	9PMED7	
				H	9ACHB2 1983	
8.9		25		C	SCSFAD 44: 1-8 (1985)	
				E	PSSCBG 12: 37-44 (1981)	
Water solubility (ppm):						
230		25		H	9PMED7	
				H	6DEGRA	
				E	ADCSAJ 111: 55-120 (1972)	
Organic solubility (ppm):						
5.2E4 ACETONE		27		H	6MONTG	
Henry's law (Pa m <sup>3</sup> /mol):						
Octanol/water partitioning (log Kow):						
1.46				H	6MONTG	
2.12				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			163			9OCHS2 V.1: 51-143 (1972)
			100			6ECBEN 4: 26-38 (1980)
			184			9EINSP pp. 23-67 (1980)
			50			JAFCAU 29: 1050-1059(1981)
			100			6AJSOR 19: 61-68 (1981)
			43			6AJSOR 19: 61-68 (1981)
			59			6AJSOR 19: 61-68 (1981)
			45			6AJSOR 19: 61-68 (1981)
			71			6AJSOR 19: 61-68 (1981)
			61			6AJSOR 19: 61-68 (1981)
			24			6AJSOR 19: 61-68 (1981)
			47			6AJSOR 19: 61-68 (1981)



80	6AJSOR 19: 61-68 (1981)
28	6AJSOR 19: 61-68 (1981)
73	6AJSOR 19: 61-68 (1981)
71	6AJSOR 19: 61-68 (1981)
59	6AJSOR 19: 61-68 (1981)
59	6AJSOR 19: 61-68 (1981)
54	6AJSOR 19: 61-68 (1981)
66	6AJSOR 19: 61-68 (1981)
30	JPFCD2 PT.B 22:55-69(1987)
	RREVAH 103: 1-59 (1988)
	CMSHAF 10: 833-846 (1981)
83	6HAQUE pp. 115-133 (1975)
1800	6RENCT 99: 120-164 (1987)
74	6GERST
180	JEVQAA 16: 422-428 (1987)
542	CJSSAR 55: 127-135 (1975)
155	CJSSAR 55: 127-135 (1975)
133	CJSSAR 55: 127-135 (1975)
216	CJSSAR 55: 127-135 (1975)
97	CJSSAR 55: 127-135 (1975)
57	6WEEDS 14: 6-10 (1966)
172	6WEEDS 14: 6-10 (1966)
129	6WEEDS 14: 6-10 (1966)
160	6WEEDS 14: 6-10 (1966)
83	PSSCBG 12: 37-44 (1981)
150*	W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
150-345			C	6PRZMO
170			R	RREVAH 85: 139-147 (1983)
166			C	6RENCT 99: 120-164 (1987)
			C	JEVQAA 16: 422-428 (1987)
			C	SCSFAD 44: 1-8 (1985)
150			R	RREVAH 52: 89-115 (1974)
92			C	8CREAM
116			C	8CREAM
75			R	6ENVPE pp. 257-280
120-150			E	6CALIF 15: 10-11 (1961)
175			E	WEREAT 7: 29-36 (1967)
259			E	WEREAT 7: 29-36 (1967)
170*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: MSMA**

**CASRN: 2163-80-6**

molecular formula: CH4AsNaO3

molecular weight: 162.0

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
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Boiling point (deg C):
Melting point (deg C):
113 - 116                                H          9PME10
Decomposition point (deg C):
Heat of vaporization (deg C):
--RATE CONSTANTS--
Hydrolysis (per day):
Photolysis (per day):
Vapor pressure (mPa):
0.01                                     25          H          9PME10
Water solubility (ppm):
1.4E6*                                  20          H          9PMED9
5.7E4                                    20          C          8GLEAM
1E6                                       20          P          6USEPA
Organic solubility (ppm):
SOLUBLE      METHANOL                    H          9PME10
INSOLUBLE MOST ORGANIC SOLVS.            H          9PME10
Henry's law (Pa m3/mol):
1.16E-9                                    H          9PME10
Octanol/water partitioning (log Kow):
Acid dissociation (pKa):

```

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			300000			8GLEAM
			4167			6USEPA
			2653			6USEPA
			443			6USEPA
			576			6USEPA
			50000			6USEPA
			2000-			JEVQAA 4: 355-358 (1975)
			2500			
SAND			250			9PME10
SANDY LOAM			2850			9PME10
			7000*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
10			C	8GLEAM
750			E	WEESA6 22: 272-275 (1974)
2372			E	6NETHJ 17: 128-132 (1969)
180*			R	6ACSAR pp. 53-69 (1974)

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: MYCLOBUTANIL** CASRN: 88671-89-0

molecular formula: C15H17CLN4

molecular weight: 288.78

physical state: S  
(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
202 - 208 AT 1 MM HG				H	9PME10	
Melting point (deg C):						
63 - 68 (TECH)				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE		28	5,7,9	H	9PME10	
Photolysis (per day):						
0.003	STERILE H2O			H	9PME10	
0.866	SENSITIZED STERILE H2O			H	9PME10	
0.028	POND WATER			H	9PME10	
Vapor pressure (mPa):						
0.213		25		H	9PME10	
				H	9ACHB2 1983	
Water solubility (ppm):						
142		25		H	9PME10	
				H	9FACHB 1990	
				H	9ACHB2 1983	
Organic solubility (ppm):						
INSOLUBLE IN ALIPHATIC HC'S				H	9PME10	
SOLUBLE IN MANY ORGANIC SOLVS.				H	9PME10	
Henry's law (Pa m <sup>3</sup> /mol):						
4.33E-4				H	9PME10	
Octanol/water partitioning (log Kow):						
2.94		25	7-8	H	9PME10	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			736			9PMED9
						CMSHAF 10: 833-846 (1981)
			225			6USEPA
			266			6USEPA
			597			6USEPA
			583			6USEPA
			940			6USEPA
			500*			W
Field dissipation halflife(days):						
value	test area		pH	source	reference	
66*	SAND.LOAM			H	9PMED9	
61-71				P	6USEPA	
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
Comments:						

ARS PESTICIDE PROPERTIES last update May 1999  
CASRN: 300-76-5

**name:NALED**

molecular formula: C<sub>4</sub>H<sub>7</sub>BR<sub>2</sub>CL<sub>2</sub>O<sub>4</sub>P

molecular weight : 381

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
110	-	0.5mmHg		H	9ACHB2
Melting point(deg C):					
26	-	27.5		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
CA 0.7*		RT			
Photolysis (per day):					
Vapor pressure (mPa):					
260		20		H	9ACHB2 1983 ED.
26*				M	8VALUS
Water solubility (ppm):					
CA. 1.5*					
0-3				C	ETOC DK 8:339-357,1989
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
6.6*				M	8VALUS
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			133		
			180		
			157*		
Field Dissipation halflife(days):					
value	test area		pH	%OM	source
<1*					M
Halflife in soil:					
Soiltype	aerobic		anaerobic		source
	4*				M
Comments:					
BOILING POINT 110 at 0.5 mmHg					
SOIL SORPTION KOC VALUE=157(133-180)					

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: NAPHTHALENE**  
 molecular formula: C<sub>10</sub>H<sub>8</sub>  
 molecular weight: 129.2  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

CASRN: 91-20-3

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)ncertain, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
218				H	9PMED8	
Melting point (deg C):						
80				H	9PMED8	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
6500		20		H	9PMED9	
9310				P	6USEPA	
10640*				E	WEESA6 31: 744-751 (1983)	
Water solubility (ppm):						
30		RT		H	9PMED9	
				H	9FACHB 1992	
				E	WEESA6 31: 744-751 (1983)	
Organic solubility (ppm):						
2.85E5	BENZENE,TOLUENE	RT		H	9PMED9	
5.00E5	CCL4,CHLOROFORM	RT		H	9PMED9	
7.7E4	ETHANOL,METHANOL	RT		H	9PMED9	
Henry's law (Pa m <sup>3</sup> /mol):						
45.8		RT		H	9PMED9	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			1300			ESTHAG 14: 553-556 (1980)
						6ECBEN 4: 26-38 (1980)
			414			JAFCAU 29: 1050-1059 (1981)
			1060			6USEPA
						JAFCAU 29: 1050-1059 (1981)
			933			6GERST
			1288			ESTHAG 15: 1360-1367 (1981)
			870			CMSHAF 10: 833-846 (1981)
			1521			8BULEV 28: 162-165 (1982)
			1300			8BULEV 28: 162-165 (1982)
			500			WEESA6 31: 744-751 (1983)
			638			WEESA6 31: 744-751 (1983)
			603			WEESA6 31: 744-751 (1983)
			483			WEESA6 31: 744-751 (1983)
			900*			WEESA6 31: 744-751 (1983)
Field dissipation half-life(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
14-48				R	ARSPPD	
30*				W		
Half-life in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	

Comments:

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ARS PESTICIDE PROPERTIES last update May 1999

name:NAPROPAMIDE

CASRN: 15299-99-7

molecular formula: C17H21NO2

molecular weight : 271.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
74.8	-	75.5		H	9ACHB2	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE*		RT		M	8ICIAG	
Photolysis (per day):						
147*	SOIL	25	7	M	8ICIAG	
Vapor pressure (mPa):						
0.27		20		H	9ACHB2 1983 ED.	
0.53		25		H	9ACHB2	
13		50		H	9HERBH	
0.023*		25		M	8ICIAG	
Water solubility (ppm):						
		-temp-		-source-	-reference-	
70		20		H	9ACHB2 1983 ED.	
73		20		C	EESADV	
74*		25		M	8ICIAG	
Organic solubility (ppm):						
~6E04*	KEROSENE	20		H	9PMED8	
~5E05*	XYLENE	20		H	9PMED8	
MISCIBLE*	ACETONE,ETHANOL	20		H	9PMED8	
MISCIBLE*	4-METHYLPENTAN-2-ONE	20		H	9PMED8	
Henrys law (Pa m3/mol):						
8.4E-05*		25		M	8ICIAG	
Octanol/water partitioning (log Kow):						
3.3*		25		M	8ICIAG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			300			JEVQAA 16:422-428,1987
						SCSFAD 44:1-8,1985
			680			EESADV
			410			EESADV
			218			8ICIAG
			700			8ICIAG
			462*			
Field Dissipation halflife(days):						

value	test area	pH	source	reference
56			H	9HERBH
			H	9ACHB2 1983 ED.
70			E	SCSFAD 44:1-8,1985
17			M	8ICIAG
48(17-70)*				
Halflife in soil:				
Soiltype	aerobic	anaerobic	source	reference
Comments:				

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:**NAPTALAM SODIUM SALT **CASRN:** 132-67-2

molecular formula: C18H12NNAO3

molecular weight : 291.29

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
185	(parent)			H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
9.7E-02*		25	5	M	6UNIRO		
7.9E-04*		25	7	M	6UNIRO		
NEGLIG.*		25	9	M	6UNIRO		
Photolysis (per day):							
0.012*	SOIL	25		M	6UNIRO		
0.067*	WATER	25	7	M	6UNIRO		
Vapor pressure (mPa):							
<0.133*	(parent)	20		M	6UNIRO		
Water solubility (ppm):							
2.31E05*		25		H	9HERBH		
200*	(parent)	20		H	9ACHB2 1983 ED.		
Organic solubility (ppm):							
INSOLUBLE MOST ORGANIC SOLV.							
Henrys law (Pa m3/mol):							
NEGLIGIBLE							
Octanol/water partitioning (log Kow):							
1.063*				M	6UNIRO		
Acid dissociation (pKa):							
4.0				C	8CREAM		
4.614*	(parent)			M	6UNIRO		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
CLAY	25	2629.34	1054	4.8	5.9	M	6UNIRO
SAND	25	268.32	1594	0.9	6.5	M	6UNIRO
LOAM	25	2614.93	2152	1.2	7.6	M	6UNIRO
SANDY LOAM	25	2611.74	4039	0.5	6.5	M	6UNIRO
			2212*				

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
20(15-24)*				M	6UNIRO
Half-life in soil:					
Soiltype	aerobic		anaerobic	source	reference
	245.8*		36.7*	M	6UNIRO
Comments:					

**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: NEBURON** **CASRN: 555-37-3**

molecular formula: C12H16CL2N2O  
 molecular weight: 275.2  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
102 - 103				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.004	0.5N NAOH		13.7	H	6MONTG	
Photolysis (per day):						
Vapor pressure (mPa):						
NEGLIGIBLE						
		RT		H	6MONTG	
Water solubility (ppm):						
4.8		24		H	9PMED9	
				H	9ACHB2 1983	
				E	ADCSAJ 111: 55-120 (1972)	
5		25		H	9PME10	
Organic solubility (ppm):						
SPARINGLY SOLUBLE IN HC'S						
				H	9PME10	
Henry's law (Pa m <sup>3</sup> /mol):						
Octanol/water partitioning (log Kow):						
3.80				H	6MONTG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			2570			6GERST
			2291			JPFCD2 PT.B 22: 55-69(1987)
			1808			WEREAT 5: 98-107 (1965)
SANDY LOAM		325	2708	20.64	6.3	WEREAT 5: 98-107 (1965)
TOLL FARM HP		240	2051	20.10	7.4	WEREAT 5: 98-107 (1965)



SILTY CLAY LOAM	139	3767	6.35	6.2	WEREAT 5: 98-107 (1965)
SANDY LOAM	72	3731	3.32	7.1	WEREAT 5: 98-107 (1965)
SANDY CLAY LOAM	58	3295	3.03	6.7	WEREAT 5: 98-107 (1965)
		3111			9EINSP pp. 23-67 (1980)
		2500*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
95			C	8CREAM
117			C	8CREAM
240-270			E	6CALIF 15: 10-11 (1961)
38-75			E	6PNCWC 15th MEETING p. 7-8 (1958)
90-120			H	9PME10
130*				

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: NICOSULFURON

CASRN: 111991-09-4

molecular formula: C15H18N6O6S

molecular weight: 410.4

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
141 - 144				M	9DUPON,1999
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.046	WATER		5	M	9DUPON,1999
STABLE	WATER		7	M	9DUPON,1999
Photolysis (per day):					
0.012	SOIL	25	6.2	M	9DUPON,1999
0.05	WATER	25	5	M	9DUPON,1999
0.004	WATER	25	7	M	9DUPON,1999
0.004	WATER	25	9	M	9DUPON,1999
Vapor pressure (mPa):					
1.6E-11*		25		P	6USEPA
1.3E-11		25		P	6USEPA
Water solubility (ppm):					
390		28	5	P	6USEPA
18000		28	7	P	6USEPA
250000		28	9	P	6USEPA
22000		25	7	H	9ACHB2 1983

44		25	3.5	H	9ACHB2 1983
400		25	5	M	9DUPON 1990
12000*		25	7	M	9DUPON 1990
39200		25	9	M	9DUPON 1990

Organic solubility (ppm):

1.8E4	ACETONE	25		M	9DUPON,1999
4500	ETHANOL	25		M	9DUPON,1999
6.4E4	DIMETHYLFORMAMIDE	25		M	9DUPON,1999
2.3E4	ACETONITRILE	25		M	9DUPON,1999
370	TOLUENE	25		M	9DUPON,1999
<20	HEXANE	25		M	9DUPON,1999
1.6E5	DICHLOROMETHANE	25		M	9DUPON,1999

Henry's law (Pa m<sup>3</sup>/mol):

1.64E-14		25	5	M	9DUPON,1999
5.5E-16		25	7	M	9DUPON,1999
1.7E-16		25	9	M	9DUPON,1999

Octanol/water partitioning (log K<sub>ow</sub>):

-0.36		5		H	9PME10
-1.70*		7		H	9PME10
-2.15		9		H	9PME10

Acid dissociation (pK<sub>a</sub>):

4.3*		25		M	9DUPON 1990
------	--	----	--	---	-------------

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			22		4.4	6USEPA
			23		6.5	6USEPA
			25		6.6	6USEPA
			70		5.4	6USEPA
SANDY LOAM(DE)	25	0.16	25		6.6	9DUPON,1999
SANDY LOAM(NC)	25	0.28	23		6.5	9DUPON,1999
SILT LOAM(IL)	25	1.73	69		5.4	9DUPON,1999
SILT LOAM(DE)	25	0.61	22		4.3	9DUPON,1999
			30*		6.5	W

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
14	MS	8	M	9DUPON,1990
21	DE	6.5	M	9DUPON,1999
49	IL	7.4	M	9DUPON,1999

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----
SLTY CLAY LM(IL)	26		M	9DUPON

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:NITRAPYRIN**

**CASRN: 1929-82-4**

molecular formula: C<sub>6</sub>H<sub>3</sub>CL<sub>4</sub>N

molecular weight : 230.9

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2 7TH ED.,1977

---

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,

(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
62	-	65		H	9ACHB2 7TH ED., 1977		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
0.090*		25	6.0	E	AECTCV 7:149-158,1978		
0.345		35	3.2-8.4	E	AECTCV 7:149-158,1978		
1.28		45	6.0	E	AECTCV 7:149-158,1978		
Photolysis (per day):							
1.34	WATER	25		E	AECTCV 7:1490158,1978		
Vapor pressure (mPa):							
370*		23		H	9ACHB2 7TH ED., 1977		
Water solubility (ppm):							
40		22		C	EESADV		
				H	9ACHB2 7TH ED.,1977		
92*		25		R	RREVAH 85:17-27,1983		
Organic solubility (ppm):							
905	XYLENE			M	6DOWCH		
Henry's law (Pa m3/mol):							
0.929*		25		R	RREVAH 85:17-27,1983		
				H	9ACHB2, 7TH ED.,1977		
Octanol/water partitioning (log Kow):							
3.31*				M	6DOWCH		
3.32				H	9PME10		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			172			C	8SWAMD
			458			C	8BULEV 24:190-195,1980
			570			R	EESADV
			420			R	EESADV
			560			R	RREVAH 85:231-244,1983
						R	8AOACA
			386			P	8EPAGR
			420			C	8SWAMD
			271			C	8SWAMD
			238			C	8SWAMD
			437*				
SANDY LOAM(CA)		0.95	290	.57	6	M	6DOWCH
LOAM(MS)		2.2	360	1.08	7.1	M	6DOWCH
CLAY LOAM(OH)		2.0	350	9.72	6.3	M	6DOWCH
SANDY LOAM(GA)		2.9	360	1.39	6.4	M	6DOWCH
SILTY CLAY(IL)		5.2	250	3.53	5.4	M	6DOWCH
Field Dissipation half-life(days):							
value	test area		pH		source	reference	
10						8INSFO	
25(5-89)*	LOAM(MS)		22		M	6DOWCH	
10*	SNDY LOAM(NC)		8		M	6DOWCH	
5	CLAY(ONTARIO)		5.8		M	6DOWCH	
42	CLAY(ONTARIO)		5.8		M	6DOWCH	
89	CLAY(ONTARIO)		5.8		M	6DOWCH	
66	CLAY(ONTARIO)		5.8		M	6DOWCH	

17	SLTY LOAM(ONT.)	6.7	M	6DOWCH
36	SLTY LOAM(ONT.)	6.7	M	6DOWCH
45	SNDY LOAM(MI)	6.2	M	6DOWCH
43	SNDY LOAM(MI)	6.2	M	6DOWCH
51	SNDY LOAM(MI)	6.2	M	6DOWCH
58	SNDY LOAM	5	M	6DOWCH
33	SNDY LOAM	5	M	6DOWCH
15	SNDY LOAM	5	M	6DOWCH

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	25*			
LOAM(MS)	12		M	6DOWCH
SLTY CLAY(IL)	30		M	6DOWCH
CLAY(ND)	27		M	6DOWCH
CLAY LOAM(NC)	5		M	6DOWCH

Comments:

SOIL SORPTION KOC VALUE=437(172-764); AEROBIC=25(5-89)

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: NITROFEN**

**CASRN: 1836-75-5**

molecular formula: C12H7CL2NO3

molecular weight: 284.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,

(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
70 - 71				H	9PMED8
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
1.06		40		H	9PMED9
Water solubility (ppm):					
0.7-1.2		22		H	9PMED9
ca.1		RT		H	9ACHB2 1983
1*				W	
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			62400			6PRZMO
			20000			CMSHAF 10: 833-846 (1981)
VARIOUS,117 VALUES			11153			ESTHAG 14: 553-556 (1980)
			10000*			6ABERN
						W

Field dissipation halflife(days):

value	test area	pH	source	reference
6,8	FLOODED		E	6ENVPE pp.385-400
>20	UPLAND		E	6ENVPE pp.385-400
3-25	FLOODED		E	6RPPRE 9: 143-163 (1976)
14	RICE FIELD		E	6RPPRE 9: 143-163 (1976)

15\*

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:NORFLURAZON**

**CASRN: 27314-13-2**

molecular formula: C12H9CLF3N3O

molecular weight : 303.7

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):					
174	-	180		H	9ACHB2

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):					
STABLE		25	5-9	M	6SANDO

Photolysis (per day):					
0.792	SOIL	25		M	6SANDO
16	WATER	25		M	6SANDO
0.41	SOIL	25		M	6SANDO
6.7	WATER	25		M	6SANDO
0.0169*	SOIL	25			
0.68*	WATER	25			

Vapor pressure (mPa):					
1.6E-3		20		M	6SANDO
3.7E-2		40		M	6SANDO
5.5E-1		60		M	6SANDO
5.9		80		M	6SANDO
51		100		M	6SANDO

0.00387\* 25 M 6SANDO  
 Water solubility (ppm): -temp- -source- -reference-  
 34\* 25  
 33.7 25 M 6SANDO  
 28.0 23 H 9HERBH  
 H JAFCAU 30:1032-1035,1982  
 28 25 R EESADV  
 Organic solubility (ppm):  
 5E04\* ACETONE 25 M 6SANDO  
 1.4E05\* ETHANOL 25 M 6SANDO  
 2.5E03\* XYLENE 25 M 6SANDO  
 Henrys law (Pa m3/mol):  
 3.46E-5\* 25 M 6SANDO  
 Octanol/water partitioning (log Kow):  
 2.45\* 25 M 6SANDO  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
CLAY LOAM	23	8.8	490	1.8	7.4	M	6SANDO
SANDY LOAM	23	2.6	430	0.6	7.9	M	6SANDO
SILT LOAM	23	2.6	370	0.7	5.7	M	6SANDO
SAND	23	0.73	120	0.6	7.4	M	6SANDO

353\*

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
163*	MS(COTTON)			M	6SANDO

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
LOAM(MS)	130*	~240	M	6SANDO

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: ORYZALIN

CASRN: 19044-88-3

molecular formula: C12H18N4O6S

molecular weight : 346.36

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):

141	-	142		H	9ACHB2
-----	---	-----	--	---	--------

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

<.013	30	H	9HERBH				
		H	9ACHB2 1983 ED.				
<.0013*	25	M	7LILLY				
Water solubility (ppm):	-temp-	-source-	-reference-				
2.5*	25	H	9HERBH				
		H	9ACHB2 1983 ED.				
		M	7LILLY				
		H	JAFCAU 30:1032-1035,1982				
2.4	25	C	EESADV				
Organic solubility (ppm):							
>5E05* ACETONE	25	H	9PMED8				
>5E04* METHANOL	25	H	9PMED8				
1.6E03* XYLENE	25	H	9PMED8				
Henry's law (Pa m3/mol):							
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			2700			R	EESADV
			100			C	9CREAM
			93			E	JAFCAU 29:1050-1059,1981
			600*			M	7LILLY
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
60						H	9HERBH
20*						M	7LILLY
48-128						C	8CREAM
42						R	8FULLE
Half-life in soil:							
Soiltype	aerobic	anaerobic				source	reference
Comments:							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:OXADIAZON** **CASRN: 19666-30-9**

molecular formula: C15H18CL2N2O3

molecular weight : 345.23

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
88	-	90		H	9MERCK,10TH ED,P.991
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.00560*		25	5	M	9RHPOU
Photolysis (per day):					

40.8*	WATER				M	9RHPOU	
0.00305*	SOIL				M	9RHPOU	
Vapor pressure (mPa):							
<0.13		20			H	9ACHB2 1983 ED.	
0.13					H	9HERBH	
0.015*		22			M	9RHPOU	
Water solubility (ppm):							
		-temp-			-source-	-reference-	
0.7*		25			M	9RHPOU	
7.0E-01		20			H	9ACHB2,2ND ED.,1987	
Organic solubility (ppm):							
2.0E+5*	CYCLOHEXANE	20			H	9ACHB2,2ND ED.,1987	
6.0E+5*	ACETOPHENONE	20			H	9PMED8,8TH ED.,p.617,1987	
6.0E+5*	ANISOLE	20			H	9PMED8,8TH ED.,p.617,1987	
4.6E+5*	ACETONE	25			M	9RHPOU	
4.1E+5*	ACETONITRILE	25			M	9RHPOU	
5.8E+4*	HEXANE	25			M	9RHPOU	
1E+6*	BENZ.,CHCL3,TOLUENE						
1E+5*	METHANEOL,ETHANOL						
Henry's law (Pa m <sup>3</sup> /mol):							
7.2E-03*		25			M	9RHPOU	
Octanol/water partitioning (log Kow):							
4.70*		25			M	9RHPOU	
4.09					E	ESTHAG, 22(3):272,1988	
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			3241			R	EESADV, 4:30,1980
			5300			R	EESADV, 4:30,1980
			3241			E	JAFCAU 29:1050-1059,1981
			1600			C	8CREAM
			3345*				
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
90-180						H	9ACHB2 1983 ED.
ca 50	SOIL-SOYBEAN(18)					M	9RHPOU
30	SOIL-CITRUS(6)					M	9RHPOU
135	89 CA ORNAM.					M	9RHPOU
116	89 NC ORNAM.					M	9RHPOU
60-90	SOIL - APPLE(7)					M	9RHPOU
<45	SOIL - TURF(6)					M	9RHPOU
15-20	SOIL-PEANUT(20)					M	9RHPOU
75(30-180)*							
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
SANDY LOAM	180*		180			M	9RHPOU
Comments:							
SOIL SORPTION KOC VALUE=3345(1600-5300)							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:OXAMYL**

**CASRN: 23135-22-0**

molecular formula: C7H13N3O3S

molecular weight : 219.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2



Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
100	102			M	9DUPON,1999		
Decomposition point(deg C):							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
<0.023*		25	5	M	9DUPON		
0.087*		25	7	M	9DUPON		
5.33*		25	9	M	9DUPON		
Photolysis (per day):							
0.14*	SOIL	25	4.5	M	9DUPON		
0.23*	SOIL	25	6.5	M	9DUPON		
0.099*	WATER	25	5	M	9DUPON		
Vapor pressure (mPa):							
30.59		25		M	9DUPON,1999		
Water solubility (ppm):							
2.8E+5		25		E	EESADV		
2.69E+5		25		E	ETOCKD 8:339-357,1989		
2.82E+5*		25		M	9DUPON		
Organic solubility (ppm):							
Henrys law (Pa m3/mol):							
2.38E-5		25		M	9DUPON,1999		
Octanol/water partitioning (log Kow):							
-0.44* (pH5)		25			9DUPON		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
EESADV			6			E	JEVQAA 16:422-428,1987
			5			C	8GLEAM
			26			E	ETOCKD 8:339-357,1989
			9*				
SLT LM(DE)	25	<0.010	<0.91	1.9	4.3	M	9DUPON
SNDY LM(NJ)	25	0.05	8.6	1.0	6.3	M	9DUPON
LMY SND(NC)	25	0.08	6.9	2.0	5.4	M	9DUPON
LOAM(IL)	25	0.41	14	5.1	7.3	M	9DUPON
Field Dissipation halflife(days):							
value	test area		pH			source	reference
6						E	JEVQAA 16:422-428,1987
8						E	ETOCKD 8:339-357,1989
7						P	8EPAHO
13(4-39)*							
18	BRANDENTON(FL)		5.8			M	9DUPON
39	WAPATO(WA)		6.7			M	9DUPON
12	MADERA(CA)		7.9			M	9DUPON
9	GREENVILLE(MS)		5.8			M	9DUPON,1999
Halflife in soil:							
Soiltype	aerobic		anaerobic			source	reference
SILT LOAM(DE)	15*					M	9DUPON
SANDY LM(CA)	11		6			M	9DUPON,1999
SILTY LM(DE)	27		<5			M	9DUPON,1999

Comments:

SOIL SORPTION KOC VALUE=9(1-26); AEROBIC=15 PH6.4,25 DEGREES,  
2.75%OM.

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: OXYCARBOXIN**

**CASRN: 5259-88-1**

molecular formula: C12H13NO4S

molecular weight : 267.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
119.5	-	121.5		M	6UNIRO	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
6.6E-3*		25	3	M	6UNIRO	
1.5E-2*		25	6	M	6UNIRO	
4.16*		25	9	M	6UNIRO	
Photolysis (per day):						
Vapor pressure (mPa):						
5.59E-3		25		M	6UNIRO	
<1		20		H	9ACHB2 1983 ED.	
0.0056*		25				
Water solubility (ppm):						
1400*		25		M	6UNIRO	
1000		25		C	EESADV	
				H	9ACHB2 1983 ED.	
Organic solubility (ppm):						
8.37E4*	ACETONE			M	6UNIRO	
8.95*	HEXANE			M	6UNIRO	
8.4E4*	ACETONE			H	9PMED8	
8.9*	HEXANE			H	9PMED8	
1.53E6*	DIMETHYL SULFOXIDE			H	9PMED8	
1.7E4*	ETHANOL			H	9PMED8	
3.3E4*	METHANOL			H	9PMED8	
Henrys law (Pa m3/mol):						
1.06E-06*				M	6UNIRO	
Octanol/water partitioning (log Kow):						
0.772*				M	6UNIRO	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
LOAM	25	0.687	98.7	1.2	7.6	6UNIRO
SANDY LOAM	25	0.403	138.9	0.5	6.5	6UNIRO
			51			6UNIRO
			96*			
Field Dissipation halflife(days):						
value	test area	pH		source	reference	

Half-life in soil:

Soil type	aerobic	anaerobic	source	reference
	17.5-56		M	6UNIRO

Comments:

SOIL SORPTION KOC VALUE=73(2-139)

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ARS PESTICIDE PROPERTIES last update May 1999

name: OXYDEMETON-ME

CASRN: 301-12-2

molecular formula: C<sub>6</sub>H<sub>15</sub>O<sub>4</sub>PS<sub>2</sub>

molecular weight : 246.29

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9MILES

---

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
106	-	0.01mmHg		H	9ACHB2,2ND ED.,1987	
Melting point(deg C):						
-10	-			H	9PMED8,8TH ED.,p.625,1987	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.00740*		25	5	M	6MILES	
0.0175*		25	7	M	6MILES	
0.283*		25	9	M	6MILES	
Photolysis (per day):						
0.011*	SOIL	9-34	OD	M	6MILES	
0.005*	WATER	23		M	6MILES	
Vapor pressure (mPa):						
3.8*		20		M	6MILES	
Water solubility (ppm):						
MISCIBLE		20		M	6MILES	
1E+6*				H	9ACHB2 7TH ED., 1977	
Organic solubility (ppm):						
1.0E+4*	2-PROPANOL	20		M	6MILES	
1.0E+4*	DICHLOROMETHANE	20		M	6MILES	
1.0E+4*	XYLENE	20		M	6MILES	
Henry's law (Pa m <sup>3</sup> /mol):						
<2.5E-06*		20		M	6MILES	
Octanol/water partitioning (log K <sub>ow</sub> ):						
Acid dissociation (pK <sub>a</sub> ):						
Soil sorption:						
soil type	temp.	Kd	Koc	%om	pH	reference
Field Dissipation half-life(days):						
value	test area		pH	source		reference
2.2	CA(CHUALAR) LMY SND	7.3		M		6MILES
1.6	CA(FRESNO) LMY SND	7.8		M		6MILES
4.6(1.6-10)*						
Half-life in soil:						

Soiltype aerobic anaerobic source reference  
 SANDY LOAM 0.4\* M 6MILES  
 Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: OXYFLUORFEN CASRN: 42874-03-3

molecular formula: C15H11CLF3NO4  
 molecular weight : 361.7  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
85	-	90		M	6ROHMH		
Decomposition point(deg C):							
	-	>240		M	6ROHMH		
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE							
				M	6ROHMH		
Photolysis (per day):							
0.025	SOIL			M	6ROHMH		
0.231	WATER			M	6ROHMH		
Vapor pressure (mPa):							
0.033*		25		M	6ROHMH		
Water solubility (ppm):							
0.1		20		H	9ACHB2		
0.116*		25		M	6ROHMH		
Organic solubility (ppm):							
7.25E05*	ACETONE	25		H	9PMED8		
5.25E05*	CHLOROFORM	25		H	9PMED8		
6.15E05*	CYCLOHEXAN-ONE	25		H	9PMED8		
>5E05*	DIMETHYLFORMAMIDE	25		H	9PMED8		
Henry's law (Pa m3/mol):							
0.10*		25		M	6ROHMH		
Octanol/water partitioning (log Kow):							
4.47				H	9PME10		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			1.7E06			E	CMSHAF 10:833-845,1981
SAND			2891			M	6ROHMH
SILTY CLAY LOAM			32381			M	6ROHMH
			100,000*				
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
30-40						H	9HERBH
5-55						M	6ROHMH
30(30-40)*							

Half-life in soil:  
 Soiltype                    aerobic                    anaerobic                    source                    reference  
                                  291-296                    554-603                    M                    6ROHMH  
 Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: PACLOBUTRAZOL                    CASRN: 76738-62-0

molecular formula: C15H20CLN3O  
 molecular weight: 293.8  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
165 - 166				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE			4-9	H	9PME10
Photolysis (per day):					
STABLE			7	H	9PME10
Vapor pressure (mPa):					
0.001*		20		H	9PME10
				H	9ACHB2 1983
2.9E5				H	9FACHB 1990
Water solubility (ppm):					
26*		20		H	9PME10
35				H	9PMED9
				H	9ACHB2 1983
				H	9FACHB 1990
Organic solubility (ppm):					
1.1E5            ACETONE		20		H	9PME10
1.8E5            CYCLOHEXANONE		20		H	9PME10
1.0E5            DICHLOROMETNANE		20		H	9PME10
1.0E4            HEXANE		20		H	9PME10
6.0E4            XYLENE		20		H	9PME10
1.5E5            METHANOL		20		H	9PME10
5.0E4            PROPYLENE GLYCOL		20		H	9PME10
Henry's law (Pa m3/mol):					
1.13E-5		20		H	9PME10
Octanol/water partitioning (log Kow):					
3.2				H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			303			9PMED9 CMSHAF 10: 833-846 (1981)
			144			6USEPA
			235			6USEPA
			260			6USEPA
			339			6USEPA
			945			6USEPA
			500*			

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
180-360			H	9PMED9
450-973	CA,WV,FL		P	6EPAPF vol. I
95-190	NC		P	6EPAPF vol. I
123-189	MISS		P	6EPAPF vol. I
123-337	IL		R	6USDAS
7-14	CA		R	6USDAS
30-210			P	6EPAPF vol. I
200*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:PARAQUAT DICHLORIDE** **CASRN: 1910-42-5**

molecular formula: C12H14CL2N2

molecular weight : 257.2

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
300	-			H	9ACHB2
Decomposition point(deg C):					
-	300			H	9ACHB2
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
NONVOLIT*				H	9HERBH
				M	8ICIAG
Water solubility (ppm):		-temp-		-source-	-reference-
6.2E05*				M	8ICIAG

Organic solubility (ppm):  
 Henrys law (Pa m3/mol):  
 Octanol/water partitioning (log Kow):  
 -4.5\* 20 M 8ICIAG 03/01/90

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			15473			R	EESADV
			17700			R	8INSFO
			15500			C	8GLEAM
			16,200*				

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
487-4747				R	9EINSP PP.23-67
99				C	8GLEAM
487				R	8INSFO

1067(99-4747)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PARATHION**

**CASRN: 56-38-2**

molecular formula: C10H14NO5PS

molecular weight : 291.27

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
150	-	0.6mmHg		H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		25	1-4	H	9PME10
.0025		22	4	H	9PME10
.0027		22	7	H	9PME10
.0053		22	9	H	9PME10
Photolysis (per day):					
Vapor pressure (mPa):					
0.76		20		E	PSSCBG 4:137-147,1973
1.3		20		E	JAFCAU 29:616-621,1981
3		30		E	JAFCAU 18:814-818,1970
0.67		20		R	9HRLCP
0.89*		20		H	9PME10
Water solubility (ppm):					
24		25		H	9ACHB2 1983 ED.

14					H	9ACHB2 7TH ED.,1977
11*		20			C	JPFCD2 22:55-69,1987
Organic solubility (ppm):					H	9PME10
MISCIBLE MOST ORG. SOLVS.					H	9PMED8
SL. SOLUBE PETROLEUM OILS					H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					H	9PME10
0.024*					H	9PME10
Octanol/water partitioning (log Kow):					H	9PME10
3.83						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			10650			8SWAMD
			350			9EINSP PP.23-67
			1148			JAFCAU 29:1050-1059,1981
			1720			ESTHAG 15:1360-1367,1981
			800			8CREAM
			3300			8CREAM
			1100			JPFCD2 22:55-69,1987
						JEVQAA 16:422-428,1987
						SCSFAD 44:1-8,1985
			8300			8INSFO
			5862			8EPAHO
			9914			8EPAHO
			21159			8EPAHO
			34674			8EPAHO
			7161			8EPAHO
			7660*			8AGMAW
Field Dissipation half-life(days):						
value	test area	pH		source		reference
18-35				R		9EINSP PP.23-67
15				R		RREVAH 85:139-147,1983
7-12				P		8EPAHO
35				R		8INSFO
13				E		JEVQAA 16:422-428,1987
14*				E		SCSFAD 44:1-8,1985
Half-life in soil:						
Soiltype	aerobic	anaerobic		source		reference
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:PEBULATE**

**CASRN: 1114-72-2**

molecular formula: C<sub>10</sub>H<sub>21</sub>NOS

molecular weight : 203.36

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
---------	----------	--------	------	----------	-------------

Boiling point(deg C):

142 - 21 mm Hg

Melting point(deg C):

-  
Decomposition point(deg C):

-



Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 Photolysis (per day):  
 0.00347 \* SOIL 25 7 M 8ICIAG  
 Vapor pressure (mPa):  
 1180 \* 25 M 8ICIAG  
 Water solubility (ppm): -temp- -source- -reference-  
 100 \* 25 M 8ICIAG  
 60 20 C EESADV  
 Organic solubility (ppm):  
 MISCIBLE\* ACETONE,ETHANOL 20 H 9PMED8  
 MISCIBLE\* KEROSENE,XYLENE 20 H 9PMED8  
 MISCIBLE\* 4-METHYLPENTAN-2-one 20 H 9PMED8  
 Henrys law (Pa m3/mol):  
 2.4 \* 25 M 8ICIAG  
 Octanol/water partitioning (log Kow):  
 4.0 \* 25 M 8ICIAG  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 430 \* W  
 Field Dissipation halflife(days):  
 value test area pH source reference  
 8 \* M 8ICIAG  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PENDIMETHALIN** **CASRN: 40487-42-1**  
 molecular formula: C13H19N3O4  
 molecular weight : 281.3  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9AMCY1

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
56	-	57		M	9AMCY1
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		NR		M	9AMCY1
STABLE*		NR	5-9	H	9PMED8
Photolysis (per day):					
Vapor pressure (mPa):					
4		25		H	9ACHB2 1983 ED.
1.2*		25		M	9AMCY1
4.9		35		M	9AMCY1
21.1		45		M	9AMCY1

Water solubility (ppm): -temp- -source- -reference-  
 0.3 20 E ETOCDK 8:339-357,1989  
 0.275\* 25 M 9AMCY1  
 Organic solubility (ppm):  
 7.7E04\* PROPAN-2-OL 20 H 9PMED8  
 7E05\* ACETONE 20 H 9PMED8  
 6.3E05\* XYLENE 20 H 9PMED8  
 Henrys law (Pa m3/mol):  
 1.23\* 25 M 9AMCY1  
 Octanol/water partitioning (log Kow):  
 5.2\* E 9AMCY1  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 SAND 25 30 6.5E+3 0.8 7.6 9AMCY1  
 SANDY LOAM 25 110 1.2E+4 1.6 6.4 9AMCY1  
 SILT LOAM 25 380 1.4E+4 4.7 7.0 9AMCY1  
 LOAM 25 301 1.4E+4 3.8 7.0 9AMCY1  
 LOAM 25 854 2.9E+4 5.0 6.5 9AMCY1  
 13400\*

Field Dissipation halflife(days):  
 value test area pH source reference  
 90-120 H 9ACHB2 1983 ED.  
 8 C 8GLEAM  
 360-480 R 8FULLE  
 82-242 SOIL AZ M 9AMCY1  
 174(8-480)\*

Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SAND LOAM 1300\* 60 M 9AMCY1

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: PENTACHLOROPHENOL CASRN: 87-86-5**

molecular formula: C6HCL5O  
 molecular weight: 266.3  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PME10

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Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
309 - 310				H	9PME10
Melting point (deg C):					
190 - 191				H	6MONTG
Decomposition point (deg C):					
310				H	6MONTG
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
0.0105	UV WATER	90-95		H	6MONTG
0.037	SUNLIGHT DIST.H2O			H	6MONTG

0.013 SUNLIGHT RIVER H2O H 6MONTG

Vapor pressure (mPa):

1.6E4	100	H	9PMED9
14.6	20	H	6DEGRA
22.6*	20	H	6MONTG

Water solubility (ppm):

80	30	H	9PME10
80	20	P	6USEPA
14*	20	H	6DEGRA
	20	H	6MONTG

11-14 E ESTHAG 25: 654-661 (1990)

330000 (NA SALT - CASRN 131-52-2) H 9PME10

Organic solubility (ppm):

SOLUBLE IN MOST ORGANIC SOLVS. H 9PME10

Henry's law (Pa m<sup>3</sup>/mol):

0.430	20	H	6MONTG
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Octanol/water partitioning (log K<sub>ow</sub>):

3.32-5.86	H	6MONTG
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Acid dissociation (pK<sub>a</sub>):

4.71	H	9PMED9
	E	JAFCAU 26: 189-192 (1978)
4.75	E	ESTHAG 25: 654-661 (1990)
4.74*	H	6MONTG

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			900			ESTHAG 14: 553-556 (1980)
						6ECBEN 4: 26-38 (1980)
			262			RREVAH 103: 1-59 (1988)
						CMSHAF 10: 833-846 (1981)
			23988			6GERST
			35481			6GERST
			38905			6GERST
			3000-			6EXTOX
			4000			
			39000			ESTHAG 18: 652-657 (1984)
			35800			ESTHAG 18: 652-657 (1984)
			23800			ESTHAG 18: 652-657 (1984)
			20000*			

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
23-178			H	6DEGRA
10-40	FLOODED		R	9KHBCD pp. 129-208
	COND.		R	GENVPE pp. 385-400
14-48	BACT.DEGR.		R	6EXTOX
14			C	9EINSP pp.23-67 (1980)
10-20			E	6AGRON 43: 504-7 (1951)
10-70 (AV.30)	FLOODED		E	6SSPNU 21: 405-14 (1975)
20-120 (AV.50)	UPLAND		E	6SSPNU 21: 405-14 (1975)
10-17	RICEFIELD		E	6RPPRE 9: 143-163 (1976)
48*			W	

Half-life in soil

Soiltype	aerobic	anaerobic	source	reference
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Comments:  
KOC VERY PH DEPENDENT

molecular formula: C14H12F3NO4S2  
molecular weight: 379.4  
physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
142 - 144				H	9PMED8
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE				H	9PMED8
Photolysis (per day):					
Vapor pressure (mPa):					
1.2		25		H	9PMED9
Water solubility (ppm):					
60*		22		H	9PMED9
				H	9ACHB2 1983
40 (pH 2.0)				E	WEESA6 23: 344-348 (1975)
60 (pH 4.4)				E	WEESA6 23: 344-348 (1975)
4700 (pH 7)				E	WEESA6 23: 344-348 (1975)
Organic solubility (ppm):					
7.50E5	ACETONE				
1.1E4	BENZENE				
1.62E5	DICHLOROMETHANE				
5.95E5	METHANOL				
Henry's law (Pa m <sup>3</sup> /mol):					
7.59E-3				H	9PMED8
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
2.5				H	9PMED9
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
-----	-----	--	---	---	---
			1202		
					6GERST
Field dissipation halflife(days):					
value	test area		pH	source	reference
-----	-----		---	---	---
30	H			H	9HERBH 4th ED 1979
ca.30				H	9ACHB2 1983
Halflife in soil:					
soiltype	aerobic	anaerobic		source	reference
-----	-----	-----		-----	-----
Comments:					

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: PERIMIPHOS-ETHYL CASRN: 23505-41-1

molecular formula: C13H24N3O3PS  
molecular weight: 333.4  
physical state: L  
(L=liquid; G=gas; S=solid)  
reference: 9PME10

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
Melting point (deg C):						
15 - 18 (TECH)				H	9PME10	
Decomposition point (deg C):						
C.194				H	9PME10	
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
0.68*		20		H	9PME10	
40		25		H	9PMED9	
13.3		25		H	9FACHB 1990	
Water solubility (ppm):						
<1		30		H	9PMED9	
93		20		H	9FACHB 1993	
2.3*				H	9PME10	
Organic solubility (ppm):						
MISCIBLE WITH MOST ORGANIC SOLVS.						
Henry's law (Pa m <sup>3</sup> /mol):						
0.099				H	9PME10	
Octanol/water partitioning (log Kow):						
5.0				H	9PME10	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			195000			9PMED9
						CMSHAF 10: 833-846 (1981)
			2980			9FACHB 1993
						CMSHAF 10: 833-846 (1981)
			300*			W
Field dissipation halflife(days):						
value	test area		pH	source	reference	
21-70				H	9PME10	
45*				W		
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PERMETHRIN**

**CASRN: 52645-53-1**

molecular formula: C<sub>21</sub>H<sub>20</sub>CL<sub>2</sub>O<sub>3</sub>

molecular weight : 391.28

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9PMED8, 8TH ED., P.647, 1987

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
200	-	0.05mmHg		H	9ACHB2,2ND ED,1987		
Melting point(deg C):							
-							
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		25	5,7	M	9FMCC3		
0.0139*		25	9	M	9FMCC3		
Photolysis (per day):							
0.021*	SOIL	25		M	9FMCC3		
0.023*	WATER	25		M	9FMCC3		
Vapor pressure (mPa):							
2.9E-3*		25		M	8ICIAG		
0.9E-3		25		M	8ICIAG		
2.0E-2		20		R	ACSMC8, 255:201,1984		
4.5E-2		25		H	9ACHB2,2ND ED.,1987		
2.0E-3		25		M	9FMCC3		
Water solubility (ppm):							
		-temp-		-source-	-reference-		
0.006*		20		M	9FMCC3		
2.0E-1		30		H	9PMED8,8TH ED.,p.647,1987		
0.2		20		M	9FMCC3		
0.0069 (pH5.1)		20		M	8ICIAG		
0.0061 (pH7.3)		20		M	8ICIAG		
0.00069 (pH9.2)		20		M	8ICIAG		
Organic solubility (ppm):							
>5.0E+5*	METHANOL	25		M	9FMCC3		
>5.0E+5*	XYLENE	25		M	9FMCC3		
>5.0E+5*	HEXANE	25		M	9FMCC3		
>1.0E+6*	XYLENE	25		H	9ACHB2,2ND ED.,1987		
>1.0E+6*	HEXANE	25		H	9ACHB2,2ND ED.,1987		
2.6E+5*	METHANOL	25		H	9ACHB2,2ND ED.,1987		
Henrys law (Pa m3/mol):							
0.189*		20-25		M	9FMCC3		
Octanol/water partitioning (log Kow):							
6.1*		20		M	8ICIAG 03/01/90		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			10471			R	EESADV, 4:34,1980
			86000			M	9FMCC3
			33300			C	8GLEAM
SLT LM(OH)		236	19340	0.71		M	9FMCC3
SNDY LM(WI)		217	20865	0.60		M	9FMCC3
SEDIMENT(GA)		401	44070	0.91		M	9FMCC3
SAND(FL)		140	60870	0.13		M	9FMCC3
			39,300*				
Field Dissipation halflife(days):							
value	test area		pH		source	reference	
6					C	8GLEAM	
106					R	RREVAH 97:93-100,1986	
9-54(AV.32)					M	9FMCC3	
7-14(AV.10)					M	8ICIAG	
<33					M	9FMCC3	

ca60				M	9FMCC3
30-60				M	9FMCC3
42(6-106)*					
30-50				M	9FMCC3
Halflife in soil:					
Soiltype	aerobic	anaerobic		source	reference
	30*	108*		M	9FMCC3

Comments:  
AEROBIC =30(4-40), ANAEROBIC = 108(3-204)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PHENMEDIPHAM** **CASRN: 13684-63-4**

molecular formula: C16H16N2O4  
molecular weight : 300.32  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
143	-	144		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.014*		25	5	M	6NORAM
1.14*		25	7	M	6NORAM
103.2*		25	9	M	6NORAM
Photolysis (per day):					
0.21*	SOIL	<30		M	6NORAM
0.07*	WATER	22		M	6NORAM
2.50	AIR			M	6NORAM
Vapor pressure (mPa):					
1.3E-06		25		H	9ACHB2 1983 ED.
				H	9ACHB2
				M	7SCHER
1.2E-06*		25		M	6NORAM
Water solubility (ppm):					
6.0*		20		M	6NORAM
3		RT		R	EESADV
5				E	JAFCAU 30:1032-1035,1982
4.7		20		M	7SCHER
Organic solubility (ppm):					
Henry's law (Pa m3/mol):					
6.0E-08*		25		M	6NORAM
Octanol/water partitioning (log Kow):					
3.59*				M	6NORAM
Acid dissociation (pKa):					
<0.1*				H	9PME10
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			1166		
				source	reference
				P	8EPAGR

	2400			R	EESADV
	7500*				
SAND	1.4E04			M	6NORAM
LOAMY SAND	6E03			M	6NORAM
SANDY LOAM	1E04			M	6NORAM
LOAMY SAND	1.1E04			M	6NORAM

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
42				H	9ACHB2 1983 ED.
25				H	9HERBH
28-45				P	8EPAGR
30-55				P	8EPAGR
16				M	7SCHER
25*				M	6NORAM

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	20*	120*	M	6NORAM

Comments:  
AEROBIC 20=PH6.8, ANAEROBIC 120=PH5

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: PHENTHOATE** **CASRN: 2597-03-7**

molecular formula: C12H17O4PS2

molecular weight: 320.4

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):  
Melting point (deg C):  
17 - 18 H 9PMED8

Decomposition point (deg C):  
Heat of vaporization (deg C):  
--RATE CONSTANTS--

Hydrolysis (per day):  
Photolysis (per day):  
Vapor pressure (mPa):  
5.3 40 H 9PMED9  
0.35 R 6HARTL

Water solubility (ppm):  
11 24 H 9PMED9  
11 20 H 9ACHB2 1983

Organic solubility (ppm):  
SOLUBLE IN MANY ORGANIC SOLVS. H 9PME10

Henry's law (Pa m<sup>3</sup>/mol):  
Octanol/water partitioning (log Kow):  
3.69 H 9PME10

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----

2080 9PMED9  
CMSHAF 10: 833-846 (1981)



		1000*		W
Field dissipation halflife(days):				
value	test area	pH	source	reference
-----	-----	--	-----	-----
10			R	RREVAH 67: 1-139 (1977)
2,44			C	8CREAM
49,30			C	8CREAM
35*			W	
Halflife in soil:				
soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----
Comments:				

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PHORATE**

**CASRN: 298-02-2**

molecular formula: C7H17O2PS3

molecular weight : 260.37

physical state : L

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
118	- 120			M	9AMCY1
Melting point(deg C):					
-42.9	-			M	9AMCY1
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.217*		25	5	M	9AMCY1
0.223		25	7	M	9AMCY1
0.313		25	9	M	9AMCY1
1.15-0.18		25	4.5-8.0	E	JPFCD2,B17(5):487-504,1982
Photolysis (per day):					
0.3758*	SOIL	25		E	9AMCY1
0.229	WATER	25		M	9AMCY1
Vapor pressure (mPa):					
85		25		H	9PME10
84.7*		25		M	9AMCY1
1170		35		M	9AMCY1
273		45		M	9AMCY1
Water solubility (ppm):					
50		25		H	9ACHB2 1983 ED.45
				E	ETOC DK 8:339-357,1989
16				E	JPFCD2 22:55-69,1987
22*		25		M	9AMCY1
20		24		E	JAFCAU,27(3):357,1979
17.9		20		E	JPFCD2, B14(6):625,1979
Organic solubility (ppm):					
MISCIBLE	ALCS,CCL4,ETHS,ESTRS*			H	9PMED8
MISCIBLE	DIOXANE,XYLENE*			H	9PMED8
Henrys law (Pa m3/mol):					
1.01*		25		M	9AMCY1

Octanol/water partitioning (log Kow):

3.92*	25	M	9AMCY1
2.92		E	JAFCAU, 29:1050,1981
4.26		E	JPFCD2,B17(5):487,1982
3.33		E	JAFCAU, 27(3):557,1979

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			432			JAFCAU, 27(3):557,1979
			310			9AMCY1
			627			9AMCY1
			322			9AMCY1
			545			9AMCY1
			660			JEVQAA 16:422-428,1987
			424			EESADV
			93			EESADV
			3255			EESADV
			221			EESADV
			3200			EESADV
			510			EESADV
			940			8GLEAM
			1140			8CREAM
			1660			ETOCKD 8:339-357,1989
			2200			JPFCD2 22:55-69,1987
			3230			8INSFO
SANDY LOAM		2.3	455	0.88	7.30	JAFCAU,27(3):557,1979
LOAMY SAND		5.5	514	1.84	6.83	JAFCAU,27(3):557,1979
LOAM		9.6	364	4.56	5.00	JAFCAU,27(3):557,1979
CLAY LOAM		16.1	424	6.55	7.30	JAFCAU,27(3):557,1979
LOAM-CLAY LOAM		73.8	402	31.65	6.98	JAFCAU,27(3):557,1979
SAND	25	1.8	310	1.0	6.0	9AMCY1
SANDY LOAM	25	4.	627	1.1	6.9	9AMCY1
SILT LOAM	25	5.6	322	3.0	5.2	9AMCY1
LOAM	25	12.0	545	3.8	7.0	9AMCY1
			1057*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
82			E	JEVQAA 16:422-428,1987
23			C	8GLEAM
19-173	CA 90		E	PSSCBG 19:101-112,1987
38			E	ETOCKD 8:339-357,1989
2	SOIL GA		M	9AMCY1
5	SOIL NE		M	9AMCY1
12	SOIL IA		M	9AMCY1
37(2-173)*				

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	3		M	9AMCY1

Comments:

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ARS PESTICIDE PROPERTIES last update May 1999

name:PHOSALONE

CASRN: 2310-17-0

molecular formula: C12H15CLNO4PS2

molecular weight : 367.8

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2,2ND ED.,1987

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,

(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
45	- 48			H	9ACHB2,2ND ED.,1987		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
0.00350*		25	5	M	9RHPOU		
Photolysis (per day):							
0.69*	SOIL	NR		M	9RHPOU		
Vapor pressure (mPa):							
<6.7E-02*		25		M	9RHPOU		
Water solubility (ppm):							
		-temp-		-source-	-reference-		
1.2		10		E	JPFCD2,VB20(6):627,1985		
3.7		30		E	JPFCD2,VB20(6):627,1985		
3.05*		25		M	9RHPOU		
10		25		H	9ACHB2,2ND ED.,1987		
2.6		20		E	JPFCD2,VB18(2):225,1983		
Organic solubility (ppm):							
2.4E+05*	METHANOL	25		M	9RHPOU		
1.2E+04*	HEXANE	25		M	9RHPOU		
1.0E+06*	METHYLENE CHLORIDE	25		M	9RHPOU		
~1.0E+06*	BENZENE	20		H	9ACHB2,2ND ED.,1987		
~1.0E+06*	DIOXANE	20		H	9ACHB2,2ND ED.,1987		
~2.0E+05*	ETHANOL	20		H	9ACHB2,2ND ED.,1987		
Henry's law (Pa m3/mol):							
8.03E-03*		25		M	9RHPOU		
Octanol/water partitioning (log Kow):							
3.77*		25		M	9RHPOU		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			1200			R	EESADV, 4:30,1980
			1200			R	EESADV
			2500			C	8CREAM
			1750			R	8FULLE
			1816*				
Field Dissipation halflife(days):							
value	test area		pH	%OM		source	reference
28	SOIL 86-87					M	9RHPOU
21	SOIL 76-77					M	9RHPOU
21	SOIL 77-78					M	9RHPOU
26(21-28)*							
Halflife in soil:							
Soiltype	aerobic		anaerobic			source	reference
LOAMY SAND	3-7*		3-7			M	9RHPOU
Comments:							

ARS PESTICIDE PROPERTIES last update May 1999

name: PHOSMET

CASRN: 732-11-6

molecular formula: C11H12NO4PS2

molecular weight : 317.33

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)ncertain, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
70	-	72.7		H	9ACHB2	
Decomposition point(deg C):						
-		100		H	9ACHB2	
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.092		25	5	M	8ICIAG	
1.77		25	7	M	8ICIAG	
181		25	9	M	8ICIAG	
0.053*		20	4.5	H	9PMED8	
4.16*		20	8.3	H	9PMED8	
1.39*		20	7	H	9PMED8	
Photolysis (per day):						
0.361*	SOIL	25	5.0	M	8ICIAG,03/01/90	
Vapor pressure (mPa):						
6.52E-2		25		M	8ICIAG	
0.06		20		R	9HRLCP	
0.005		25		M	8ICIAG	
0.065*		25				
Water solubility (ppm):						
25		25		H	9ACHB2 1983 ED.	
				E	ESTHAG 11:475-478,1977	
20*		25		M	8ICIAG	
Organic solubility (ppm):						
6.5E+5*	ACETONE	25		H	9PMED8	
6E+5*	BENZENE	25		H	9PMED8	
5E+4*	METHANOL	25		H	9PMED8	
3E+5*	TOLUENE	25		H	9PMED8	
2.5E+5*	XYLENE	25		H	9PMED8	
5E+3*	KEROSENE	25		H	9PMED8	
Henry's law (Pa m <sup>3</sup> /mol):						
0.00103*		25		H	8ICIAG	
Octanol/water partitioning (log Kow):						
3.0*		25		M	8ICIAG 03/01/90	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			740			EESADV
			500			8GLEAM
			612			8ICIAG
			820			8ICIAG
			668*			
Field Dissipation half-life(days):						
value	test area	pH		source		reference
20				C		8GLEAM
4				R		8FULLE
19				M		8ICIAG
14(4-20)*						
Half-life in soil:						
Soiltype	aerobic		anaerobic	source		reference

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: PHOSPHAMIDON

CASRN: 13171-21-6

molecular formula: C10H19CLNO5P

molecular weight : 299.69

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2,2ND ED.,1987

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
94	-	0.04mmHg		H	9PMED8	
Melting point(deg C):						
-						
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.01150*		20	5	M	9CIBAG	
0.0128*		20	7	M	9CIBAG	
0.0578*		20	9	M	9CIBAG	
Photolysis (per day):						
0.05600*	WATER	25		M	9CIBAG	
STABLE*	SOIL	5.5				
Vapor pressure (mPa):						
3.1		20		R	9HRLCP	
2.2		25		R	9HRLCP	
2.93*		20		M	9CIBAG	
3.3		20		H	9ACHB2,2ND ED.,1987	
Water solubility (ppm):		-temp-		-source-	-reference-	
1E+06*				W		
MISCIBLE		22		M	9CIBAG	
Organic solubility (ppm):						
3.2E+4* HEXANE		25		H	9ACHB2,2ND ED.,1987	
MISCIBLE* ACETONE,CL2 METHANE		20		H	9PMED8	
MISCIBLE* OCTAN-1-OL,TOLUENE		20		H	9PMED8	
Henry's law (Pa m3/mol):						
8.8E-07*		25		M	9CIBAG	
Octanol/water partitioning (log Kow):						
1.34				E	ESTHAG, 22(3):272,1988	
0.795*		25		M	9CIBAG	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
CLAY		3.259	117	4.8	5.9	9CIBAG
SAND		0.057	10.9	0.9	6.5	9CIBAG
LOAM		0.488	71	1.2	7.6	9CIBAG
LOAMY SAND		0.199	69	0.5	6.5	9CIBAG
LOAMY SAND		0.034	4.24	1.38	7.4	9CIBAG
SAND		0.057	9.52	1.03	6.5	9CIBAG
SILT LOAM		0.078	5.18	2.59	6.2	9CIBAG
SILT LOAM		0.39	7.21	9.31	7.3	9CIBAG
SILT		1.36	5.43	43.1	6.9	9CIBAG
			33*			

Field Dissipation halflife(days):  
 value test area pH source reference  
 3-30 P 8EPAGR  
 8 M 9CIBAG  
 30 M 9CIBAG  
 18(3-30)\*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 LOAMY SAND 9.2\* M 9CIBAG

Comments:  
 AEROBIC VALUE 9.2 AT Ph7  
 AEROBIC 9.2=PH6.9 NO LONGER SOLD BY CIBA

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PICLORAM CASRN: 1918-02-1**

molecular formula: C6H3CL3N2O2  
 molecular weight : 241.48  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
215	-			H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5-9	M	6DOWCH
Photolysis (per day):					
0.26*	WATER	25		M	6DOWCH
Vapor pressure (mPa):					
0.08		35		H	8HERBH
				H	9ACHB2 1983 ED.
0.15		45		H	9HERBH
0.06*		20		R	9HRLCP
10.6		25		M	6DOWCH
Water solubility (ppm):					
430* (pH2.5)		25		E	JAFCAU 28:95-97,1980
				E	ETOC DK 8:339-357,1989
4E05 (SALT)		25		H	9ACHB2 7TH ED.,1977
8.11E5 (SALT,pH6)				E	JAFCAU 28:95-97,1980
Organic solubility (ppm):					
1.98E04* ACETONE				H	9PMED8
600* DICHLOROMETHANE				H	9PMED8
5.5E03* 2-PROPANOL				H	9PMED8
Henrys law (Pa m3/mol):					
3.37E-05*					
Octanol/water partitioning (log Kow):					
-0.05* (pH5-9)				M	6DOWCH
Acid dissociation (pKa):					
1.9*		25		R	ADCSAJ 111:55-120,1972

2.0			25		M	6DOWCH
2.0			25		E	JAFCAU 28:89-92,1980
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			26			9EINSP PP.23-67
						ETOC DK 8:339-357,1989
			48			SCSFAD 44:1-8,1985
			20			JEFQAA 16:422-428,1987
			16			8GLEAM
			17			8CREAM
						JPFCD2 22:55-69,1987
						EESADV
			7-40			8EPAHO
			29*			
			22			6DOWCH

Field Dissipation halflife(days):					
value	test area	pH		source	reference
60-120				H	9ACHB2 1983 ED.
138				E	SCSFAD 44:1-8,1985
				R	9EINSP PP.23-67
100				E	JEVQAA 16:422-428,1987
138				R	9EINSP PP.23-67
8600				R	9EINSP PP.23-67
31				R	9EINSP PP.23-67
30				C	8GLEAM
206				E	ETOC DK 8:339-357,1989
116				R	8INSFO
50-200				R	8OUSSD
108(31-206)*					

Halflife in soil:					
Soiltype	aerobic	ppm	anaerobic	source	reference
	18	0.0025		M	6DOWCH
	29	0.025		M	6DOWCH
	150	0.25		M	6DOWCH
	300	2.5		M	6DOWCH

Comments:  
WATER SOLUBILITY 4E05 @25C = PICLORAM-POTASSIUM  
SOIL SORPTION KOC VALUE=29(7-48);SOIL HLIFE IS A FUNCTION OF  
CONCENTRATION(E.G. APPL. RATE 0.0025PPM, HALFILE=18D; APPL.  
RATE 2.5PPM, HALFLIFE=300D

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:PIPERALIN CASRN: 3478-94-2**

molecular formula: C5H9CL2NO2  
molecular weight : 330.25  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9FACHB 1990

Key to sources: (M)Manufacturer, (R)eviw, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
156	-	157		H	9FACHB 1990
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.00097*	25	5	M	6DOWCH
0.0423*	25	7	M	6DOWCH
3.46*	25	9	M	6DOWCH

Photolysis (per day):

0.02*	SOIL	23	M	6DOWCH
<0.023*	WATER	25	M	6DOWCH

Vapor pressure (mPa):

<.013\* 25 M 7LILLY

Water solubility (ppm): -temp- -source- -reference-

20\* M 7LILLY

Organic solubility (ppm):

Henry's law (Pa m3/mol):

<0.00215\*

Octanol/water partitioning (log Kow):

4.31\* 21 5,7,9 H 9PME10

Acid dissociation (pKa):

8.9\* M 6DOWCH

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			5000			M	7LILLY
			19300*				

SAND 25 27.6 9600 0.5 7.7 M 6DOWCH

SANDY LOAM 25 62.3 7700 1.4 5.7 M 6DOWCH

LOAM 25 305 29300 1.8 6.5 M 6DOWCH

CLAY LOAM 25 520 45000 2.0 6.9 M 6DOWCH

Field Dissipation half-life(days):

value	test area	pH	source	reference
30*			H	9FACHB 1990

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	98*		M	6DOWCH

Comments:

PHOTOLYSIS: NONE THROUGH 30 DAYS IN WATER

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: PIRIMICARB

CASRN: 23103-98-3

molecular formula: C11H18N4O2

molecular weight: 238.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

90.5 H 9PME10

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

>0.693 UV WATER 5,7,9 H 9PME10



Vapor pressure (mPa):  
 4 30 H 9PMED9  
 0.97\* 25 H 9PME10  
 Water solubility (ppm):  
 2700 25 H 9PMED9  
 H 9ACHB2 1983  
 H 9FACHB 1992  
 3000\* 20 7.4 H 9PME10  
 Organic solubility (ppm):  
 4000 ACETONE 25 H 9PME10  
 2500 ETHANOL 25 H 9PME10  
 2900 XYLENE 25 H 9PME10  
 3300 CHLOROFORM 25 H 9PME10

Henry's law (Pa m<sup>3</sup>/mol):  
 7.71E-5 H 9PME10  
 Octanol/water partitioning (log Kow):  
 1.7 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			23			9PMED9 CMSHAF 10: 833-846 (1981)

Field dissipation half-life(days):

value	test area	pH	source	reference
7-234			H	9PMED9
10*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PIRIMIPHOS-ME**

**CASRN: 29232-93-7**

molecular formula: C<sub>11</sub>H<sub>20</sub>N<sub>3</sub>O<sub>3</sub>PS

molecular weight : 305.34

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):

15				H	9ACHB2
----	--	--	--	---	--------

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):  
 15 30 H 9ACHB2  
 2\* 20 M 8ICIAG

Water solubility (ppm): -temp- -source- -reference-  
 9(PH7.3) 20 M 8ICIAG  
 ca.5 H 9ACHB2 1983 ED.

Organic solubility (ppm):  
 MISCIBLE ORGANIC SOLVS.\* H 9PMED8  
 Henrys law (Pa m3/mol):  
 0.068\* 20 M 8ICIAG  
 Octanol/water partitioning (log Kow):  
 4.2\* 20 M 8ICIAG 03/01/90  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 23402\* CMSHAF 10:833-845,1981

Field Dissipation halflife(days):  
 value test area pH %OM source reference  
 60 H 9ACHB2 1983 ED.  
 1 H 9HERBH  
 10 M 8ICIAG  
 24(1-60)\*

Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PRIMISULFURON-METHYL CASRN: 86209-51-0**

molecular formula: C15H12O7F4N4S

molecular weight : 468.3

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
170	-			H	9PME10
Decomposition point(deg C):					
170	-			H	9PME10
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.026*		25	5	M	9CIBAG
STABLE*		25	7-9	M	9CIBAG
Photolysis (per day):					
0.0315	WATER	25	5	M	9CIBAG
0.00537	WATER	25	5	M	9CIBAG
0.00856	WATER	25	7	M	9CIBAG
STABLE*	WATER	25	9	M	9CIBAG
0.029	SOIL	23		M	9CIBAG

Vapor pressure (mPa):

<5E-3*	25		H	9PME10		
Water solubility (ppm):	-temp-		-source-	-reference-		
3.3	25	5	H	9PME10		
243*	25	7	H	9PME10		
5280	25	9	H	9PME10		
23-70	25		M	9CIBAG		
Organic solubility (ppm):						
3.4E4	ACETONE	25	H	9PME10		
1000	ETHANOL	25	H	9PME10		
570	TOLUENE	25	H	9PME10		
7.7	N-OCTONOL	25	H	9PME10		
			M	9CIBAG		
Henrys law (Pa m3/mol):						
<9.6E-6	25	7	M	9CIBAG		
			H	9PME10		
Octanol/water partitioning (log Kow):						
0.06	25		H	9PME10		
Acid dissociation (pKa):						
3.3			H	9PME10		
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
CLAY		0.38	13	4.8		9CIBAG
SAND		0.00	0.00	0.9		9CIBAG
SANDY LOAM		0.04	4	1.9		9CIBAG
LOAM		0.09	20	0.8		9CIBAG
			12*			
Field Dissipation halflife(days):						
value	test area		pH	source		reference
12.6	NY BARE SNDY LOAM			M		9CIBAG
13	MS BARE CLAY LOAM			M		9CIBAG
6.6	MO BARE SNDY LOAM			M		9CIBAG
11.8	MO CROP SNDY LOAM			M		9CIBAG
3.8	GA BARE LMY SAND			M		9CIBAG
5.1	GA CROP LMY SAND			M		9CIBAG
11	WI BARE LMY SAND			M		9CIBAG
14	WI CROP LMY SAND			M		9CIBAG
10(3.8-14)*						
Halflife in soil:						
Soiltype	aerobic	anaerobic		source		reference
SANDY LOAM	30*	41*		M		9CIBAG
SANDY LOAM	63	89		M		9CIBAG

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:PROCHLORAZ**

**CASRN: 67747-09-5**

molecular formula: C15H16CL3N3O2

molecular weight : 376.7

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
46.5	-	49.3		H	9ACHB2
Melting point(deg C):					

Decomposition point(deg C):

-

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0231\* 22 5-7 M 6NORAM

Photolysis (per day):

0.0729\* WATER 25 5 M 6NORAM

Vapor pressure (mPa):

0.15\* 20 M 7SCHER

Water solubility (ppm): -temp- -source- -reference-

34.4\* 25 M 7SCHER

34 25 H 9ACHB2

55 25 H 9ACHB2

47.5 23 H 9ACHB2 7TH ED.,1977

Organic solubility (ppm):

3.5E+6\* ACETONE 25 H 9PMED8

~2.5E+6\* CHLOROFORM 25 H 9PMED8

~2.5E+6\* DIETHYL ETHER 25 H 9PMED8

~2.5E+6\* TOLUENE 25 H 9PMED8

~2.5E+6\* XYLENE 25 H 9PMED8

Henry's law (Pa m3/mol):

1.64E-3\* M 7SCHER

Octanol/water partitioning (log Kow):

4.38\* M 6NORAM

Acid dissociation (pKa):

3.8\* 20 H 9PME10

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			7500*			6NORAM

Field Dissipation half-life(days):

value	test area	pH	source	reference
120			M	7SCHER
14(6.5-28)*			M	6NORAM

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	130(92-171)*		M	6NORAM

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: PROCYMIDONE**

**CASRN: 32809-16-8**

molecular formula: C13H11CL2NO2

molecular weight: 284.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

166 - 166.5 H 9PME10

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):  
 STABLE H 9PME10  
 Vapor pressure (mPa):  
 18\* 25 H 9PME10  
 10.5 20 H 9PME10  
 Water solubility (ppm):  
 4.5 25 H 9PMED9  
 H 9ACHB2 1983  
 Organic solubility (ppm):  
 1.8E5 ACETONE 25 H 9PME10  
 4.3E4 XYLENE 25 H 9PME10  
 2.1E5 CHLOROFORM 25 H 9PME10  
 2.3E5 DIMETHYLFORMAMIDE 25 H 9PME10  
 1.6E4 METHANOL 25 H 9PME10  
 Henrys law (Pa m3/mol):  
 20.46 25 H 9PME10  
 Octanol/water partitioning (log Kow):  
 3.14 26 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 -----  
 1945 9PMED9  
 CSMHAF 10: 833-846 (1981)  
 1500\* W

Field dissipation halflife(days):  
 value test area pH source reference  
 -----  
 7-21 H 9ACHB2 1983  
 120 R 6RENCT 99: 83-117 (1987)  
 15\*

Half-life in soil:  
 soiltype aerobic anaerobic source reference  
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Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: PRODIAMINE CASRN: 29091-21-2**

molecular formula: C13H17F3N4O4  
 molecular weight: 350.3  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PME10

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
122.5 - 124				H	9PME10
Decomposition point (deg C):					
240				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					

Photolysis (per day):  
 Vapor pressure (mPa):  
 0.0033 25 H 9PMED9  
 Water solubility (ppm):  
 0.013 25 H 9PME10  
 H 9FACHB 1993  
 H 9HERBH 6th ED 1989  
 Organic solubility (ppm):  
 2.26E5 ACETONE 20 H 9PME10  
 4.5E4 ACETONITRILE 20 H 9PME10  
 7.4E4 BENZENE 20 H 9PME10  
 9.3E4 CHLOROFORM 20 H 9PME10  
 7000 ETHANOL 20 H 9PME10  
 2.0E4 HEXANE 20 H 9PME10  
 3.54E4 XYLENE 20 H 9PME10  
 Henrys law (Pa m3/mol):  
 0.089 25 H 9PME10  
 Octanol/water partitioning (log Kow):  
 4.10 25 H 9PME10  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			19540			9PME10
			12860			9PME10
			5440			9PME10
			30000			W
			13000*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
ca.120			H	9HERBH 6th ED 1989
69			H	9PME10
120*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PROFENOFOS CASRN: 41198-08-7**

molecular formula: C11H15BrCLPSO3  
 molecular weight : 373.64  
 physical state : L  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED8,8TH ED.,P.694,1987

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
110	0.001mmHg			H	9PMED8,8TH ED.,p.694,1987
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

0.00666*	25	5	M	9CIBAG
0.0289*	25	7	M	9CIBAG
2.03*	25	9	M	9CIBAG

Photolysis (per day):

0.193*	SOIL***	25		M	9CIBAG
0.0092	WATER***	25	5	M	9CIBAG

Vapor pressure (mPa):

2.53*	25		M	9CIBAG
1.3	20		H	9ACHB2,2ND ED.,1987

Water solubility (ppm):

	-temp-		-source-	-reference-
20	20		H	9ACHB2,2ND ED.,1987
28*	22		M	9CIBAG

Organic solubility (ppm):

MISCIBLE MOST ORG. SOLV.\*

Henry's law (Pa m<sup>3</sup>/mol):

0.034	25		M	9CIBAG
-------	----	--	---	--------

Octanol/water partitioning (log Kow):

1.7	25		U	9CIBAG
-----	----	--	---	--------

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			840			EESADV
			2000			9CIBAG
SAND		04.598	879	0.9	6.5	9CIBAG
SANDY LOAM		015.8	1003	2.71	7.7	9CIBAG
SANDY LOAM		016.96	2431	1.2	7.6	9CIBAG
			2016*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
6.3	MN CROP		M	9CIBAG
13	GA CROP		M	9CIBAG
8	CA BARE		M	9CIBAG

9(6.3-13)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	1.9*	2.9	M	9CIBAG

Comments:

PHOTOLYSIS \*\*\* ARTIFICIAL LIGHT

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: PROFLURALIN

CASRN: 26399-36-0

molecular formula: C<sub>14</sub>H<sub>16</sub>F<sub>3</sub>O<sub>4</sub>

molecular weight: 347.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

32 - 33				H	9PMED8
---------	--	--	--	---	--------

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):  
 2.7 100 3,7,10 H 9PMED8  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 8.4\* 20 H 9PMED9  
 H 9ACHB2 1983  
 P 6USEPA  
 9.2  
 Water solubility (ppm):  
 0.1 20 H 9PMED9  
 H 9ACHB2 1983  
 Organic solubility (ppm):  
 2.2E5 OCTAN-1-OL 20 H 9PMED8  
 Henrys law (Pa m3/mol):  
 29.2 20 H 9PMED8  
 Octanol/water partitioning (log Kow):  
 Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			8511			6GERST
			12303			6GERST
			8600			ESTHAG 14: 553-556 (1980)
			1029			WEESA6 27: 450-455 (1979)
			737			WEESA6 27: 450-455 (1979)
			1586			WEESA6 27: 450-455 (1979)
			1608			WEESA6 27: 450-455 (1979)
			983			WEESA6 27: 450-455 (1979)
			1013			WEESA6 27: 450-455 (1979)
			395			WEESA6 27: 450-455 (1979)
			642			WEESA6 27: 450-455 (1979)
			963			WEESA6 27: 450-455 (1979)
			10000*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
90-160			E	9HERBH 4TH ED 1979
100-120			H	9HERBH 4th ED 1979
80-120			H	9HERBH 4th ED 1979
100-120			H	9HERBH 4th ED 1979
>210			E	6PESTB 6: 229-238 (1976)
9-120			H	9HERBH 4TH ED 1979
110*				

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: PROMECARB CASRN: 2631-37-0

molecular formula: C12H17NO2

molecular weight: 207.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.



value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
117 AT 0.01 MM HG				H	9PMED8	
Melting point (deg C):						
87 - 88				H	9PMED8	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE		22	5	H	9PMED8	
0.133		22	7	H	9PMED8	
0.462		22	9	H	9PMED8	
Photolysis (per day):						
Vapor pressure (mPa):						
4		25		H	9ACHB2 1983	
Water solubility (ppm):						
91		25		H	9PMED9	
				H	9FACHB 1993	
				H	9ACHB2 1983	
Organic solubility (ppm):						
SOLUBLE IN MOST ORGANIC SOLVS.						
Henry's law (Pa m3/mol):						
9.1E-3		25		H	9ACHB2 1983	
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			398			JPFCD2 PT.B 22: 55-69(1987)
			300*			
Field dissipation halflife(days):						
value	test area		pH	source	reference	
-----	-----		--	-----	-----	
5.2			7	H	9PMED9	
1.5			9	H	9PMED9	
NONE			5	H	9PMED9	
Halflife in soil:						
soiltype	aerobic	anaerobic		source	reference	
-----	-----	-----		-----	-----	
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PROMETON** **CASRN: 1610-18-0**  
molecular formula: C10H19N5O  
molecular weight : 225.3  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					

89	-	91		M	9CIBAG	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE*		25	5-9	M	9CIBAG	
Photolysis (per day):						
0.015	SOIL**	22-27		M	9CIBAG	
0.026	SOIL***	21.5-26.2		M	9CIBAG	
STABLE	WATER	25		M	9CIBAG	
Vapor pressure (mPa):						
1.028		25		M	9CIBAG	
10.5E-1		30		M	9CIBAG	
10.1		50		M	9CIBAG	
3.10E-1		20		H	9ACHB2,2ND ED.,1987	
7.90E-2		10		H	9HERBH,5TH ED.,p.391,1983	
Water solubility (ppm):						
		-temp-		-source-	-reference-	
720*		22		M	9CIBAG	
620		20		H	9PMED8,8TH ED.,p.698,1987	
Organic solubility (ppm):						
3.5E+5*	DICHLOROMETHANE	20		H	9ACHB2,2ND ED.,1987	
2.5E+5*	TOLUENE	20		H	9ACHB2,2ND ED.,1987	
3.0E+5*	ACETONE	20		H	9PMED8,8TH ED.,p.698,1987	
6.0E+5*	METHANOL	20		H	9PMED8,8TH ED.,p.698,1987	
1.5E+5*	N-OCTANOL	20		H	9PMED8,8TH ED.,p.698,1987	
Henrys law (Pa m3/mol):						
3.2E-4		25		M	9CIBAG	
Octanol/water partitioning (log Kow):						
2.69*		25		M	9CIBAG	
Acid dissociation (pKa):						
4.33		20		M	9CIBAG	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
SAND		0.38	218	0.3	5.4	9CIBAG
SILT LOAM		0.580	91	1.1	7.0	9CIBAG
SANDY LOAM		0.373	32	2.0	7.5	9CIBAG
SILTY CLAY LOAM		0.747	51	2.5	6.6	9CIBAG
SILTY CLAY LOAM		0.85	103	1.4	7.8	9CIBAG
			300			9HFEDP
			60			8CREAM
			99			9CIBAG
SANDY LOAM		2.61	150	3.0	6.1	9CIBAG
LOAM		2.90	172	2.9	6.9	9CIBAG
SANDY CLAY LOAM		2.4	83	5.0	7.0	9CIBAG
SANDY LOAM		1.2	98	2.1	7.0	9CIBAG
		0.398	86	0.8	5.6	9CIBAG
		0.40	95*			
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
309	CA BARE(SL)			M	9CIBAG	
938	NE BARE(SI L)			M	9CIBAG	
789	NY BARE (SI L)			M	8CIBAG	
459-1123				P	8EPAGR	
>365				P	8EPAGR	
531-2058				P	8EPAGR	
1123	NE			P	8EPAGR	
459	CA			P	8EPAGR	
300-1000				M	9CIBAG	
264				M	9CIBAG	

3084 M 9CIBAG  
 1300\*  
 Halflife in soil:  
 Soiltype aerobic anaerobic source reference  
 SILTY CLAY LOAM 932\* 557 M 9CIBAG 01/12/94  
 Comments:  
 PHOTOLYSIS: \*\*ARTIFICIAL LIGHT  
 \*\*\*NATURAL LIGHT

ARS PESTICIDE PROPERTIES last update May 1999

name: PROMETRYN CASRN: 7287-19-6

molecular formula: C10H19N5S  
 molecular weight : 241.37  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
118	-	120		H	9ACHB2,2ND ED.,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7,9	M	9CIBAG
Photolysis (per day):					
STABLE*	WATER	25	7	M	9CIBAG
STABLE	SOIL**			M	9CIBAG
8.9E-3	SOIL***			M	9CIBAG
Vapor pressure (mPa):					
3.2E-2		10		H	9HERBH
5.3E-01		30		H	9HERBH
6.3		50		H	9HERBH
0.28*		25		M	9CIBAG
1.3E-1		20		R	9HRLCP(ASHTON&CRAFTS),1988
0.169		25		H	9PME10
Water solubility (ppm):					
46				E	ETOC DK 8:339-357,1989
33*		22		M	9CIBAG
Organic solubility (ppm):					
1.7E+5*	TOLUENE	20		H	9ACHB2,2ND ED.,1987
1.0E+5*	N-OCTANOL	20		H	9PMED8,8TH ED.,p.700,1987
2.4E+5*	ACETONE	20		H	9ACHB2,2ND ED.,1987
1.6E+5*	METHANOL	20		H	9ACHB2,2ND ED.,1987
3.0E+5*	DICHLOROMETHANE	20		H	9ACHB2,2ND ED.,1987
5.5E+3	HEXANE	20		H	9ACHB2,2ND ED.,1987
Henry's law (Pa m3/mol):					
2.0E-3		25		M	9CIBAG
Octanol/water partitioning (log Kow):					
3.1*		25		M	9CIBAG
Acid dissociation (pKa):					
4.05				R	ADCSAJ, 111:73,1972

4.1\* 21 H 9PMED8,8TH ED.,p.700,1987

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			810			EESADV, 4:31,1980
			520			EESADV, 4:31,1980
SAND		0.64	368	0.3	5.4	9CIBAG
SANDY LOAM		2.03	499	0.7	4.6	9CIBAG
SILT LOAM		0.96	150	1.1	7.0	9CIBAG
			200-380			9EPAGR
			610			JEVQAA 16:422-428,1987
SAND		0.863	247			EESADV
			365			8CREAM
			250			8CREAM
CLAY LOAM		3.3	234	5.0	7.0	9CIBAG
SAND		0.66	189	0.6	7.3	9CIBAG
CLAY LOAM		9.95	611	2.8	5.8	9CIBAG
SILTY CLAY		4.90	468	1.8	6.3	9CIBAG
SANDY LOAM		3.49	462	1.3	5.7	9CIBAG
SANDY LOAM		1.69	169			
SAND		2.06	117			
CLAY LOAM		3.323	114	5.0	7.0	9CIBAG
			383*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
36	TX BARE, SNDY CLY LO		M	9CIBAG
65	CA BARE, SNDY LOAM		M	9CIBAG
43	MS BARE, LOAM		M	9CIBAG
49	FL BARE, SAND		M	9CIBAG
70	TX BARE, SILT LOAM		M	9CIBAG
71	CA BARE, SANDY LOAM		M	9CIBAG
86	TX CROP, SILT LOAM		M	9CIBAG
103	CA CROP, SANDY LOAM		M	9CIBAG
126			R	8O USSD
270-360			H	9HERBH
6-150			P	8EPAGR
60-195	FL		P	8EPAGR
45-60	MS		P	8EPAGR
30			H	9ACHB2 1983 ED.
10-30			H	9HERBH
60			E	JEVQAA 16:422-428,1987
25			C	8CREAM
95			E	ETOCKD 8:339-357,1989
26-97			M	9CIBAG
60			E	SCSFAD 44:1-8,1985
76(6-360)*				

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	261*		M	9CIBAG
SAND	286		M	9CIBAG

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: PROPACHLOR

CASRN: 1918-16-7

molecular formula: C11H14CLNO

molecular weight : 211.69

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,

(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
110	-	0.03mmHg		H	9ACHB2
Melting point(deg C):					
77	-			H	9ACHB2
Decomposition point(deg C):					
	-	170		H	9HERBH
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
STABLE* SOIL					
STABLE* WATER					
Vapor pressure (mPa):					
30		20		R	9HRLCP
30		25		H	9ACHB2 1983 ED.
30.6*		25		H	9PME10
Water solubility (ppm):					
613*		25		H	9PME10
				M	9MONSA
580		20		R	8SOCOS
				H	9HERBH
Organic solubility (ppm):					
4.48E05*	ACETONE	25		H	9PMED8
7.37E05*	BENZENE	25		H	9PMED8
6E05*	CHLOROFORM	25		H	9PMED8
4.08E05*	ETHANOL	25		H	9PMED8
2.39E05*	XYLENE	25		H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
0.0106*		25		H	9PME10
Octanol/water partitioning (log Kow):					
1.62-2.30				H	9PME10
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			420		
					reference
					SCSFAD 44:1-8,1985
					JEVQAA 16:422-428,1987
			265		EESADV
			130		EESADV
			500		8GLEAM
			45		8CREAM
			794		ETOC DK 8:339-357,1989
			263		JPFCD2 22:55-69,1987
			80*		9MONSA
Field Dissipation half-life(days):					
value	test area	pH		source	reference
7-14				H	9HERBH
7				E	JEVQAA 16:422-428,1987
12				C	8GLEAM
4				E	ETOC DK 8:339-357,1989
6.3				M	9MONSA
8-21				R	8AGMAW
9(4-21)*					
Half-life in soil:					
Soiltype	aerobic	anaerobic		source	reference
Comments:					
MELTING POINT 77 (PURE); 67-76(TECHNICAL)					

ARS PESTICIDE PROPERTIES last update May 1999

name: PROPAMOCARB HCL

CASRN: 25606-41-1

molecular formula: C9H21CLN2O2

molecular weight : 224.7

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
45	-	64.2		H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
1.51E-08*		25	7	M	6NORAM		
Photolysis (per day):							
0.0196*	SOIL	<30		M	6NORAM		
4.16*	AIR	(PARENT)		M	6NORAM		
STABLE*	WATER			M	6NORAM		
Vapor pressure (mPa):							
0.8		25		M	6NORAM		
Water solubility (ppm):							
1E06*		20		M	7SCHER		
>7E05		25		H	9ACHB2 7TH ED.,1977		
>5E05				H	9ACHB2		
Organic solubility (mg/L):							
>4.3E5	DICHLOROMETHANE	25		H	9PME10		
2.3E4	ETHYL ACETATE	25		H	9PME10		
>100	HEXANE	25		H	9PME10		
>7E5	METHANOL	25		H	9PME10		
<100	TOLUENE	25		H	9PME10		
Henry's law (Pa m3/mol):							
1.8E-07*				M	6NORAM		
Octanol/water partitioning (log Kow):							
-2.6*(pH4.1)				H	9PME10		
Acid dissociation (pKa):							
9.29*				H	9PME10		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			309*		5.2-6	M	6NORAM
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
30						M	7SCHER
1-38						M	6NORAM
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
	12*					M	6NORAM

Comments:

**name: PROPANIL**

**CASRN: 709-98-8**

molecular formula: C9H9CL2NO  
molecular weight : 218.08  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
92	-	93		H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE		25	5,7,9	M	6ROHMH		
Photolysis (per day):							
0.0067	WATER			M	6ROHMH		
Vapor pressure (mPa):							
12		60		H	9ACHB2		
0.121		25		M	6ROHMH		
Water solubility (ppm):							
130		25		H	9PME10		
152*		25		M	6ROHMH		
Organic solubility (ppm):							
5.4E05*	ETHANOL	25		H	9PMED8		
6E05*	TRIME-CYCLOHEXANE	25		H	9PMED8		
Henry's law (Pa m3/mol):							
1.74E-4*		25		M	6ROHMH		
Octanol/water partitioning (log Kow):							
2.29				M	6ROHMH		
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			188			R	8EETNS
			316			C	8CREAM
			220			R	EESADV
			490(239-800)			M	6ROHMH
			400*				
Field Dissipation half-life(days):							
value	test area		pH	%OM		source	reference
1*						H	9ACHB2 1983 ED.
15						R	8FULLE
1.4	AQUATIC					M	6ROHMH
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
	0.5(soil)		2-4(aquatic)				
Comments:							

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PROPARGITE**

**CASRN: 2312-35-8**

molecular formula: C19H26O4S  
molecular weight : 350.5  
physical state : L

(L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
-						
Decomposition point(deg C):						
-	200	2.7mmHg		M	6UNIRO	
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
5.7E-03*		25	5	M	6UNIRO	
8.9E-03*		25	7	M	6UNIRO	
2.3E-01*		25	9	M	6UNIRO	
Photolysis (per day):						
7.6E-3*	SOIL	25		M	6UNIRO	
2.2E-4*	WATER	25		M	6UNIRO	
Vapor pressure (mPa):						
5.97E-03		25		M	6UNIRO	
0.006*						
Water solubility (ppm):						
0.6*		-temp-		-source-	-reference-	
		25		M	6UNIRO	
ca0.5		25		H	9ACHB2	
635		25		H	9PME10	
Organic solubility (ppm):						
Miscible most org. solv.						
				H	9PME10	
Henry's law (Pa m3/mol):						
3.5E-03*		25		M	6UNIRO	
Octanol/water partitioning (log Kow):						
3.73*				M	6UNIRO	
				H	9PME10	
Acid dissociation (pKa):						
>12*				M	6UNIRO	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
SANDY LOAM	25	11	6322	0.30	7.7	6UNIRO
SANDY CLAY	25	55	5578	1.70	6.9	6UNIRO
SANDY CLAY	25	266	8553	5.36	6.3	6UNIRO
SAND	25	41	7854	0.9	6.5	6UNIRO
LOAM	25	65	9338	1.2	7.6	6UNIRO
SANDY LOAM	25	54	18619	0.5	6.5	6UNIRO
			41,000(5290-90,000)*			6UNIRO
Field Dissipation halflife(days):						
value	test area		pH	source	reference	
50	GA (COTTON)			M	6UNIRO	
94	CA(COTTON)			M	6UNIRO	
67	FL (CITRUS)			M	6UNIRO	
78	CA (BARE GRND)			M	6UNIRO	
99	CA (BARE GRND)			M	6UNIRO	
87	CA (CITRUS)			M	6UNIRO	
56				R	8FULLE	
84(50-99)*						
Halflife in soil:						
Soiltype	aerobic	anaerobic		source	reference	



40\* 64\* M 6UNIRO

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:PROPAZINE CASRN: 139-40-2

molecular formula: C9H16CLN5
molecular weight : 230.09
physical state : S
(L=liquid; G=gas; S=solid)
reference: 9KHBCD,1975

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,
(C)alculated, (U)nknown, (P)EPA data, (W)auchope
\* denotes a selected value where multiple values of a property are listed.

Table with columns: -value-, -medium-, -temp-, -pH-, -source-, -reference-. Rows include Boiling point, Melting point, Decomposition point, Heat of vaporization, Hydrolysis, Photolysis, Vapor pressure, Water solubility, Organic solubility, Henrys law, Octanol/water partitioning, Acid dissociation, and Soil sorption.

210 8GLEAM  
 100 8CREAM  
 151 8CREAM  
 161\*

Field Dissipation halflife(days):

value	test area	pH	source	reference
120			H	9HERBH
87			C	8GLEAM
64-124			C	8CREAM
127			R	8OUSSD
105			P	8EPAGR
35-231			P	8EPAGR
119-347			P	8EPAGR
84-168			P	8EPAGR
84			P	8EPAGR

123(35-347)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
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Comments:

NO LONGER SOLD BY CIBA

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:PROPHAM**

**CASRN: 122-42-9**

molecular formula: C10H13NO2

molecular weight : 179.22

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
87	-	88		H	9ACHB2
Decomposition point(deg C):					
-		100		H	9PME10
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
Water solubility (ppm):					
250*		-temp- 20		-source- H	-reference- 9ACHB2 1983 ED.
Organic solubility (ppm):					
SOLUBLE MOST ORG. SOLV.					
				H	9PME10
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			51		reference EESADV
			210		EESADV
			51		9HFEDP
			80		8CREAM
			98*		

Field Dissipation halflife(days):

value	test area	pH	source	reference
15			H	9ACHB2 1983 ED.
			H	9HERBH
5			H	9HERBH
			H	9ACHB2 1983 ED.

10(5-15)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
Comments:				

FIELD DISSIPATION 15 @16C, 5 @29C;

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PROPICONAZOLE**

**CASRN: 60207-90-1**

molecular formula: C15H17CL2N3O2

molecular weight : 342.2

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
180	-	0.1 mmHg		H	9ACHB2		
Melting point(deg C):							
-							
Decomposition point(deg C):							
	-	320		H	9PME10		
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		70	5-9	M	9CIBAG		
Photolysis (per day):							
0.005*	SOIL	25		M	9CIBAG		
0.0028*	WATER	25	7	M	9CIBAG		
Vapor pressure (mPa):							
0.056*		25		M	9CIBAG		
Water solubility (ppm):							
110		-temp-		-source-	-reference-		
		20		H	9ACHB2 1983 ED.		
				H	9FACHB 1990		
100*		22		M	9C1BAG		
Organic solubility (ppm):							
MISCIBLE*	ACETONE, METHANOL	20		H	9PMED8		
MISCIBLE*	PROPAN-2-OL	20		H	9PMED8		
6E04*	HEXANE	20		H	9PMED8		
Henry's law (Pa m3/mol):							
1.92E-4*		25		M	9CIBAG		
Octanol/water partitioning (log Kow):							
2.8*		25		M	9CIBAG		
Acid dissociation (pKa):							
1.09				H	9PME10		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SAND		1.2	685	0.3		M	9CIBAG
SILT LOAM		2.81	436	1.1		M	9CIBAG
SANDY LOAM		4.49	382	2.0		M	9CIBAG
SILTY CLAY LOAM		8.88	604	2.5		M	9CIBAG
SILTY CLAY LOAM		9.34	1134	1.4		M	9CIBAG

648\*

Field Dissipation halflife(days):

value	test area	pH	source	reference
109	NC BARE, SNDY LOAM		M	9CIBAG
117	CA BARE, SNDY LOAM		M	9CIBAG
123	NY BARE, SILT LOAM		M	9CIBAG
111	IL BARE, SILT LOAM		M	9CIBAG

115(109-123)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	53*	>84	M	9CIBAG

Comments:

AEROBIC=53(43-70)- 3 STUDIES

ARS PESTICIDE PROPERTIES last update May 1999

name: PROPOXUR

CASRN: 114-26-1

molecular formula: C11H15NO3

molecular weight : 209.25

physical state : S

(L=liquid; G=gas; S=solid)

reference: 6MILES

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
84	-	87		H	9PMED8,8TH ED.,P.717,1987
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<0.002 *		22	4	M	6MILES
0.007 *		22	7	M	6MILES
0.555 *		22	9	M	6MILES
Photolysis (per day):					
0.009 *	SOIL	OD		M	6MILES
0.069 *	WATER	OD		M	6MILES
Vapor pressure (mPa):					
1.3E+3		120		H	9ACHB2,2ND ED.,1987
1.29 *		20		M	6MILES
Water solubility (ppm):					
		-temp-		-source-	-reference-
1.74E+3		10		E	JPFCD2,20(6):627,1985
1.93E+3		20		E	JPFCD2,20(6):627,1985
2.44E+3		30		E	JPFCD2,20(6):627,1985
1.86E+3		20		E	JPFCD2,18(2):225,1983
1800 *		20		M	6MILES
2000		20		R	EESADV
Organic solubility (ppm):					
2.1E+05 *	2-PROPANOL	20		M	6MILES
2.0E+03 *	N-HEXANE	20		M	6MILES
>1.0E+6 *	DICHLOROMETHANE	20		M	6MILES
Henrys law (Pa m3/mol):					
1.5E-04 *		20		M	6MILES
Octanol/water partitioning (log Kow):					
1.56 *		20		M	6MILES

1.45 NR R 9HRLCP (RAO&DAVIDSON), 1980  
 1.52 NR R 9HRLCP; KENAGA&GORING, 1980  
 1.55 NR R 9HRLCP (BOWMAN&SANS), 1983

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			68			EESADV 4:31, 1980
			21			9HRLCP
			24			9HRLCP
			26			9HRLCP
			28			CMSHAF 10:833-845, 1981
SILT LOAM		0.597	39**	2.9	5.9	6MILES
SANDY LOAM		0.004	0.76**	1.1	6.6	6MILES
SAND		0.181	34**	1.0	4.3	6MILES
CLAY LOAM		0.329	28**	2.2	6.4	6MILES
			29*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
>28 *			P	8EPADR

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM	80	80	M	6MILES
SANDY LOAM	210	108	M	6MILES
	145 *	94*		

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72. SELECTED KOC =29(1-68);

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: PROPYZAMIDE**

**CASRN: 23950-58-5**

molecular formula: C12H11CL2NO

molecular weight : 256.13

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment, (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
155 - 156				H	9ACHB2
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE		20	5,7,9	M	6ROHMH
Photolysis (per day):					
0.0121	SOIL			M	6ROHMH
0.0170	WATER			M	6ROHMH
Vapor pressure (mPa):					
0.058		25		H	9PME10
0.0579*				M	6ROHMH
Water solubility (ppm):	-temp-			-source-	-reference-
15	25			H	9HERBH

12.9*		25			M	6ROHMH
Organic solubility (ppm):						
1E5	ACETONITRILE				M	6ROHMH
1E5	ISOPROPANOL				M	6ROHMH
1E5	XYLENE				M	6ROHMH
1E5	METHANOL				M	6ROHMH
Henry's law (Pa m <sup>3</sup> /mol):						
1.15E-3*		25			M	6ROHMH
Octanol/water partitioning (log Kow):						
3.3					M	6ROHMH
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			200			EESADV
			990			EESADV
			840(548-1340)			6ROHMH
			750*			6ROHMH
Field Dissipation half-life(days):						
value	test area		pH	source		reference
30				H		9ACHB2 1983 ED.
21-90				H		9HERBH
10-90				P		8EPAGR
45(21-90)*						
55	2 locations			M		6ROHMH
Half-life in soil:						
Soiltype	aerobic	anaerobic	source			reference
	25-136	7.5	M			6ROHMH

Comments:

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**ARS PESTICIDE PROPERTIES DATABASE last update May 1999**

**name: PYRETHRINS** **CASRN: 8003-34-7**

molecular formula: I = C<sub>12</sub>H<sub>28</sub>O<sub>3</sub>

molecular weight: I = 328.43

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)ncertain, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.001				W	
Water solubility (ppm):					
0				H	9PMED9
0.001				W	
Organic solubility (ppm):					
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

## Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	-----	----	--	-----
			100000*			W

## Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
ca.12			R	6PYRET 14: 65-67 (1978)

## Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

## Comments:

THE TERM PYRETHRINS IS USED FOR THE SIX INSECTICIDAL CONSTITUENTS PRESENT IN EXTRACTS OF THE FLOWERS PYRETHRUM CINERARIDEFOLIUM AND OTHER SPECIES

### Pesticide Properties Database -Data Entered May 1999

**Name: Pyrithiobac sodium**

**CASRN: 123343-16-8**

**Molecular Formula:** C13 H 10 Cl N2 Na 04 S

**Molecular Weight:** 348.7

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** DuPont

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated, (U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point (deg C):**

Value	Medium	Temp	pH	Source	Reference

**Melting Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
233.8-234.2				M	DuPont

**Decomposition (deg C):**

Value	Medium	Temp	pH	Source	Reference

**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
Stable	Water	25	5,7,9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.016	Soil	25	6.5	M	DuPont

0.063	Water	25	5	M	DuPont
0.053	Water	25	7	M	DuPont
0.046	Water	25	9	M	DuPont

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
4.8E-6		25		M	DuPont

**Water Solubility (Ppm):**

Value	Medium	Temp	pH	Source	Reference
264000	Water	25	5	M	DuPont
705000	Water	25	7	M	DuPont
690000	Water	25	9	M	DuPont

**Organic Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
812	Acetone	20		M	DuPont
347	Acetonitrile	20		M	DuPont
10	Hexane	20		M	DuPont
270	Methanol	20		M	DuPont

**Henry's Law Constant (Pa 3/mol):**

Value	Medium	Temp	pH	Source	Reference
6.3E-17		25	5	M	DuPont
2.3E-18		25	7	M	DuPont
2.4E-17		25	9	M	DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
0.6		25	5	M	DuPont
-0.85		25	7	M	DuPont
-1.23		25	9	M	DuPont

**Acid Dissociation Constant (PKa):**

Value	Medium	Temp	pH	Source	Reference
2.34		25		M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy loam (CA)	25	0.08	13	1.1	7.2	M	DuPont
Silt loam (DE)	25	0.32	11	5.1	5.9	M	DuPont
Silt loam (MS)	25	0.06	9	1.1	6.5	M	DuPont
Silt loam (ND)	25	0.61	21	5.0	7.7	M	DuPont

**Field Dissipation Half-life(days):**

Value	Test Area	pH	%OM	Source	Reference
14	NIS	6.1	1.8	M	DuPont
11	TX	8.2	1.4	M	DuPont



46 CA 5.6 0.7 M DuPont

**Half-life in Soil(days):**

Soil Type	Aerobic	Anaerobic	Source	Reference
Silt loam (MS)	60		M	DuPont

**Comments:**

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:QUINOMETHIONATE CASRN: 2439-01-2**

molecular formula: C10H6N2OS2

molecular weight : 234.29

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MOBAY

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
169	-	170		H	9PMED8,8TH	
ED.,P.735,1987						
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
0.099*		25	5	M	6MILES	
0.347*		25	7	M	6MILES	
8.318*		25	9	M	6MILES	
Photolysis (per day):						
0.014*	SOIL	25		M	6MILES	
1.260*	WATER	OD		M	6MILES	
Vapor pressure (mPa):						
0.027		20		H	9ACHB2	
0.026*		20		M	6MILES	
Water solubility (ppm):						
		-temp-		-source-	-reference-	
1*		20		E	6MILES	
50		20		H	9ACHB2	
Organic solubility (ppm):						
2.0E+3*	2-PROPANOL	20		M	6MILES	
4.0E+4*	DICHLOROMETHANE	20		M	6MILES	
2.5E+4*	TOLUENE	20		M	6MILES	
1.8E+4*	CYCLOHEXANONE	20		H	9PMED8,8TH ED.,p.735,1987	
1.0E+4*	DIMETHYLFORMAMIDE	20		H	9PMED8,8TH ED.,p.735,1987	
Henrys law (Pa m3/mol):						
6.1E-03*		25		C	6MILES	
Octanol/water partitioning (log Kow):						
3.78*		20		M	6MILES	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			ca5000			8CREAM

SILT LOAM	22	432	28235**	2.9	5.9	6MILES
SAND	22	56	10566**	1.0	4.3	6MILES
CLAY LOAM	22	248	21379**	2.3	6.4	6MILES
SANDY LOAM	22	147	25345**	1.1	6.6	6MILES

16,500\*

Field Dissipation half-life(days):

value	test area	pH	source	reference
2.0	CA(CHUALAR)LMY SND	7.3	M	6MILES
3.6	CA(FRESNO)LMY SND	7.8	M	6MILES

2.8\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	0.05	3.7	M	6MILES
	2.5*	3.7		

Comments:

SOIL SORPTION KOC VALUED WITH A DOUBLE ASTERISK WERE CALCULATED USING AN ORGANIC-MATTER-CONTENT FACTOR OF 1.9.

SOIL SORPTION KOC VALUE=16,500(5000-28235); AEROBIC=2.5(0.06-5)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:QUINTOZENE**

**CASRN: 82-68-8**

molecular formula: C6CL5NO2

molecular weight : 295.34

physical state : S

(L=liquid; G=gas; S=solid)

reference:

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment, (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
328	-			M	6UNIRO
Melting point(deg C):					
142	-	145		M	6UNIRO
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
3.9E-3*		25	5,7,	M	6UNIRO
Photolysis (per day):					
1.24*	WATER	25	5	M	6UNIRO
0.049*	SOIL	25		M	6UNIRO
Vapor pressure (mPa):					
12.6*		25		M	6UNIRO
6.6				H	9ACHB2 1983 ED.
15		25		R	7ANALY
Water solubility (ppm):					
0.1*				M	6UNIRO
0.44		20		H	9ACHB2 1983 ED.
Organic solubility (ppm):					
2E+4*	METHANOL			M	6UNIRO
1.14E+6*	TOLUENE			M	6UNIRO
3E+4*	HEPTANE			M	6UNIRO
Henry's law (Pa m <sup>3</sup> /mol):					
37*				M	6UNIRO
Octanol/water partitioning (log Kow):					
5.5*				M	6UNIRO

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
SILT LOAM	25	24	5160	0.8	7.5	6UNIRO
SANDY LOAM	25	46	4945	1.6	6.2	6UNIRO
SAND	25	31	2539	2.1	6.5	6UNIRO
			350			JAFCAU 29:1050-1059,1981
CLAY LOAM	25	89	5888	2.6	7.5	6UNIRO
			4600*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
190	GA		M	6UNIRO
116	GA		M	6UNIRO
128	CA (BROCCOLI)		M	6UNIRO
35	CA (TURF)		M	6UNIRO
21			C	8GLEAM

98(21-190)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	60*	15*	M	6UNIRO

Comments:

SOIL SORPTION KOC VALUE=4600(2500-5900)

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: QUIZALOFOP-ET**

**CASRN: 76578-14-8**

molecular formula: C19H17CLN2O4

molecular weight : 372.8

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
220	-	0.2mmHg		H	9PME10
Melting point(deg C):					
91.7	-	92.1		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.04		27		M	9DUPON
Water solubility (ppm):		-temp-		-source-	-reference-
0.31		25		M	9DUPON
Organic solubility (ppm):					
1.1E+5*	ACETONE	20		H	9PMED8
2.9E+5*	BENZENE	20		H	9PMED8
9E+3*	ETHANOL	20		H	9PMED8
2.6E+3*	HEXANE	20		H	9PMED8
1.2E+5*	XYLENE	20		H	9PMED8

Henry's law (Pa m<sup>3</sup>/mol):  
 4.8E-2\* 25 M 9DUPON  
 Octanol/water partitioning (log Kow):  
 4.2\* 25 M 9DUPON  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 510 9DUPON  
 CA.570 9DUPON  
 540\*  
 Field Dissipation half-life(days):  
 value test area pH source reference  
 60\* M 9DUPON  
 Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: RESMETHRIN CASRN: 10453-86-8**

molecular formula: C<sub>22</sub>H<sub>26</sub>O<sub>3</sub>  
 molecular weight: 338.4  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PME10

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
Melting point (deg C):						
56.5				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
<0.01		25		H	9PME10	
Water solubility (ppm):						
0.038		25		H	9PME10	
Organic solubility (ppm):						
SOLUBLE IN MANY ORGANIC SOLVS.				H	9PME10	
Henry's law (Pa m <sup>3</sup> /mol):						
<0.089				H	9PME10	
Octanol/water partitioning (log Kow):						
5.42		25		H	9PME10	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			100000			W
Field dissipation half-life(days):						
value	test area		pH	source	reference	
-----	-----		---	-----	-----	
30				W		
Half-life in soil:						

soiltype                    aerobic   anaerobic                    source   reference  
-----                    -----   -----                    -----   -----

Comments:

MIXTURE OF CIS AND TRANS ISOMERS (RATIO CA. 25:75)

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**Pesticide Properties Database - Data Entered May 1999**

**Name: Rimsulfuron**

**CASRN: 122931-48-0**

**Molecular Formula:** C 14 H 17 N5 O7 S2

**Molecular Weight:** 431.45

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** Pesticide Manual, 11 "Ed.

**Key to sources:** (M)anufacturer, (H)andbook, (R)evuew, (E)xperiment, (C)alculated,  
(U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Melting Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
176-178				M	DuPont

**Decomposition (deg C):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.147	Water	25	5	M	DuPont
0.0963	Water	25	7	M	DuPont
1.73	Water	25	9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.770	Water	25	5	M	DuPont
0.0598	Water	25	7	M	DuPont

1.39	Water	25	9	M	DuPont
------	-------	----	---	---	--------

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
1.47E-3		25		M	DuPont

**Water Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
135	Water	25	5	M	DuPont
7300	Water	25	7	M	DuPont
5560	Water	25	9	M	DuPont

**Organic Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
18710	Acetone	25		M	DuPont
21883	Acetonitrile	25		M	DuPont
3160	Ethyl acetate	25		M	DuPont
15	n-Hexane	25		M	DuPont
1960	Methanol	25		M	DuPont
26792	Methylene chloride	25		M	DuPont
420	Toluene	25		M	DuPont

**Henry's Law Constant (Pa 3/mol):**

Value	Medium	Temp	pH	Source	Reference
4.7E-6		25	5	M	DuPont
8.67E-8		25	7	M	DuPont
1.14E-7		25	9	M	DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
0.288		25	5	M	DuPont
-1.47		25	7	M	DuPont

**Acid Dissociation Constant (pKa):**

Value	Medium	Temp	pH	Source	Reference
14.0				M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandyloam (NC)	25	0.16	13	2.1	6.5	M	DuPont
Sandyloam (NJ)	25	0.44	76	1.0	6.3	M	DuPont
Clay loam (ND)	25	1.28	51	4.3	7.7	M	DuPont
Silt loam (IL)	25	1.60	64	4.3	5.4	M	DuPont

**Field Dissipation Half-life (days):**

Value	Test Area	pH	%OM	Source	Reference
6	Newark, DE	6.0	1.4	M	DuPont
9	NIS	7.0	1.3	M	DuPont
8	CA	7.7	1.2	M	DuPont
17	EL	7.4	4.5	M	DuPont
6	Italy	7.6	1.7	M	DuPont
23	Belgium	6.7	2.2	M	DuPont
14	Belgium	6.7	2.2	M	DuPont
5	Italy	7.6	1.2	M	DuPont

### Half-life in Soil(days) :

Soil Type	Aerobic	Anaerobic	Source	Reference
Sandy loam (NJ)	11		M	DuPont
Loam (CANADA)	4		M	DuPont

### Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: ROTENONE

CASRN: 83-79-4

molecular formula: C<sub>23</sub>H<sub>22</sub>O<sub>6</sub>

molecular weight: 394.4

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
Boiling point (deg C):						
Melting point (deg C):						
163; 181(DIMORPHIC)				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
<1		20		H	9PME10	
Water solubility (ppm):						
15		100		H	9PMED9	
Organic solubility (ppm):						
SOLUBLE IN MANY ORGANIC SOLVS.				H	9PME10	
Henry's law (Pa m <sup>3</sup> /mol):						
Octanol/water partitioning (log Kow):						
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	----	----	--	-----
			10000*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
1-3	AQU.SOILS		P	6EPAPF vol. II
3*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: SECBUMETON** CASRN: 26259-45-0

molecular formula: C10H19N5O

molecular weight: 225.3

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED7

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
86 - 88				H	9PMED8
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.023		20	1	H	9PMED8
0.004		20	13	H	9PMED8
Photolysis (per day):					
Vapor pressure (mPa):					
0.97		20		H	9PMED7
Water solubility (ppm):					
600		20		H	9PMED7
				H	9ACHB2 1983
Organic solubility (ppm):					
4.0E5	ACETONE	20		H	9PMED8
6.0E5	DICHLOROMETHANE	20		H	9PMED8
2.2E4	HEXANE	20		H	9PMED8
5.9E5	METHANOL	20		H	9PMED8
2.0E5	OCTAN-1-OL	20		H	9PMED8
3.5E5	TOLUENE	20		H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
3.64E-4		20		H	9PMED7
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					
4.4				R	9KHBCD VOL.1:129-208(1976)
				H	9PMED9
4.36				E	WEESA6 23: 390-394 (1975)
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
					reference







Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			420*			9DUPON
			224			8CREAM
			CA.420			9DUPON

Field Dissipation halflife(days):

value	test area	pH	source	reference
120			M	9DUPON
128(120-150)*	NEWARK(DE)			

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference

Comments:  
OCTANOL WATER VALUE=2.7 PH5.7  
FIELD DISSIPATIO=128(120-150) FOR SILT LOAM

## ARS PESTICIDE PROPERTIES last update May 1999

**name: SIMAZINE**

**CASRN: 122-34-9**

molecular formula: C7H12CLN5

molecular weight : 201.66

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
225	-	227		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		20	5-9	M	9CIBAG
Photolysis (per day):					
4.5E-3	SOIL	25	7.3	M	9CIBAG
1.8E-E	WATER	25	7	M	9CIBAG
Vapor pressure (mPa):					
1.2E-4		10		M	9CIBAG
8E-04		20		M	9CIBAG
5E-03		30		M	9CIBAG
0.12		50		M	9CIBAG
0.003*		25			
Water solubility (ppm):					
3.5		20		H	9HERBH
84		85		H	9HERBH
6.2*		22		M	9CIBAG
5				C	JPFCD2 22:55-69,1987
Organic solubility (ppm):					
900*	CHLOROFORM	20		H	9PMED8
300*	ETHER	20		H	9PMED8
400*	METHANOL	20		H	9PMED8

2 *	LT.PETROLEUM	20			H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):						
9.8E-05		25			M	9CIBAG
Octanol/water partitioning (log Kow):						
2.10*		25			M	9CIBAG
Acid dissociation (pKa):						
1.62					M	9CIBAG
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			138			ETOC DK 8:339-357,1989
						9EINSP PP.23-67
						9HFEDP
			230			8GLEAM
			112			8CREAM
			160			JPFCD2 22:55-69,1987
CLAY		4.31	155	4.8	5.9	9CIBAG
SAND		0.65	124	0.9	6.5	9CIBAG
			115			9CIBAG
			114			9CIBAG
			140*			JEVQAA 16:422-428,1987
						SCSFAD 44:1-8,1985
			144			8INSFO
SANDY LOAM		1.27	114	1.9	7.5	
LOAM		0.48	103	0.8	6.7	

Field Dissipation halflife(days):					
value	test area		pH	source	reference
26	FL CROP, SAND			M	9CIBAG
87	FL BARE, SAND			M	9CIBAG
125	OR BARE, LOAM			M	9CIBAG
69	MO CROP, LOAM			M	9CIBAG
55	MO BARE, LOAM			M	9CIBAG
186	MN BARE, LOAM			M	9CIBAG
44	FL BARE			M	9CIBAG
149	CA BARE, SANDY LM			M	9CIBAG
119	OR CROP, LOAM			M	9CIBAG
33	FL CROP, SAND			M	9CIBAG

89(26-186)\*

Halflife in soil:					
Soiltype	aerobic		anaerobic	source	reference
	91		58	M	9CIBAG

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: SIMETRYN CASRN: 1014-70-6

molecular formula: C<sub>8</sub>H<sub>15</sub>N<sub>5</sub>S  
molecular weight: 213.3  
physical state: S  
(L=liquid; G=gas; S=solid)  
reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
82 - 83				H	9PME10





1.01E-13	25	7	M	9DUPON,1999
4.4E-12	25	5	M	9DUPON,1999
Octanol/water partitioning (log Kow):				
-0.46*	25	7	M	9DUPON
-1.87	25	9	M	9DUPON,1999
1.01	25	5	M	9DUPON,1999
Acid dissociation (pKa):				
5.2*	25		M	9DUPON,1999

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LM(DE)	25	0.71	87	1.4	5.6	M	9DUPON
SILT LM(IL)	25	2.85	122	4.02	6.5	M	9DUPON
SILT LM(DE)	25	0.97	61	2.75	6.4	M	9DUPON
SAND(FL)	25	1.0	71	2.43	6.3	M	9DUPON

85\*

Field Dissipation halflife(days):

value	test area	%OM	pH	source	reference
10-20*	MOIST FIELDS			M	9DUPON
100-120*	ARID FIELDS			M	9DUPON
14	DE	2.8	6.4	M	9DUPON,1999
7	NC	0.3	4.9	M	9DUPON,1999
90	OR	1.9	5.3	M	9DUPON,1999
150	CO	2.4	7.4	M	9DUPON,1999
7	MS	1.3	5.5	M	9DUPON,1999
35	SASK.	2.3	7.3	M	9DUPON,1999
14	MS	1.7	6.7	M	9DUPON,1999
12	IL	3.1	6.3	M	9DUPON,1999
15	TX	2.3	7.9	M	9DUPON,1999
25	CA	1.2	7.8	M	9DUPON,1999

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM(DE)	28*		M	9DUPON

Comments:

SOIL SORPTION KOC VALUE=85(61-122); WATER SOLUBILITY VALUE  
6.4=PH5, 244=PH7, 12000=PH8.6; AEROBIC 28=PH6.4 25 DEGREES C.  
2.8%OM.

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: SULPROFOS**

**CASRN: 35400-43-2**

molecular formula: C12H19O2PS3

molecular weight : 322.45

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9MILES

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
155	-	158		H	9ACHB2,2ND ED.,1987

Melting point(deg C):

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

<0.002*	25	5,7,9	M	6MILES
---------	----	-------	---	--------

Photolysis (per day):  
0.257\* SOIL 18-29 OD M 6MILES  
2.48\* WATER 20-28 OD M 6MILES  
Vapor pressure (mPa):  
8.4E-02\* 20 M 6MILES

Water solubility (ppm): -temp- -source- -reference-  
0.31\* 20 M 6MILES

Organic solubility (ppm):  
1.2E+5\* CYCLOHEXANONE 29 H 9PMED8,8TH ED.,p.759,1987  
4.0E+5\* 2-PROPANOL LOW 29 H 9PMED8,8TH ED.,p.759,1987  
6.0E+5\* 2-PROPANOL HIGH 29 H 9PMED8,8TH ED.,p.759,1987

Henry's law (Pa m3/mol):  
8.7E-02\* 20 M 6MILES

Octanol/water partitioning (log Kow):  
5.48\* 20 M 6MILES

Acid dissociation (pKa):  
Soil sorption:  
soiltype temp. Kd Koc %om pH source reference  
SANDY LOAM 30 204 13843\*\* 2.8 6.6 M 6MILES  
SILT LOAM 30 347 13186\*\* 5.0 7.9 M 6MILES  
SILTY CLA 30 155 58900\*\* 0.5 6.0 M 6MILES  
25900\*

Field Dissipation halflife(days):  
value test area pH %OM source reference  
14 C 8GLEAM  
4 CA(CHUALAR) LMY SND 7.3 M 6MILES  
37 CA(FRESNO) LMY SND 7.8 M 6MILES  
18(4-37)\*

Halflife in soil:  
Soiltype aerobic anaerobic source reference  
SANDY LOAM 10.6 M 6MILES  
143\*  
SANDY LOAM 275 M 6MILES

Comments:  
SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED  
USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72.  
SELECTED KOC =25900(13800-58900)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:TAU-FLUVALINATE CASRN: 102851-06-9**  
molecular formula: C26H22CLF3N2O3  
molecular weight : 502.93  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-  
Boiling point(deg C):  
450 - H 9ACHB2  
Melting point(deg C):  
-  
Decomposition point(deg C):  
350 - M 6SANDO  
Heat of vaporization(deg C):  
--RATE CONSTANTS--



Hydrolysis (per day):  
0.0144\* 25 5 M 6SANDO  
0.0308\* 25 7 M 6SANDO  
0.613\* 25 9 M 6SANDO

Photolysis (per day):  
0.041 SOIL 25 M 6SANDO  
75\* WATER 25 M 6SANDO

Vapor pressure (mPa):  
0.076\* 25 M 6SANDO

Water solubility (ppm): -temp- -source- -reference-  
0.012\* M 6SANDO

Organic solubility (ppm):  
1.35E05\* ISO OCTANE 25 M 6SANDO

Henry's law (Pa m<sup>3</sup>/mol):  
3.1\* 25 M 6SANDO

Octanol/water partitioning (log Kow):  
4.26\* M 6SANDO

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
CLAY LOAM		1200	1.1E05	1.8	7.4	6SANDO
SANDY LOAM		1300	2.8E05	0.8	5.8	6SANDO
MS. SEDIMENT		1000	1.9E05	0.9	6.6	6SANDO
MS. SILT LOAM		1100	2.7E05	0.7	5.7	6SANDO
SAND		1300	3.7E05	0.6	7.4	6SANDO

2.6E05\*

Field Dissipation half-life(days):

value	test area	pH	source	reference
63	CA(BARE GRND)		M	6SANDO
55	CA(TURF)		M	6SANDO

59\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	8.3		M	6SANDO
SILTY CLAY	3		M	6SANDO
	6-8		M	6SANDO
SANDY LOAM	60		M	6SANDO
SANDY&CLAY ,CLAY	6-80		M	6SANDO
	25*			

86(84.2-88.3)\*

Comments:

SOIL SORPTION KOC VALUE=2.44E05(1.1E05-2.8E05);  
AEROBIC 25=3-80

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: TCA-SODIUM

CASRN: 76-03-9

molecular formula: C2CL3NaO2

molecular weight: 185.4

physical state: SOLID

reference: 9PME10

\*\*\*\*\*

Key to sources: Manufacturer, Review, Handbook, Experiment, Calculated, Unknown.

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

Decomposition point (deg C):

Heat of vaporization (deg C):

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

<1	70	H	9PME10
0.85 (PARENT)	70	H	9ACHB2 1983
Water solubility (ppm):			
1200000	25	H	9PME10
		H	9MERCK 1989

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

Octanol/water partitioning (log K<sub>ow</sub>):

Acid dissociation (pK<sub>a</sub>):

Soil sorption - K<sub>d</sub> (?), K<sub>oc</sub> (?):

soiltype	temp.	Kd	Koc	pH	source	reference
-----	-----	--	---	--	-----	-----
			0.0145		C	JPFCD2 PT.B 22: 55-69 (1987)
					C	CMSHAF 10: 833-846 (1981)
			3		W	

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
4-23			H	9PME10
5-18			H	9HERBH 4th ED 1979
21			R	6MOMAM pp. 241-303 (1982)
21			R	6MOMAM pp. 241-303 (1982)
5-23			H	9ACHB2 1983
22			C	9EINSP pp. 23-67 (1980)
90			R	6ENVPE pp. 257-280
10-100			E	6SOILB 6: 201-202 (1974)
26-33			E	WATRAG 16: 131-137 (1976)

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:TEBUTHIURON

CASRN: 34014-18-1

molecular formula: C<sub>9</sub>H<sub>16</sub>N<sub>4</sub>O<sub>8</sub>

molecular weight : 228.32

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
Melting point(deg C):					
161.5 - 164				H	9ACHB2
Decomposition point(deg C):					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
(no hydrolysis in 64 days)		51	3,6,9	M	6DOWCH
Photolysis (per day):					
<0.023*	WATER	25		M	6DOWCH

0.017	SOIL	25			M	6DOWCH
Vapor pressure (mPa):						
0.27		20			H	9HERBH
					H	9ACHB2 1983 ED.
					M	7LILLY
0.149					M	6DOWCH
Water solubility (ppm):						
		-temp-			-source-	-reference-
2300		25			H	9ACHB2 1983 ED.
2500		25			H	9HERBH
					M	7LILLY
Organic solubility (ppm):						
7E04*	ACETONE	25			H	9PMED8
6E04*	ACETONITRILE	25			H	9PMED8
6.1E03*	HEXANE	25			H	9PMED8
1.7E05*	METHANOL	25			H	9PMED8
6E04*	2-METHOXY ETHANOL	25			H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):						
1.31E-05*					M	6DOWCH
Octanol/water partitioning (log Kow):						
1.79					M	6DOWCH
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	source reference
			249			P 8EPAHO
			620			R EESADV
			61			R EESADV
			80			M 7LILLY
			4			P 8EPAHO
			13			P 8EPAHO
			60			P 8EPAHO
			130*			
SAND	25	0.11	38	0.5	7.7	M 6DOWCH
SANDY LOAM	25	0.62	77	1.4	5.7	M 6DOWCH
LOAM	25	0.82	79	1.8	6.5	M 6DOWCH
CLAY LOAM	25	1.82	157	2.0	6.9	M 6DOWCH
Field Dissipation halflife(days):						
value		test area		pH		source reference
360-450						H 9HERBH
13-100						C 8CREAM
360*						M 7LILLY
Halflife in soil:						
Soiltype		aerobic		anaerobic		source reference
SANDY LOAM		1050*				M 6DOWCH
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**  
**CASRN: 3383-96-8**

**name: TEMEPHOS**  
molecular formula: C<sub>16</sub>H<sub>20</sub>O<sub>6</sub>P<sub>2</sub>S<sub>3</sub>  
molecular weight : 422.46  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):  
 30 - 30.5 H 9ACHB2  
 Decomposition point(deg C):  
 -  
 Heat of vaporization(deg C):  
 --RATE CONSTANTS--  
 Hydrolysis (per day):  
 STABLE\* 25 5-7 H 9PMED8  
 Photolysis (per day):  
 Vapor pressure (mPa):  
 Water solubility (ppm): -temp- -source- -reference-  
 0.03 25 H 9PME10  
 Organic solubility (ppm):  
 SOLUBLE\* ACETONE,CCL4,ETHER H 9PMED8  
 SOLUBLE\* 1,2-DICHLOROETHANE H 9PMED8  
 SOLUBLE\* TOLUENE,SM.AL,KETS. H 9PMED8  
 Henrys law (Pa m3/mol):  
 Octanol/water partitioning (log Kow):  
 4.90 H 9PME10  
 Acid dissociation (pKa):  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 1070\* 9AMCY1  
 Field Dissipation half-life(days):  
 value test area pH source reference  
 Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:  
 SORPTION COEF. VALUE 1070(RANGE 1070-3715)

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TERBACIL**

**CASRN: 5902-51-2**

molecular formula: C9H13CLN2O2  
 molecular weight : 216.7  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
175	-	177		M	9DUPON,1999
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*		25	5,7,9	M	9DUPON
Photolysis (per day):					
0.011*	SOIL	25	6.1	M	9DUPON
STABLE*	WATER	25	6.3	M	9DUPON
Vapor pressure (mPa):					
4.2		25		M	9DUPON,1999
Water solubility (ppm):					
710*		-temp-		-source-	-reference-
		25		M	9DUPON

Organic solubility (ppm):  
2.2E5\* CYCLOHEXANONE 25 M 9DUPON,1999  
3.37E5\* DIMETHYLFORMAMIDE 25 M 9DUPON,1999  
6.5E4\* XYLENE 25 M 9DUPON,1999  
Henry's law (Pa m<sup>3</sup>/mol):  
1.2E-5 25 M 9DUPON,1999  
Octanol/water partitioning (log Kow):  
1.9\* 25 M 9DUPON  
Acid dissociation (pKa):  
9.5 M 9DUPON,1999  
Soil sorption:  
soiltype temp. Kd Koc %om pH source reference  
41 E JEVQAA 16:422-428,1987  
120 R EESADV  
46 E SCSFAD 44:1-8,1985  
63\*  
SANDY LM(DE) 25 0.39 61 1.1 6.6 M 9DUPON  
SANDY LM(NC) 25 0.71 58 2.1 6.5 M 9DUPON  
SILT LM(IL) 25 1.30 52 4.3 5.4 M 9DUPON  
SILT LM(DE) 25 1.20 44 4.7 4.3 M 9DUPON  
Field Dissipation half-life(days):  
value test area %OM pH source reference  
50 E JEVQAA 16:422-428,1987  
252 MADERA(CA) 1.1 8.0 M 9DUPON  
212 NEWARK(DE) 1.6 5.6 M 9DUPON  
204 ROCKFORD(IL) 3.5 5.7 M 9DUPON  
Half-life in soil:  
Soiltype aerobic anaerobic source reference  
SILTY LOAM 520\* M 9DUPON  
Comments:  
SOIL SORPTION KOC VALUE=63(41-120); OCTANOL WATER 1.9=PH7;  
AEROBIC 520=PH6.1 25 DEGREES C.

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TERBUFOS CASRN: 13071-79-9**

molecular formula: C<sub>9</sub>H<sub>21</sub>O<sub>2</sub>PS<sub>3</sub>  
molecular weight : 288.43  
physical state : L  
(L=liquid; G=gas; S=solid)  
reference: 9PBIFC2,697,1973

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)ncertain, (P)EPA data, (W)author's  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
69	-	0.01mmHg		R	9PBIFC
Melting point(deg C):					
-29.2	-			R	9PBIFC
Decomposition point(deg C):					
120	-			R	9PBIFC
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.21		20	5.5-8.7	E	JPFCD2,B(17)5:447,1982
0.37		25	4.5-8.0	E	JPFCD2,B(17)5:487,1982
Photolysis (per day):					
0.95	WATER	25		M	9AMCY1
Vapor pressure (mPa):					

34.6		25		H	9ACHB2 1983 ED.
42.0*		25		M	9AMCY1
Water solubility (ppm):	-temp-			-source-	-reference-
4.2				E	JPFCD2 22:55-69, 1987
4.5*		25		M	9AMCY1
5.07		24		E	JAFCAU,27(3):559,1979
5.5		20		E	JPFCD2,B14(6):625,1979
4.9		25		M	9AMCY1
5.4		25		M	9AMCY1
5.6		25		M	9AMCY1
4.5		20		M	9AMCY1

Organic solubility (ppm):

ca. 3E05	AROMATIC HYDROCARBONS			H	9PME10
	CHLORINATED HYDROCARBONS			H	9PME10
	ALCOHOLS			H	9PME10
	ACETONE			H	9PME10

Henry's law (Pa m<sup>3</sup>/mol):

2.7*		25		M	9AMCY1
------	--	----	--	---	--------

Octanol/water partitioning (log Kow):

4.5				E	JPFCD2,B17(5):447,1979
3.7				E	JAFCAU 27(3):557,1979
4.7*				M	9AMCY1

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			1100			EESADV
			1000			8GLEAM
			580			JPFCD2 22:55-69,1987
LOAMY SAND		11.4	1069	1.84	6.83	JAFCAU,27(3):557,1979
LOAMY SAND		3.34	655	0.88	7.30	JAFCAU,27(3):557,1979
LOAM		8.3	314	4.56	5.00	JAFCAU,27(3):557,1979
SILT LOAM		21.3	562	6.55	7.30	JAFCAU,27(3):557,1979
LOAM		52.7	288	31.65	6.98	JAFCAU,27(3):557,1979
			650*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
4-23	SOIL IA		M	9AMCY1
7-30	SOIL NE		M	9AMCY1
10-18	SOIL IL		M	9AMCY1

12(5-30)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM	5*		M	9AMCY1

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TERBUTRYN**

**CASRN: 886-50-0**

molecular formula: C<sub>10</sub>H<sub>19</sub>N<sub>5</sub>S

molecular weight : 241.36

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
154	-	160	0.06mmHg		H 9PME10

Melting point(deg C):  
104 - 105 E 9ACHB2,2ND ED.,1987

Decomposition point(deg C):  
-

Heat of vaporization(deg C):  
--RATE CONSTANTS--

Hydrolysis (per day):  
STABLE\* NR 5-9 M 9CIBAG

Photolysis (per day):  
0.161\* SOIL NR 7.5 M 9CIBAG  
2.24 WATER 25 M 9CIBAG

Vapor pressure (mPa):  
0.28\* 25 M 9CIBAG  
1.28E-1 20 H 9ACHB2,2ND ED.,1987  
.128E+1 20 H 9HERBH,5TH ED.,p.458,1983

Water solubility (ppm): -temp- -source- -reference-  
22\* 22 M 9CIBAG  
25 20 H 9PMED8,8TH ED.,p.780,1987  
25 20 E PSSCBG, 8:343,1977

Organic solubility (ppm):  
1.3E+5\* N-OCTANOL 20 H 9PMED8,8TH ED.,p.780,1987  
2.8E+5\* ACETONE 20 H 9ACHB2,2ND ED.,1987  
9.0E+3\* HEXANE 20 H 9ACHB2,2ND ED.,1987  
3.0E+5\* DICHLOROMETHANE 20 H 9ACHB2,2ND ED.,1987  
2.8E+5\* METHANOL 20 H 9ACHB2,2ND ED.,1987  
4.5E+4\* TOLUENE 20 H 9ACHB2,2ND ED.,1987

Henry's law (Pa m<sup>3</sup>/mol):  
3.0E-3 25 M 9CIBAG  
0.0031\* 25

Octanol/water partitioning (log Kow):  
3.36 25 M 9CIBAG  
3.72 20 E PSSCBG, 12:222,1981  
3.74 25 E PSSCBG, 12:222,1981  
3.65\* 25

Acid dissociation (pKa):  
4.07\* E ADCSAJ, 111:73,1972

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			708			EESADV, 4:31,1980
			700			EESADV
			740			EESADV
			2190			8EPAGR
			3790			8EPAGR
SAND		49.3	2735	3.1	5.1	9CIBAG
LOAMY SAND		2.84	1628	0.3	7.4	9CIBAG
SILT LOAM		14.1	1617	1.5	6.7	9CIBAG
CLAY LOAM		183	11660	2.7		9RHPOU
			2863*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
7-14			H	9HERBH
17	TX		P	8EPAGR
358	NE		P	8EPAGR
84			P	8EPAGR
17-56	TX		M	9CIBAG
157-358	NB		M	9CIBAG

127(17-358)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
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SANDY LOAM(pH7.5) 38\* 140 M 9CIBAG  
 WATER 8 M 9CIBAG  
 Comments:  
 NO LONGER SOLD BY CIBA.

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: TETRACHLORVINPHOS CASRN: 22248-79-9

molecular formula: C10H9CL4O4P  
 molecular weight: 366  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
94 - 97				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.013		50	3	H	9PME10
0.016		50	7	H	9PME10
0.208		50	10.5	H	9PME10
Photolysis (per day):					
Vapor pressure (mPa):					
0.0056		20		H	9PMED9
Water solubility (ppm):					
11*		20		H	9PMED9
				H	9ACHB2 1983
15		24		P	6EPAPF vol. II
Organic solubility (ppm):					
<2.0E5	ACETONE	20		H	9PME10
4.0E5	CHLOROFORM	20		H	9PME10
4.0E5	DICHLOROMETHANE	20		H	9PME10
<1.5E5	XYLENE	20		H	9PME10
Henry's law (Pa m <sup>3</sup> /mol):					
1.86E-4		20		H	9PMED9
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			900			W

Field dissipation half-life(days):

value	test area	pH	source	reference
2			P	6USEPA

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference



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Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name: THIABENDAZOLE

CASRN: 148-79-8

molecular formula: C10H7N3S

molecular weight : 201.2

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
298	-	300.6		M	6MERCO		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
STABLE*		RT		H	9PMED8		
Photolysis (per day):							
STABLE*		RT		H	9PMED8		
Vapor pressure (mPa):							
5.32E-4		25		M	6MERCO		
Water solubility (ppm):							
		-temp-		-source-	-reference-		
30*		25	5	M	EESADV		
28		25	7,9	M	9ACHB2		
<50		25		H	9ACHB2		
10000(pH2)*		25		H	9ACHB2		
Organic solubility (ppm):							
7.9E+3*	ETHANOL	25		M	9PMED8		
2.1E+3*	ETHYL ACETATE	25		H	9PMED8		
2.3E+5*	BENZENE	RT		H	9PMED8		
8E+4*	CHLOROFORM	RT		H	9PMED8		
3.9E+4*	DIME-FORMAMIDE	RT		H	9PMED8		
8E+4*	DIME SULFOXIDE	RT		H	9PMED8		
9.3E+3*	METHANOL	RT		H	9PMED8		
Henry's law (Pa m3/mol):							
3.8E-7				M	6MERCO		
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
4.73				M	6MERCO		
12.00				M	6MERCO		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
			1720			R	EESADV
			>510			R	EESADV
			29			E	JAFCAU 29:1050-1059,1981
			3500			E	JAFCAU 29:1050-1059,1981
			1070			R	7UFLCO
			2500*				
Field Dissipation halflife(days):							
value	test area		pH	%om	source	reference	
1100(833-1444)*					M	6MERCO	

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	640(547-780)*	stable	M	6MERC0

Comments:

SOIL SORPTION KOC VALUE=2500(1070-3715)

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ARS PESTICIDE PROPERTIES last update May 1999

**name: THIDIAZURON**

**CASRN: 51707-55-2**

molecular formula: C<sub>9</sub>H<sub>8</sub>N<sub>4</sub>O<sub>8</sub>

molecular weight : 220.2

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
213	-			H	9ACHB2		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
Photolysis (per day):							
Vapor pressure (mPa):							
3E-06*		25		H	9ACHB2		
Water solubility (ppm):							
20*		23		H	9ACHB2 7TH ED.,1977		
Organic solubility (ppm):							
8E+3*	ACETONE	23		H	9PMED8		
2.1E+4*	CYCLOHEXANONE	23		H	9PMED8		
>5E+5*	DIME-FORMAMIDE	23		H	9PMED8		
>5E+5*	DIME-SULFOXIDE	23		H	9PMED8		
800*	ETHYL ACETATE	23		H	9PMED8		
4.5E+3*	METHANOL	23		H	9PMED8		
Henry's law (Pa m <sup>3</sup> /mol):							
3.3E-8*		25		H	9ACHB2		
Octanol/water partitioning (log Kow):							
Acid dissociation (pKa):							
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SAND			908			M	6NORAM
LOAMY SAND			786			M	6NORAM
SANDY LOAM			780			M	6NORAM
SANDY CLAY LOAM			494			M	6NORAM
			742*				
Field Dissipation half-life(days):							
value	test area		pH			source	reference
45-60						M	6NORAM
Half-life in soil:							
Soiltype	aerobic		anaerobic			source	reference
SANDY LOAM	26					M	6NORAM
CLAY LOAM	144		<30			M	6NORAM
Comments:							

ARS PESTICIDE PROPERTIES last update May 1999

name: THIFENSULFURON ME

CASRN: 79277-27-3

molecular formula: C12H13N5O6S2

molecular weight : 387.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-		
Boiling point(deg C):							
-							
Melting point(deg C):							
176	-	178		M	9DUPON,1999		
Decomposition point(deg C):							
-							
Heat of vaporization(deg C):							
--RATE CONSTANTS--							
Hydrolysis (per day):							
0.028		25	5	M	9DUPON,1999		
0.004		25	7	M	9DUPON,1999		
0.044		25	9	M	9DUPON,1999		
Photolysis (per day):							
0.044	SOIL (4.3%om)	25	5.4	M	9DUPON,1999		
0.14*	WATER	25	5	M	9DUPON,1999		
0.131	WATER	25	7	M	9DUPON,1999		
0.128	WATER	25	9	M	9DUPON,1999		
Vapor pressure (mPa):							
1.7E-5*		25		M	9DUPON		
Water solubility (ppm):							
223		25	5	M	9DUPON,1999		
2240		25	7	M	9DUPON,1999		
8830		25	9	M	9DUPON,1999		
Organic solubility (ppm):							
11900	ACETONE	25		M	9DUPON		
7300	ACETONITRILE	25		M	9DUPON		
900	ETHANOLE	25		M	9DUPON		
2600	ETHYL ACETATE	25		M	9DUPON		
<100	HEXANE	25		M	9DUPON		
2600	METHANOL	25		M	9DUPON		
27500	METHYLENE CHLORIDE	25		M	9DUPON		
200	XYLENES	25		M	9DUPON		
Henrys law (Pa m3/mol):							
2.8E-8		25	pH 5	M	9DUPON		
3.0E-9		25	7	M	9DUPON		
7.6E-10		25	9	M	9DUPON		
Octanol/water partitioning (log Kow):							
-1.7		25	7	M	9DUPON		
0.3		25	5	M	9DUPON		
-3.7		25	9	M	9DUPON		
Acid dissociation (pKa):							
4.0*				M	9DUPON		
Soil sorption:							
soiltype	temp.	Kd	Koc	%om	pH	source	reference
SANDY LM(DE)	25	0.08	13	1.1	6.6	M	9DUPON
SANDY LM(NC)	25	0.19	16	2.1	6.5	M	9DUPON

SILT LM(IL)	25	1.38	55	4.3	5.4	M	9DUPON
SILT LM(DE)	25	1.25	29	7.5	5.2	M	9DUPON

28\*

Field Dissipation halflife(days):

value	test area	pH	%om	source	reference
14	ND	7.3	5.3	M	9DUPON,1999
11(6-17)*					
7-8	MADERA(CA)	7.3	1.6	M	9DUPON
12-8	SASKATOON(SASK)	6.3	2.3	M	9DUPON
11.7	CALGARY(AL)	7.9	4.1	M	9DUPON
16.5	LONDON(ONT)	7.5	3.0	M	9DUPON
6.2	KENTVILLE(NOVA SCOTIA)	6.5	3.2	M	9DUPON
20	ID	6.4	2.1	M	9DUPON,1999
3	CO	6.5	1.2	M	9DUPON,1999
6	MANITOBA	7.9	6.4	M	9DUPON,1999

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LM(IL)	6		M	9DUPON,1999
SILT LM(DE)	2	5	M	9DUPON,1999
SNDY LM(GERMANY)	2		M	9DUPON,1999
SNDY LM(GERMANY)	3		M	9DUPON,1999

Comments:

AEROBIC: 6=pH5.4, 25 degrees C., 4.3%om  
2=pH5.2, 25 degrees C., 7.5%om

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:THIOBENCARB**

**CASRN: 28249-77-6**

molecular formula: C12H16CLNOS

molecular weight : 257.8

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
126	-	129		H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE*					
Photolysis (per day):					
Vapor pressure (mPa):					
0.2		20		H	9HERBH
3*				M	8VALUS
Water solubility (ppm):					
30		20		H	9HERBH
				H	9ACHB2 7TH ED.,1977
28*				M	8VALUS
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
0.0276*		0		M	8VALUS

Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			900*		M	8VALUS

Field Dissipation halflife(days):

value	test area	pH	source	reference
14-21			H	9HERBH

19(14-21)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	21*		M	8VALUS

Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: THIOCYCLAM-HYDROGEN OXALATE**

**CASRN: 31895-22-4**

molecular formula: C7H13NO4S3

molecular weight: 271.4

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

---

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
125 - 128				H	9PME10
Decomposition point (deg C):					
128				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.004		25	5	H	9PME10
0.116		25	7-9	H	9PME10
Photolysis (per day):					
0.277	SUNLIGHT SURFACE			H	9PME10
Vapor pressure (mPa):					
0.545*		20		H	9PME10
0.50				H	9ACHB2 1983
Water solubility (ppm):	pH:				
84000	<3.3	23		H	9PME10
44100	3.6	20		H	9PME10
16300	6.8	20		H	9PME10
Organic solubility (ppm):					
9.2E4	DIMETHYL SULFOXIDE	23		H	9PME10
1.7E4	METHANOL	23		H	9PME10
1900	ETHANOL	23		H	9PME10
1200	ACETONITRILE	23		H	9PME10
500	ACETONE	23		H	9PME10
<1000	ETHYL ACETATE	23		H	9PME10
<1000	CHLOROFORM	23		H	9PME10
<10	HEXANE	23		H	9PME10
Henry's law (Pa m <sup>3</sup> /mol):					
9.1E-6		20		H	9PME10

Octanol/water partitioning (log Kow):

-0.07 H 9PME10

Acid dissociation (pKa):

3.95 (pKa1) H 9PMED9

7.00 (pKa2) H 9PMED9

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			0.46-			9PMED9
			0.66			
			10*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
1			H	9PME10

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name:THIODICARB**

**CASRN: 59669-26-0**

molecular formula: C10H18N4O4S3

molecular weight : 354.47

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9RHPOU

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

Melting point(deg C):

168 - 172 H 9ACHB2,2ND ED.,1987

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.08040\* 25 5 M 9RHPOU

Photolysis (per day):

0.0086\* WATER 0 M 9RHPOU

0.037\* WATER 25 M 9RHPOU

Vapor pressure (mPa):

4.3\* 20 H 9ACHB2,2ND ED.,1987

5.1 20 H 9PMED8,8TH ED.,p.798,1987

Water solubility (ppm):

19.1\* 25 M 9RHPOU

35 25 H 9ACHB2,2ND ED.,1987

Organic solubility (ppm):

3.2E+3\* METHANOL 25 M 9RHPOU

46.3E-1\* HEXANE 25 M 9RHPOU

2.1E+5\* DICHLOROMEHANE 25 M 9RHPOU

5.0E+3\* METHANOL 25 H 9ACHB2,2ND ED.,1987

3.0E+3\* XYLENE 25 H 9ACHB2,2ND ED.,1987

Henrys law (Pa m3/mol):

0.079 25 M 9RHPOU

Octanol/water partitioning (log Kow):

1.2-1.6 25 M 9RHPOU  
1.4\* 25

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
SAND		00.58	125	0.8	5.8	9RHPOU
			350			9RHPOU
SILT LOAM		4.47	373	2.08		9RHPOU
CLAY		14.0	1167	2.08		9RHPOU
SANDY LOAM		1.34	335	0.69		9RHPOU
SAND		0.16	64	0.43		9RHPOU
LOAM		01.34	177	1.3	8.1	9RHPOU
SANDY LOAM		01.22	214	1.0	7.8	9RHPOU
			351*			

Field Dissipation halflife(days):

value	test area	pH	source	reference
3-8	BARE (2-84)		M	9RHPOU
3-8	SOIL (2-84)		M	9RHPOU
3-8	SOIL (2-84)		M	9RHPOU
7			R	8EETNS
2	87 NC COTTON		M	9RHPOU

5(2-8)\*

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	<2*	<7	M	9RHPOU

Comments:

SOIL SORPTION KOC VALUE=351(64-1167)

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ARS PESTICIDE PROPERTIES last update May 1999

name: THIOPHANATE-ME

CASRN: 23564-05-8

molecular formula: C12H14N4O4S2

molecular weight : 342.4

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

---

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

---

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

-

Melting point(deg C):

172 - H 9PME10

Decomposition point(deg C):

172 - H 9PME10

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

<9.5E-3\* 25 H 9PME10

Water solubility (ppm): -temp- -source- -reference-

3.5\* 20 H 9ACHB2 1983 ED.

Organic solubility (ppm):

5.8E04\* ACETONE 20 H 9PMED8

2.9E04\* METHANOL 20 H 9PMED8

2.6E04\* CHLOROFORM 20 H 9PMED8

Henry's law (Pa m<sup>3</sup>/mol):  
 <9.3E-4\* H 9PME10  
 Octanol/water partitioning (log Kow):  
 1.5 H 9PME10  
 Acid dissociation (pKa):  
 7.28 H 9PME10  
 Soil sorption:  
 soiltype temp. Kd Koc %om pH reference  
 9 JAFCAU 29:1050-1059,1981  
 1830\* CMSHAF 10:833-845,1981  
 Field Dissipation half-life(days):  
 value test area pH source reference  
 6\* H 9PME10  
 Half-life in soil:  
 Soiltype aerobic anaerobic source reference  
 Comments:  
 BREAKS DOWN TO CARBENDAZIM IN PLANTS

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: THIRAM CASRN: 137-26-8**  
 molecular formula: C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>S<sub>4</sub>  
 molecular weight : 240.44  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
 (C)calculated, (U)unknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
155	-	156		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
2.41*		25	9	M	6UNIRO
0.199*		25	7	M	6UNIRO
0.0101*		25	5	M	6UNIRO
Photolysis (per day):					
0.0346*	SOIL	25		M	6UNIRO
3.8*	WATER	25		M	6UNIRO
Vapor pressure (mPa):					
NEGLI.					
Water solubility (ppm):					
30		RT		H	EESADV
16.5*		25		M	6UNIRO
Organic solubility (ppm):					
8.0E04*	ACETONE			H	9PMED8
2.00E+05*	CHLOROFORM			H	9PMED8
<1E04*	ETHANOL			H	9PMED8
Henry's law (Pa m <sup>3</sup> /mol):					
Octanol/water partitioning (log Kow):					
1.593				M	6UNIRO
1.73				H	9PME10
Acid dissociation (pKa):					



Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			670*			8PHYTO 64:1091-1099,1974 EESADV

Field Dissipation halflife(days):

value	test area	pH	source	reference
15			M	9RHPOU
70	MD (TURF)		M	6UNIRO
45(17-70)*				

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM*	15.2		M	6UNIRO

Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: TOLCLOFOS-METHYL

CASRN: 57018-04-9

molecular formula: C9H11CL2O3PS

molecular weight: 301.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
Melting point (deg C):					
78 - 80				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
53		20		H	9PMED9
57*		20		P	6USEPA
				H	9PME10
Water solubility (ppm):					
0.3-0.4		23		H	9PMED9
				H	9ACHB2 1983
1.10*		25		H	9PME10
Organic solubility (ppm):					
3.8E4	HEXANE			H	9PME10
3.6E5	XYLENE			H	9PME10
5.9E4	METHANOL			H	9PME10
Henrys law (Pa m3/mol):					
15.6				H	9PME10
Octanol/water partitioning (log Kow):					
4.56		25		H	9PME10
Acid dissociation (pKa):					

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			761- 1540			6USEPA
			5000*			W

Field dissipation half-life(days):

value	test area	pH	source	reference
26,30			P	6USEPA
<1			H	9ACHB2 1983
30*			W	

Half-life in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TOXAPHENE**

**CASRN: 8001-35-2**

molecular formula: C10H10CL8

molecular weight : 414

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment,  
(C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
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Boiling point(deg C):

Melting point(deg C):

65	-	95		H	9ACHB2
----	---	----	--	---	--------

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

Vapor pressure (mPa):

0.67		20		H	9ACHB2 1983 ED.
------	--	----	--	---	-----------------

0.53*		20		R	9HRLCP
-------	--	----	--	---	--------

Water solubility (ppm):	-temp-	-source-	-reference-
-------------------------	--------	----------	-------------

3*	RT	H	9ACHB2
----	----	---	--------

0.4		C	8GLEAM
-----	--	---	--------

		R	8SOCOS
--	--	---	--------

		C	EESADV
--	--	---	--------

Organic solubility (ppm):

Henry's law (Pa m<sup>3</sup>/mol):

0.073*		20		H	9ACHB2
--------	--	----	--	---	--------

Octanol/water partitioning (log K<sub>ow</sub>):

Acid dissociation (pK<sub>a</sub>):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			21000			JEVQAA 16:422-428,1987
			7200			EESADV
			95816			ETOC DK 8:339-357,1989
			400000			8GLEAM
			100000*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
9*			E	JEVQAA 16:422-428,1987
			E	ETOC DK 8:339-357,1989
500			C	8GLEAM

Half-life in soil:

Soiltype aerobic anaerobic source reference  
Comments:  
CHLORINATED CAMPHENES-TOXAPHENE IS A MIXTURE OF MANY COMPOUNDS

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRALOMETHRIN CASRN: 66841-25-6**

molecular formula: C22H19BR4NO3  
molecular weight : 665  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
138 - 148				H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
1.7E-8*				H	9ACHB2 7TH ED.,1977
Water solubility (ppm):		-temp-		-source-	-reference-
70*				H	9ACHB2
Organic solubility (ppm):					
>1E+6* TOL, ACET, XYL, CL2ME				H	9PMED8
>1.8E+5* ETHANOL				H	9PMED8
>5E+5* DIMETHYL SULFOXIDE				H	9PMED8
Henry's law (Pa m3/mol):					
1.6E-10*				H	9ACHB2
Octanol/water partitioning (log Kow):					
ca. 1E+5				H	9PME10
Acid dissociation (pKa):					
Soil sorption:					
soiltype temp. Kd Koc %om pH reference					
VARIOUS(SANDY TO CLAY LOAM)		197-8784	43796-675667		9PME10
			360000*		
Field Dissipation halflife(days):					
value test area pH source reference					
27				C	8GLEAM
64-84				H	9PME10
60*					
Halflife in soil:					
Soiltype aerobic anaerobic source reference					
Comments:					

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRIADIMEFON CASRN: 43121-43-3**

molecular formula: C14H16CLN3O2  
molecular weight : 293.76  
physical state : S

(L=liquid; G=gas; S=solid)  
 reference: 9MILES

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-	
Boiling point(deg C):						
-						
Melting point(deg C):						
82.3				H	9PMED8,8TH ED.,p.813,1987	
Decomposition point(deg C):						
-						
Heat of vaporization(deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
<0.023*		25	5,7,9	M	6MILES	
Photolysis (per day):						
1.39*	WATER	24		M	6MILES	
0.008*	SOIL	25		M	6MILES	
2.19*	WATER	30		M	6MILES	
Vapor pressure (mPa):						
2.0E-03*		20		M	6MILES	
Water solubility (ppm):						
71.5*		20		M	6MILES	
260		20		H	9PMED8,8TH ED.,p.813,1987	
70				H	9FACHB	
Organic solubility (ppm):						
2.0E+5*	2-PROPANOL LOW	20		M	6MILES	
4.0E+5	2-PROPANOL HIGH	20		M	6MILES	
1.2E+6*	DICHLOROMETHANE	20		M	6MILES	
4.0E+5*	TOLUENE	20		M	6MILES	
6.0E+5	TOLUENE HIGH	20		M	6MILES	
Henry's law (Pa m <sup>3</sup> /mol):						
8.2E-6*		20		M	6MILES	
Octanol/water partitioning (log Kow):						
3.18*		20		M	6MILES	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			273			CMSHAF 10:833-845,1981
SANDY LOAM	25	1.85	320**	1.1	6.6	6MILES
SILT LOAM	25	6.93	454**	2.9	5.9	6MILES
SAND	25	2.42	460**	1.0	4.3	6MILES
CLAY LOAM	25	2.60	224**	2.2	6.4	6MILES
			319*			
Field Dissipation half-life(days):						
value	test area		pH	source	reference	
6-18				P	8EPAGR	
28				P	8EPAGR	
18				P	8EPAGR	
59.7	CA(CHUALAR) LMY SND		7.3	M	6MILES	
95.4	CA(FRESNO) LMY SND		7.8	M	6MILES	
54(6-95)*						
Half-life in soil:						
Soiltype	aerobic	anaerobic		source	reference	
SILT LOAM	6	15		M	6MILES	
SANDY LOAM	5.6	23.1		M	6MILES	

6\*

19\*

## Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED  
USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72.  
SELECTED KOC=319(273-460).

## ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: TRIADIMENOL

CASRN: 55219-65-3

molecular formula: C14H18CLN3O2

molecular weight: 295.8

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
138.2(A), 133.5(B), 110(A+B)**				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
STABLE		22		H	9PME10	
Photolysis (per day):						
Vapor pressure (mPa):						
<1.3E-6		20		H	9FACHB 1990	
4.1E-6		20		H	9PME10	
4.1E-5		20		H	9FACHB 1993	
<1		20		H	9PME10	
4.1E-5(A)**		20		H	9PME10	
2.4E-4(B)**		20		H	9PME10	
Water solubility (ppm):						
62(A)**		20		H	9PMED9	
32(B)**		20		H	9PMED9	
95		20		H	9ACHB2 1983	
Organic solubility (ppm):						
SOLUBLE IN MANY ORGANIC SOLVS.						
				H	9PME10	
Henry's law (Pa m3/mol):						
1.96E-7(A)**		20		H	9PME10	
2.22E-6(B)**		20		H	9PME10	
Octanol/water partitioning (log Kow):						
3.08(A)**				H	9PME10	
3.28(B)**				H	9PME10	
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			443(A)**			9PMED9
						CMSHAF 10: 833-846 (1981)
			815(B)**			9PMED9
						CMSHAF 10: 833-846 (1981)
			409-			6EPAPF vol. II
			907			
			500*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
90-510			R	6RENCT 99: 83-117 (1987)
110-375	SANDY LOAM		H	9PME10
240-270	LOAM		H	9PME10
300*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference

Comments:

\*\*CONSISTS OF TWO DIASTERIOISOMERS (A&B IN A RATIO A:B = CA.7:3)

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRIALLATE**

**CASRN: 2303-17-5**

molecular formula: C10H16CL3NOS

molecular weight : 304.7

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
117	-	0.3mmHg		H	9HERBH
Melting point(deg C):					
29	-	30		H	9ACHB2
Decomposition point(deg C):					
	-	200		H	9HERBH
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
16		25		H	9PME10
14.6*		25		M	9MONSA
Water solubility (ppm):					
4*		25		M	9HERBH
Organic solubility (ppm):					
Henrys law (Pa m3/mol):					
1.11*		25		M	9MONSA
Octanol/water partitioning (log Kow):					
4.29*		25		M	9MONSA
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
LINTONIA SNDY LM		5.98	1470	0.7	
DRUMER SLTY CLAY		28.4	1440	3.4	
			3600		JEFQAA 16:422-428,1987
			2220		EESADV
			2000		EESADV
			2398		9MONSA
DUPO SILT LM		18.5	2660	1.2	9MONSA
SPINKS SNDY LM		22.5	1620	2.4	9MONSA
			2550*		
Field Dissipation halflife(days):					
value	test area		pH	source	reference

14-21 H 9HERBH  
 63-131 C 8CREAM  
 100 E JEVQAA 16:422-428,1987  
 18 M 9MONSA

74(14-131)\*

Half-life in soil:

Soiltype aerobic anaerobic source reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRIASULFURON**

**CASRN: 82097-50-5**

molecular formula: C14H16CLN5O5S

molecular weight : 401.83

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9CIBAG

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value- -medium- -temp- -pH- -source- -reference-

Boiling point(deg C):

-

Melting point(deg C):

178.1 - H 9PME10

Decomposition point(deg C):

178.1 - H 9PME10

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.023\* 20 5 M 9CIBAG

STABLE\* 20 7-9 M 9CIBAG

Photolysis (per day):

STABLE\* SOIL 23.3 M 9CIBAG

0.0080\* WATER 25 9 M 9CIBAG

Vapor pressure (mPa):

0.002 25 M 9CIBAG

Water solubility (ppm): -temp- -source- -reference-

32 (pH 5) 20 M 9CIBAG

815 (pH 7) 20 M 9CIBAG

13500 (pH 9) 20 M 9CIBAG

Organic solubility (ppm):

1.4E4 ACETONE H 9PME10

3.6E4 DICHLOROMETHANE H 9PME10

4.3E3 ETHYL ACETONE H 9PME10

Henry's law (Pa m3/mol):

9.9E-07 (pH 7) 20 M 9CIBAG

Octanol/water partitioning (log Kow):

-0.58 (pH 7) 25 M 9CIBAG

Acid dissociation (pKa):

4.64\* 20 H 9PME10

Soil sorption:

soiltype temp. Kd Koc %om pH source reference

SNDY LM(KY) 73.4 M 9CIBAG

FOUR SOILS 51.6-190.6 M 9CIBAG

105\*

Field Dissipation half-life(days):

value test area pH %OM source reference

27(10-87)\* FOUR SOILS M 9CIBAG

20-25	SL(CA)			M	9CIBAG
Halflife in soil:					
Soiltype	aerobic	anaerobic		source	reference
	114*	198*		M	9CIBAG
SNDY LM(KY)	161	112		M	9CIBAG
Comments:					

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:TRIBENURON ME** **CASRN: 101200-48-0**

molecular formula: C15H17N5O6S  
molecular weight : 395.39  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9DUPON

Key to sources: (M)Manufacturer, (R)eviw, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
141	-			M	9DUPON
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
>50		25	5	M	9DUPON,1999
0.053 *		25	7	M	9DUPON
0.0031 *		25	9	M	9DUPON
Photolysis (per day):					
0.114	SOIL	25	7.5	M	9DUPON,1999
STABLE *	WATER	25	5,7,9	M	9DUPON,1999
Vapor pressure (mPa):					
5.3E-05				M	9DUPON
Water solubility (ppm):					
48 *		-temp-		M	9DUPON
2040 *				M	9DUPON
18,000 *				M	9DUPON
Organic solubility (ppm):					
55	ACETONE	20		M	9DUPON
69	ACETONITRILE	20		M	9DUPON
1.96	CARBON TETRACHLORIED20			M	9DUPON
19	ETHYL ACETATE	20		M	9DUPON
4.25E-2	n-HEXANE	20		M	9DUPON
4.29	METHANOL	20		M	9DUPON
Henrys law (Pa m3/mol):					
4.28E-7		25	5	M	9DUPON
1.01E-8		25	7	M	9DUPON
1.12E-9		25	9	M	9DUPON
Octanol/water partitioning (log Kow):					
-0.44		25	7	M	9DUPON
1.17		25	5	M	9DUPON
-2.52		25	9	M	9DUPON
Acid dissociation (pKa):					
5.0 *				M	9DUPON
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
					reference



SANDY LOAM(DE)	25	0.19	30	1.1	6.6	9DUPON
SANDY LOAM(NC)	25	0.45	37	2.1	6.5	9DUPON
SILT LOAM(IL)	25	2.0	80	4.3	5.4	9DUPON
SILT LOAM(DE)	25	1.7	62	4.7	4.3	9DUPON
			52*			9DUPON

Field Dissipation halflife(days):

value	test area	pH	%om	source	reference
11	MANITOBA	7.9	6.6	M	9DUPON,1999
2	NEWARK(DE)	5.1	2.1	M	9DUPON
5	ROCHELLE(IL)	7.1	5.0	M	9DUPON
9	KIMBERLY(ID)	8.3	1.7	M	9DUPON
23	MADERA(CA)	7.3	1.6	M	9DUPON
5	ALBERTA	6.2	9.2	M	9DUPON
4	SASK.	6.4	3.5	M	9DUPON
2	SASK.	6.5	2.9	M	9DUPON

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
SILT LOAM(DE)	1		M	9DUPON
SNDY LOAM(DE)	2.2		M	9DUPON
SILT LOAM(IL)	1.1		M	9DUPON
SILT LOAM(ND)	16		M	9DUPON
CANADA	4		M	9DUPON
CANADA	6.6		M	9DUPON
FRANCE	6.4		M	9DUPON
CANADA	10		M	9DUPON
SILT LOAM(ND)	4		M	9DUPON
DENMARK	6.5		M	9DUPON
FRANCE	6.3		M	9DUPON
IDAHO	8.4		M	9DUPON
PA		2.5	M	9DUPON
FL		11	M	9DUPON
NETHERLANDS		19.2	M	9DUPON
NETHERLANDS		29.7	M	9DUPON

Comments:

SOIL SORPTION KOC VALUE=52(30-80); WATER SOLUBILITY VALUE  
 48=PH5,2040=PH7,18,000=PH9; OCTANOL WATER 0.44=PH7;AEROBIC  
 VALUE=2, 25 DEGREES C., pH4.3, 4.7%om;VALUE=12, 25 DEGREES C.,  
 pH7.5, 5.4%OM.

ARS PESTICIDE PROPERTIES last update May 1999

name:TRIBUFOS

CASRN: 78-48-8

molecular formula: C12H27OPS3

molecular weight : 314.52

physical state : L

(L=liquid; G=gas; S=solid)

reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
 (C)alculated, (U)known, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
150	-	0.3mmHg		H	9ACHB2
Melting point(deg C):					
-					
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					

--RATE CONSTANTS--

Hydrolysis (per day):

STABLE\* 25 5,7 M 6MILES  
 0.0056\* 25 9 M 6MILES

Photolysis (per day):

<0.023\* SOIL 9-42 OD M 6MILES  
 0.00234\* WATER 25 M 6MILES

Vapor pressure (mPa):

0.213\* 20 M 6MILES

Water solubility (ppm): -temp- -source- -reference-  
 23\* 20 M 6MILES

Organic solubility (ppm):

Henry's law (Pa m3/mol):

0.029\* 20 M 6MILES

Octanol/water partitioning (log Kow):

5.52\* 20 M 6MILES

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	source	reference
SAND	25	66.8	12684	1.0	4.3	M	6MILES
SANDY LOAM	25	60.6	10465	1.1	6.6	M	6MILES
SILT LOAM	25	74.3	4870	2.9	5.9	M	6MILES
CLAY LOAM	25	106	9115	2.2	6.4	M	6MILES

7700\*

Field Dissipation half-life(days):

value	test area	pH	%OM	source	reference
19.3	CA(CHAUJAR) LMY SND	7.3		M	6MILES
47-7	CA(FRESNO) LMY SND	7.8		M	6MILES

32\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	745*	701*	M	6MILES

Comments:

SOIL SORPTION KOC VALUE=7700(4870-12684)

ARS PESTICIDE PROPERTIES last update May 1999

name: TRICHLORFON

CASRN: 52-68-6

molecular formula: C4H8CL3O4P

molecular weight : 257.44

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9MOBAY

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)xperiment,  
 (C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					

Melting point(deg C):

83 - 84 H 9ACHB2, 2ND ED., 1987

Decomposition point(deg C):

Heat of vaporization(deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

0.0067\* 25 5 M 6MILES  
 0.489\* 25 7 M 6MILES  
 34.657\* 25 9 M 6MILES

Photolysis (per day):

0.00629*	WATER	25	M	6MILES
0.059*	SOIL	25	M	6MILES

Vapor pressure (mPa):

1.1		20	H	9ACHB2 1983 ED.
0.267*		20	M	6MILES
1.00		20	H	9ACHB2,2ND ED.,1987

Water solubility (ppm):

		-temp-		-source-	-reference-
1.30E+5*		20	M	6MILES	
1.54E+5		25	H	9FACHB	
1.36E+5		20	H	9FACHB	

Organic solubility (ppm):

5.0E+2*	N-HEXANE	20	M	6MILES
6.9E+5*	DICHLOROMETHANE	20	M	6MILES
1.5E+5*	BENZENE	25	H	9ACHB2,2ND ED.,1987
7.5E+5*	CHLOROFORM	25	H	9ACHB2,2ND ED.,1987
1.7E+5*	DIETHYL ETHER	25	H	9ACHB2,2ND ED.,1986
5.2E+5*	2-PROPANOL	20	M	6MILES

Henry's law (Pa m<sup>3</sup>/mol):

5.4E-07*		20	M	6MILES
1.7E-06		20	R	9HRLCP
2.2E-11		NR	R	9RCFAS, p.3,1980

Octanol/water partitioning (log Kow):

.431		20	M	6MILES
.48		NR	R	9HRLCP;KENAGA&GORING,1988
0.43*		20		

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			6.0			EESADV, 4:31,1980
			7			9CRFAS, p.3,1980
			6			EESADV
			2			8GLEAM
SANDY LOAM		0.25	30.7	1.4	6.4	6MILES
SANDY LOAM		0.08	9.8	1.4	6.4	6MILES
SILT LOAM		0.40	38.2	1.8	5.5	6MILES
SILT LOAM		0.35	33.4	1.8	5.5	6MILES
SILT LOAM		0.51	19.1	4.6	5.4	6MILES
SILT LOAM		0.58	21.7	4.6	5.4	6MILES
SILT LOAM	24	0.15	9.72**	2.9	5.9	6MILES
SANDY LOAM	24	0.11	18.47**	1.1	6.6	6MILES
SAND	24	0.04	7.89**	1.0	4.3	6MILES
CLAY LOAM	24	0.01	1.22**	2.2	6.4	6MILES
			15*			

Field Dissipation half-life(days):

value	test area	pH	source	reference
2.2	CA(CHUALAR)LMY SND	7.3	M	6MILES
<1	CA(FRESNO)	7.8	M	6MILES

1.5\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
SANDY LOAM	6.4*	1.8*	M	6MILES

Comments:

SOIL SORPTION KOC VALUES WITH A DOUBLE ASTERISK WERE CALCULATED USING A CONVERSION FACTOR OF 1.9(%OM=1.9%OC) RATHER THAN 1.72. SELECTED KOC=15(2-38)|

molecular formula: C10H12CL3O2PS  
 molecular weight: 333.6  
 physical state: L  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2 1983

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
Boiling point (deg C):					
108 AT 0.01 MM HG				H	9PMED8
Melting point (deg C):					
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
2		20		H	9ACHB2 1983
Water solubility (ppm):					
50		20		H	9PMED7
				H	9ACHB2 1983
Organic solubility (ppm):					
>1.2E6	DICHLOROMETHANE	20		H	9PMED8
>1.2E6	PROPAN-2-OL	20		H	9PMED8
Henrys law (Pa m3/mol):					
0.013		20		H	9ACHB2 1983
Octanol/water partitioning (log Kow):					
Acid dissociation (pKa):					

soiltype	temp.	Kd	Koc	%om	pH	reference
			400			W

value	test area	pH	source	reference
139			C	8CREAM

soiltype	aerobic	anaerobic	source	reference

Comments:

**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRICLOPYR** **CASRN: 55335-06-3**

molecular formula: C7H4CL3NO3  
 molecular weight : 256.48  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
290				H	9ACHB2

Melting point(deg C):  
148 - 150 H 9ACHB2  
Decomposition point(deg C):  
- 290 M 6DOWCH  
Heat of vaporization(deg C):  
--RATE CONSTANTS--  
Hydrolysis (per day):  
STABLE\* M 6DOWCH  
Photolysis (per day):  
0.00034\* SOIL 25 M 6DOWCH  
2.0 WATER 25 M 6DOWCH  
Vapor pressure (mPa):  
0.168\* 25 H 9ACHB2  
0.16 H 9HERBH  
Water solubility (ppm): -temp- -source- -reference-  
435\* 25  
430 25 R EESADV  
2.1E06 (salt) R EESADV  
440 H 9ACHB2 7TH ED.,1977  
H 9ACHB2  
Organic solubility (ppm):  
9.89E5\* ACETONE H 9PMED8  
2.73E4\* CHLOROFORM H 9PMED8  
3.07E5\* n-OCTANOL H 9PMED8  
1.13E5\* ACETONITRILE H 9PMED8  
3.2E5\* N-ME PYROLLIDINONE H 9PMED8  
410\* HEXANE H 9PMED8  
Henry's law (Pa m3/mol):  
8.3E-05\* 25 M 6DOWCH  
Octanol/water partitioning (log Kow):  
Acid dissociation (pKa):  
2.68 H 9ACHB2 7TH ED.,1977  
2.93\*  
Soil sorption:  
soiltype temp. Kd Koc %om pH source reference  
1.5 R EESADV  
27 R EESADV  
160 R EESADV  
27 C 8SWAMD  
68\*  
SAND 25 0.975 134 1.256 5.0 M 6DOWCH  
SILT LOAM 25 0.571 85 1.152 7.7 M 6DOWCH  
CLAY LOAM 25 0.165 12 2.374 6.6 M 6DOWCH  
SANDY LOAM 25 0.733 33 3.84 7.5 M 6DOWCH  
Field Dissipation halflife(days):  
value test area pH source reference  
46 H 9HERBH  
30-90 H 9ACHB2  
35(15-84)\*  
15 NOVA SCOTIA M 6DOWCH  
35 BARE SOIL(CA) M 6DOWCH  
36 GRASS(CA) M 6DOWCH  
18-84(av.46) GA,ND,OR,TX,WV WY M 6DOWCH  
26 ONTARIO M 6DOWCH  
43 MS  
Halflife in soil:  
Soiltype aerobic anaerobic source reference

	32*		
SILT LOAM	18	M	6DOWCH
SILTY CLAY LM	8	M	6DOWCH
SILT LOAM	69	M	6DOWCH

Comments:

WATER SOLUBILITY VALUE 2.1E06(AMINE)  
 SOIL SORPTION KOC VALUE=68(12-160); AEROBIC 32=8-69

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: TRICYCLAZOLE** **CASRN: 41814-78-2**

molecular formula: C9H7N3S  
 molecular weight: 189.2  
 physical state: S  
 (L=liquid; G=gas; S=solid)  
 reference: 9PMED9

Key to sources: (M)Manufacturer, (R)eview, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nkown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference	
-----	-----	-----	--	-----	-----	
Boiling point (deg C):						
Melting point (deg C):						
187 - 188				H	9PME10	
Decomposition point (deg C):						
Heat of vaporization (deg C):						
--RATE CONSTANTS--						
Hydrolysis (per day):						
Photolysis (per day):						
Vapor pressure (mPa):						
0.027		25		H	9PMED9	
Water solubility (ppm):						
1600*		25		H	9PMED9	
				H	9ACHB2 1983	
700		25		H	9FACHB 1990	
Organic solubility (ppm):						
1.04E4	ACETONE	25		H	9PME10	
2.5E4	METHANOL	25		H	9PME10	
2100	XYLENE	25		H	9PME10	
Henry's law (Pa m <sup>3</sup> /mol):						
3.19E-6		25		H	9PMED9	
Octanol/water partitioning (log Kow):						
1.40				H	9PMED9	
Acid dissociation (pKa):						
1.6				E	JAFCAU 30: 584-588 (1982)	
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			8			9PMED9
						CMSHAF 10: 833-846 (1981)
			1259			6GERST
			1149			JAFCAU 30: 584-588 (1982)
			951			JAFCAU 30: 584-588 (1982)
			945			JAFCAU 30: 584-588 (1982)
			832			JAFCAU 30: 584-588 (1982)
			1135			JAFCAU 30: 584-588 (1982)
LOAMY SAND		4	459	1.5	6.5	9PME10
LOAM		45	2497	3.1	5.7	9PME10
CLAY LOAM		21	1901	1.9	7.5	9PME10

SILTY CLAY LOAM	22	923	4.1	5.7	9PME10
Field dissipation halflife(days):					
value	test area		pH	source	reference
-----	-----		--	-----	-----
21				H	9PMED9
Halflife in soil:					
soiltype	aerobic	anaerobic		source	reference
-----	-----	-----		-----	-----

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRIDIPHANE** **CASRN: 58138-08-2**

molecular formula: C10H7CL5O  
 molecular weight : 320.4  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9ACHB2

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

---

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
42.8	-			H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
0.0087*		35	5-9	M	6DOWCH
Photolysis (per day):					
0.019*	WATER	25		M	6DOWCH
Vapor pressure (mPa):					
29*		25		H	9ACHB2
				H	9ACHB2 7TH ED.,1989
Water solubility (ppm):					
1.8*		22			
0.9				C	8GLEAM
1.8		21		H	9HERBH 6TH ED.,1989
1.8		25		H	9ACHB2
Organic solubility (ppm):					
9.1E6*	ACETONE			H	9PMED8
5.6E6*	CHLOROBENZENE			H	9PMED8
7.1E6*	DICHLOROMETHANE			H	9PMED8
9.8E5*	METHANOL			H	9PMED8
4.6E6*	XYLENE			H	9PMED8
Henrys law (Pa m3/mol):					
5.16*					
Octanol/water partitioning (log Kow):					
4.3*				M	6DOWCH
Acid dissociation (pKa):					
Soil sorption:					
soiltype	temp.	Kd	Koc	%om	pH
			5600*		
				M	6DOWCH
Field Dissipation halflife(days):					
value	test area		pH	source	reference
70				C	8GLEAM

28 H 9HERBH 6TH ED.,1989

49(28-70)\*

Half-life in soil:

Soiltype	aerobic	anaerobic	source	reference
	26*		M	6DOWCH

Comments:

AEROBIC VALUE26=18-35 25 DEGREES C.

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: TRIFLUMIZOLE

CASRN: 99387-89-0

molecular formula: C15H15CLF3N3O

molecular weight: 345.7

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

Key to sources: (M)Manufacturer, (R)review, (H)handbook, (E)experiment, (C)calculated, (U)unknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----

Boiling point (deg C):

Melting point (deg C):

63.5 H 9PME10

Decomposition point (deg C):

Heat of vaporization (deg C):

--RATE CONSTANTS--

Hydrolysis (per day):

Photolysis (per day):

0.574 SUNLIGHT-WATER H 9PME10

Vapor pressure (mPa):

0.186 25 H 9PME10

Water solubility (ppm):

12500 20 H 9PMED9  
H 9ACHB2 1983

Organic solubility (ppm):

2.22E6 CHLOROFORM 20 H 9PME10

1.76E4 HEXANE 20 H 9PME10

6.39E5 XYLENE 20 H 9PME10

1.44E6 ACETONE 20 H 9PME10

4.96E5 METHANOL 20 H 9PME10

Henry's law (Pa m3/mol):

0.346 H 9PME10

Octanol/water partitioning (log Kow):

1.4 25 H 9PME10

Acid dissociation (pKa):

3.7 25 H 9PMED9

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----

			15			9PMED9
			1083-			CMSHAF 10: 833-846 (1981)
			1663			9PME10
			1400*			

Field dissipation half-life(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----



14 CLAY H 9PMED9  
 Halflife in soil:  
 soiltype aerobic anaerobic source reference  
 -----

Comments:

ARS PESTICIDE PROPERTIES last update May 1999

name:TRIFLURALIN CASRN: 1582-09-8

molecular formula: C13H16F3N3O4  
 molecular weight : 335.28  
 physical state : S  
 (L=liquid; G=gas; S=solid)  
 reference: 9HERBH,5,471,1983

Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
 (C)alculated, (U)nknown, (P)EPA data, (W)auchope  
 \* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
48.5		49		H	9HERBH,1983
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
<0.022*		25-	3-9	M	6DOWCH
Photolysis (per day):					
0.0105*	SOIL	25		M	6DOWCH
1.8*	WATER	25		M	6DOWCH
Vapor pressure (mPa):					
14.6*		25		H	9HERBH
6.7		20		R	9HRLCP
29.2		29		E	ADCSAJ 86:48,1969
32.2		30		E	JAFCAU 31(2):213,1983
14.3		25		E	JAFCAU 32(3):640,1984
Water solubility (ppm):					
0.6				E	EESADV
0.2				M	8HOECH
<1		27		H	9ACHB2 1983 ED.
1				E	ETOC DK 8:339-357,1989
0.32*		25		E	RREVAH 85:24,1983
0.70		25		E	RREVAH 85:24,1983
0.75		25		E	JPFCD2,B19(3):302,1984
Organic solubility (ppm):					
4E05*	ACETONE	27C		H	9PMED8
4E05*	ACETONE	27		M	6DOWCH
5.8E+5*	XYLENE	27		H	9PMED8
Henrys law (Pa m3/mol):					
1.53*				M	6DOWCH
Octanol/water partitioning (log Kow):					
5.33				E	ESTHAG, 22(3):273,1988
5.28				E	JEVQAA, 10(3):384,1981
4.19				E	JPFCD2, B19(3):303,1984
3.97		20		E	JARJA9, 17(3):176,1983
5.07*		20			
Acid dissociation (pKa):					
Soil sorption:					

soiltype	temp.	Kd	Koc	%om	pH	source	reference
			7300			E	JEFQAA 16:422-428,1987
			4600			E	JAFCAU 29:1050-1059,1981
			2500			E	JAFCAU 29:1050-1059,1981
			13700			R	EESADV
			5800			R	EESADV
			3900			R	8AOACA
			1200			C	8GLEAM
			7950			E	ETOC DK 8:339-357,1989
			7000				
			8740			M	8HOECH
			9850			R	8INSFO
			7200*				
SAND	25	18.6	6400	0.5	7.7		
SANDY LOAM	25	54.8	6800	1.4	5.7		
LOAM	25	88.3	8500	1.8	6.5		
CLAY LOAM	25	155.6	13600	2.0	6.9		

Field Dissipation halflife(days):

value	test area	pH	%OM	source	reference
60				C	8GLEAM
60-90				H	9ACHB2 1983 ED.
132				E	JEVQAA 16:533-538,1987
83				E	ETOC DK 8:339-357,1989
70				R	8INSFO
81(15-132)*					
15-29	IL				
35-86	GA				
149	CA				

Halflife in soil:

Soiltype	aerobic	anaerobic	source	reference
	169*			
SANDY LOAM	189		M	6DOWCH
LOAM	116		M	6DOWCH
CLAY LOAM	201		M	6DOWCH

Comments:  
SOIL SORPTION KOC VALUE=7200(1200-13700);AEROBIC 169=116-189

## Pesticide Properties Database - Data Entered May 1999

**Name:** Triflurosulfuronmethyl

**CASRN:** 126535-15-7

**Molecular Formula:** C 17 H 19 F3 N6 O6 S

**Molecular Weight:** 492.4

**Physical State:** S

(L=Liquid, G=Gas, S=Solid)

**Reference:** DuPont

**Key to sources:** (M)anufacturer, (H)andbook, (R)evue, (E)xperiment, (C)alculated,  
(U)nknown, (E)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed

**Boiling Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Melting Point (deg C):**

Value	Medium	Temp	pH	Source	Reference
155-158				M	DuPont

**Decomposition (deg C):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Hydrolysis(per day):**

Value	Medium	Temp	pH	Source	Reference
0.189	Water	25	5	M	DuPont
0.0214	Water	25	7	M	DuPont
0.019	Water	25	9	M	DuPont

**Photolysis (per day):**

Value	Medium	Temp	pH	Source	Reference
0.055	Soil	25	7.8	M	DuPont
0.224	Water	25	5	M	DuPont
0.006	Water	25	7	M	DuPont
0.002	Water	25	9	M	DuPont

**Vapor Pressure (mPa):**

Value	Medium	Temp	pH	Source	Reference
<1.33E-2		25		M	DuPont

**Water Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
2.7	Water	25	5	M	DuPont
110	Water	25	7	M	DuPont
11000	Water	25	9	M	DuPont

**Organic Solubility (ppm):**

Value	Medium	Temp	pH	Source	Reference
-------	--------	------	----	--------	-----------

**Henry's Law Constant (Pa /mol):**

Value	Medium	Temp	pH	Source	Reference
<2.43E-3		25	5	M	DuPont
<5.97E-5		25	7	M	DuPont
<5.97E-7		25	9	M	DuPont

**Octanol/Water Partitioning(log Kow):**

Value	Medium	Temp	pH	Source	Reference
2.34		25	5	M	DuPont
0.96		25	7	M	DuPont
-0.07		25	9	M	DuPont

**Acid Dissociation Constant (pKa):**

Value	Medium	Temp	pH	Source	Reference
14.4				M	DuPont

**Soil Sorption:**

Soil Type	Temp	Kd	Koc	%OM	pH	Source	Reference
Sandy loam	25	0.46	32	2.5	7.3	M	DuPont
Sandy loam	25	0.57	150	0.7	6.2	M	DuPont
Silty clay	25	1.60	59	4.7	7.4	M	DuPont
Silt loam	25	0.47	60	1.4	8.2	M	DuPont
Loamy sand	25	0.80	42	3.3	5.9	M	DuPont

**Field Dissipation Half-life(days):**

Value	Test Area	pH	%OM	Source	Reference
3.3	ID	8.2	1.8	M	DuPont
2.9	ND	7.6	5.4	M	DuPont
6.6	CA	6.6	0.6	M	DuPont

**Half-life in Soil(days):**

Soil Type	Aerobic	Anaerobic	Source	Reference
Sandy loam (UK)	6		M	DuPont
Loamy sand (Germany)	6.3		M	DuPont
Sandy loam (Denmark)	5.5		M	DuPont
Loamy sand (Germany)	14.4		M	DuPont
Silt (Germany)	6.1		M	DuPont

Comments:

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**ARS PESTICIDE PROPERTIES last update May 1999**

**name: TRIFORINE**

**CASRN: 26644-46-2**

molecular formula: C10H14CL6N4O2

molecular weight : 435.0

physical state : S

(L=liquid; G=gas; S=solid)

reference: 9PME10

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Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
155	-			H	9PME10
Decomposition point(deg C):					
155	-			H	9PME10
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
0.026		20		H	9ACHB2 1983 ED.

0.027*		25		H		9PME10
Water solubility (ppm):	-temp-		-source-		-reference-	
9		20		H		9PME10
6*		20		H		9ACHB2 7TH ED.,1989
Organic solubility (ppm):						
1.1E+4*	ACETONE	25		H		9PMED8
1E+3*	BENZENE	25		H		9PMED8
1E03*	DICHLOROMETHANE	25		H		9PMED8
3.3E05*	DIMETHYLFORMAMIDE	25		H		9PMED8
1E04*	METHANOL	25		H		9PMED8
4.8E05*	1-ME,PYRROLID-2-ONE	25		H		9PMED8
Henry's law (Pa m3/mol):						
0.00188*		20				
Octanol/water partitioning (log Kow):						
2.2				H		9PME10
Acid dissociation (pKa):						
Soil sorption:						
soiltype	temp.	Kd	Koc	%om	pH	reference
			527*			CMSHAF 10:833-845,1981
Field Dissipation halflife(days):						
value	test area		pH	source		reference
21*				E		JPFCD2 22:55-69,1987
Halflife in soil:						
Soiltype	aerobic	anaerobic		source		reference
Comments:						

**ARS PESTICIDE PROPERTIES last update May 1999**

**name:TRIMETHACARB** **CASRN: 2686-99-9**  
molecular formula: C11H15NO2  
molecular weight : 193.2  
physical state : S  
(L=liquid; G=gas; S=solid)  
reference: 9ACHB2

Key to sources: (M)Manufacturer, (R)review, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkknown, (P)EPA data, (W)auchope  
\* denotes a selected value where multiple values of a property are listed.

-value-	-medium-	-temp-	-pH-	-source-	-reference-
Boiling point(deg C):					
-					
Melting point(deg C):					
105	-	114		H	9ACHB2
Decomposition point(deg C):					
-					
Heat of vaporization(deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
6.7*		23		H	9FACHB
6.8		25		H	9ACHB2
Water solubility (ppm):	-temp-		-source-		-reference-
58*		23		H	9ACHB2
				H	9FACHB 1990
Organic solubility (ppm):					
Henry's law (Pa m3/mol):					
2.23E-02*		23		H	9ACHB2
Octanol/water partitioning (log Kow):					

Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
			356			CMSHAF 10:833-845,1981

Field Dissipation halflife(days):

value	test area	pH	source	reference
ca60			H	9ACHB2
20*				

Halflife in soil:

Soiltype	erobic	anaerobic	source	reference
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Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: VINCLOZOLIN**

**CASRN: 50471-44-8**

molecular formula: C12H9CL2NO3

molecular weight: 286.1

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
131 AT 0.05 MM HG				H	9PME10
Melting point (deg C):					
108(TECH)				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
STABLE AT NEUTRAL AND WEAKLY ACIDIC PH'S					
4.38			13	H	9PME10
Photolysis (per day):					
Vapor pressure (mPa):					
0.016*		20		H	9PMED9
0.35				P	6USEPA
0.011		20		H	9ACHB2 1983
Water solubility (ppm):					
3.4*		20		H	9PMED9
2.6		20		H	9FACHB 1993
				P	6USEPA
Organic solubility (ppm):					
1.4E4	ETHANOL	20		H	9PME10
4.35E5	ACETONE	20		H	9PME10
2.53E5	ETHYL ACETATE	20		H	9PME10
9000	CYCLOHEXANE	20		H	9PME10
6.3E4	DIETHYL ETHER	20		H	9PME10
1.46E5	BENZENE	20		H	9PME10
1.10E5	XYLENE	20		H	9PME10
CA.5.40E5	CYCLOHEXANONE	20		H	9PME10
3.19E5	CHLOROFORM	20		H	9PME10

Henrys law (Pa m3/mol):

1.35E-3	20	H	9PMED9
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Octanol/water partitioning (log Kow):

3.0 7 H 9PME10  
Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			47			9PMED9
			43000			6USEPA
			103-			6USEPA
			1678			
			100			
			100-			9PME10
			735			
			500*			

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
75		5.7	E	PSSCBG 21: 219-231 (1987)
30-35		6.5	E	PSSCBG 21: 219-231 (1987)
25-49		6.8	P	6USEPA
3-4			P	6USEPA
14-30			M	6BASFC 1993
14*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

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ARS PESTICIDE PROPERTIES DATABASE last update May 1999

name: ZINEB

CASRN: 12122-67-7

molecular formula: [C4H6N2S4Zn]x

molecular weight: 275.8(monomer)

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PMED9

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Key to sources: (M)Manufacturer, (R)evue, (H)andbook, (E)xperiment,  
(C)alculated, (U)nkown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

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value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
Decomposition point (deg C):					
157				H	9PME10
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
<0.01		20		H	9PMED9
				H	9ACHB2 1983
Water solubility (ppm):					
10		RT		H	9PMED9
				H	9ACHB2 1983
Organic solubility (ppm):					
INSOLUBLE IN MOST ORGANIC SOLVS.				H	9PME10
Henrys law (Pa m3/mol):					
Octanol/water partitioning (log Kow):					

<1.3 20 H 9PME10  
Acid dissociation (pKa):

Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			1260			9PMED9
			308-			CMSHAF 10: 833-846 (1981)
			1159			6USEPA
			1000*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
43			P	6USEPA
23			R	6RENCT 99: 83-117 (1987)
30*			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
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Comments:

ARS PESTICIDE PROPERTIES DATABASE last update May 1999

**name: ZIRAM CASRN: 137-30-4**

molecular formula: C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>S<sub>4</sub>Zn

molecular weight: 305.8

physical state: S

(L=liquid; G=gas; S=solid)

reference: 9PME10

Key to sources: (M)Manufacturer, (R)evuew, (H)andbook, (E)xperiment,  
(C)alculated, (U)nknown, (P)EPA data, (W)auchope

\* denotes a selected value where multiple values of a property are listed.

value	medium	temp.	pH	source	reference
-----	-----	-----	--	-----	-----
Boiling point (deg C):					
Melting point (deg C):					
246				H	9PME10
Decomposition point (deg C):					
Heat of vaporization (deg C):					
--RATE CONSTANTS--					
Hydrolysis (per day):					
Photolysis (per day):					
Vapor pressure (mPa):					
<0.001*				H	9PME10
0.01				P	6USEPA
Water solubility (ppm):					
65		25		H	9PMED9
				H	9FACHB 1993
				H	9ACHB2 1983
0.03*		20		H	9PME10
Organic solubility (ppm):					
SOLUBLE IN CHLOROFORM, CS <sub>2</sub>					
Henry's law (Pa m <sup>3</sup> /mol):					
<0.010				H	9PME10
Octanol/water partitioning (log Kow):					
1.086				H	9PME10
Acid dissociation (pKa):					



Soil sorption:

soiltype	temp.	Kd	Koc	%om	pH	reference
-----	-----	--	---	---	--	-----
			440			ESTHAG 14: 553-556 (1980)
			370			W
			400*			W

Field dissipation halflife(days):

value	test area	pH	source	reference
-----	-----	--	-----	-----
30			W	

Halflife in soil:

soiltype	aerobic	anaerobic	source	reference
-----	-----	-----	-----	-----

Comments: