INTERIM REPORT OF THE PESTICIDE CHEMISTRY DATABASE 1995

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ABSTRACT

I. Background

The Pesticide Chemistry Database (PCD) contains information on the physical and chemical properties of pesticide active ingredients: solubility, vapor pressure, hydrolysis half-life, Henry's Law contant, anaerobic soil metabolism half-life, aerobic soil metabolism half-life, field dissipation half-life, soil adsorption coefficient, and the octanol-water partition coefficient. This information is extracted from environmental fate studies conducted by pesticide manufacturers and formulaters in compliance with the requirements of California's pesticide registration process. The primary use of the PCD is to test pesticide active ingredients against specific numerical values for pesticide properties in accordance with the provisions of the Pesticide Contamination Prevention Act. Specific numerical values are used to identify pesticides with the potential to pollute groundwater.

II. Quality Control Studies

Fifty vapor pressure, hydrolysis, anaerobic soil metabolism, aerobic soil metabolism and field dissipation records were randomly selected from the PCD and checked against the original studies for errors in vapor pressure value and temperature, hydrolysis half-life, pH and temperature, and half-lives for anaerobic soil metabolism, aerobic soil metabolism and field dissipation. The proportion of records containing errors for each physical or chemical parameter and the resulting 95% confidence interval was 0.12 (0.04 – 0.24) for vapor pressure records, 0.16 (0.06 – 0.29) for hydrolysis, 0.1 (0.03 – 0.22) for anaerobic soil metabolism records, and 0.26 (0.14 – 0.41) for aerobic soil metabolism records. No errors were found in the fifty field dissipation records. The hypothesis that records with errors were older than error-free records was tested by analyzing dates of entry. Z-test analyses using SigmaStat® procedures showed that mean original dates of data entry for records with errors was not significantly different from that of records without errors. The power of the performed tests ($\alpha = 0.05$), however, was low in each case ranging from 0.0426 to 0.115. These results suggest inadequate sample sizes to test the hypothesis. As resources allow, all records in the PCD will be reviewed to correct as many errors as possible. A revised edition of this report will be published in the future.

III. The PCD Summary Download

The PCD summary download table lists the arithmetic means of physical and chemical parameter values. Restrictions applicable to the computation of the means are listed and limitations of the data are discussed.

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DISCLAIMER

The mention of commercial products, their source or use in connection with material reported herein is not to be construed as either an actual or implied endorsement of product.

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I. BACKGROUND

The Pesticide Chemistry Database (PCD) was created in 1986 to serve as a depository for environmental fate data on the physical and chemical characteristics of pesticide active ingredients, as required by statutory law (Stats. 1985, ch. 1298, § 1). The Pesticide Contamination Prevention Act added Article 15 (beginning with § 13141) to Chapter 2 of Division 7 of the Food and Agricultural Code, relating to groundwater contamination. The purpose of the Act is to prevent further pesticide pollution of the groundwater aquifers of the State which may be used for drinking water. Pursuant to section 13143(a), registrants of economic poisons registered in California for agricultural use are required to submit the following data on the environmental fate characteristics of each pesticide active ingredient :

1. Water solubility
2. Vapor pressure
3. Octanol-water partition coefficient (K_{ow})
4. Soil adsorption coefficient (K_d)
5. Henry's law constant (K_h)
6. Aerobic and anaerobic soil metabolism half-lives
7. Hydrolysis half-life
8. Photolysis half-life
9. Field dissipation half-life

Section 13142 defines the K_d as "...a measure of the tendency of economic poisons...to bond to the surfaces of soil particles". The K_h is defined as "...an indicator of the escaping tendency of dilute solutes from water and is approximated by the ratio of the vapor pressure to the water solubility at the same temperature".

Field dissipation studies must be conducted under California or similar environmental use conditions. The Act requires that studies conducted to develop these data must, at a minimum, meet the testing methods and reporting requirements provided by the Environmental Protection Agency Pesticide Assessment Guidelines – Subdivision D, Series 60 – 64 for product chemistry, and Subdivision N, Series 161 – 164 for environmental fate.

The PCD serves as a resource to gain an understanding the environmental fate of pesticides, and set research and monitoring priorities for field studies. It is primarily used to test pesticide active ingredients against specific numerical values (SNVs) for six physical and chemical characteristics of environmental fate in accordance with the provisions of section 13144(a): water solubility, the organic soil adsorption coefficient (K_{oc}), hydrolysis half-life, aerobic and anaerobic soil metabolism half-lives, and field dissipation half-life. These parameters are presumed by the Act to correlate with the potential of a pesticide to leach to groundwater. Relative mobility in soil is indicated by a pesticide's water solubility and K_{oc}, while hydrolysis, aerobic and anaerobic soil metabolism, and field dissipation half-lives are used to indicate the relative persistence of a pesticide in soil. Pursuant to section 13144(b), a chemical is classified as a potential leacher if both mobility and the persistence parameter values exceed (or are less than in the case of K_{oc}) the SNVs required by the Act under the following logic:

(A or B) and (C or D or E or F)

where:

A = SNV for Water solubility

B = SNV for K_{oc}

C = SNV for Hydrolysis half-life

D = SNV for Aerobic soil metabolism half-life

E = SNV for Anaerobic soil metabolism half-life

F = SNV for Field dissipation half-life

SNVs currently in regulation (Food & Agr. Code, § 6804.) are:

Water solubility	3 ppm
K_{oc}	1900 cm^3/gm
Hydrolysis half-life	14 days
Aerobic soil metabolism half-life	730 days
Anaerobic soil metabolism half-life	9 days

II. QUALITY CONTROL STUDIES

Introduction

Quality control is an esssential part of database management, particularly in the case where data on physical or chemical parameters are used to model environmental fate processes. Occasional errors discovered in the PCD have resulted in questions about the reliability of the data. These errors have stemmed from incorrect calculations, incorrect transcription of data, and incorrect data entry at the terminal. Extracting information from the original studies and entering the data into the PCD is a time-consuming and detailed process that requires extensive training. Even after training and experience, it is still challenging to perform this work correctly due to the highly technical and diverse nature of the chemical information contained in the studies. Several quality control studies on a limited amount of records in the PCD have shown that the apparent error rates were not exorbitant. An overall error rate of 4.8% was found when random samples of 5 – 10% of records were checked against original registration-approved studies (Johnson et al., 1989). Regression equations have also been used as an alternative method for a quality control assessment of the PCD (Johnson et al., 1994). Two regression equations, one selected from the literature (Kenaga and Goring, 1980) and one calculated from PCD records, used the log-linear relationship between water solubility and K_{oc} to evaluate error rates in water solubility and K_{oc} outlier pairs. It was found that PCD pairs lying outside the 95% confidence limit had a 10% error rate for water solubility and a 39% error rate for K_{oc}. Error rates in the outlier pairs using the regression equation from the literature were higher. These pairs outside the 99% confidence limit had error rates of 19% and 49% for water solubility and K_{oc} respectively. When certainty in the data is required such as when environmental fate processes are modeled to predict concentrations, it is clear that records from the PCD must be checked against the original studies, particularly for physical and chemical parameters that involve more complicated studies such as K_{oc} or soil metabolism half-lives.

The objective of this quality control assessment was to determine the proportion of vapor pressure, hydrolysis, anaerobic metabolism, aerobic metabolism, and field dissipation records in the PCD containing errors; characterize the errors; and examine the effect of training and experience by determining the relationship between error rate and original date of data entry.

Methods

A total of 338 vapor pressure, 1,086 hydrolysis, 236 anaerobic soil metabolism, 372 aerobic soil metabolism, and 265 field dissipation records from studies approved by the Registration Branch of the Department of Pesticide Regulation were selected and downloaded from the PCD. The sample size (n') required to obtain an estimate of the proportion of records (P) containing errors in simple random sampling was determined for each physical/chemical parameter using the expression:

$$n' = z^2P(1-P)/\Delta^2,$$

where z = 1.645, P = 0.05, and the specified sampling error, Δ, equal to 0.05 at the 95% confidence level (Wadsworth, 1990). The resulting sample size was adjusted to take into account the finite population sizes (N) using the expression:

$$n = n'/(1 + n'/N).$$

Although the adjusted values of n were 45 for both vapor pressure and aerobic soil metabolism records, 49 for hydrolysis records, 42 for anaerobic soil metabolism records, and 43 for field dissipation records, a sample size of 50 was used for all parameters. Selected records are listed in Tables 1 through 5. The randomly selected records were checked against the original studies. Critical fields examined

for errors were vapor pressure value and corresponding temperature, hydrolysis half-life and corresponding pH and temperature, and half-lives for anaerobic soil metabolism, aerobic soil metabolism and field dissipation. The 95% confidence interval estimates in the error rates were obtained from Clopper-Pearson charts (Pearson and Hartley, 1966).

To test the hypothesis that errors were more frequent in older records, original dates of data entry were analyzed using SigmaStat® procedures. The mean original dates of data entry for records with and without errors were compared using z – tests with the Yates Correction Factor applied for continuity.

Results and Discussion

The type of error found, current listed values, and the correct values for vapor pressure are summarized in Table 6. The proportion of records containing errors was 0.12, with a 95% confidence interval of 0.04 – 0.24. Five records had incorrect vapor pressures, one listed an incorrect temperature, and one had both an incorrect vapor pressure and temperature. Errors in vapor pressure value were due to not converting to mmHg in one record, incorrectly converting to mmHg in two records, and transcribing the wrong value in one record. The source of the incorrect value entered in one record was not clear.

The proportion of hydrolysis records containing errors was 0.16, with a 95% confidence interval of 0.06 – 0.29. Seven records had incorrect half-lives, and one listed an incorrect temperature (Table 7). Errors in half-life values were due to incorrect or absent calculations in three records, transcribing the wrong value in two records, and incorrect data entry in three records.

Errors in anaerobic soil metabolism records and the correct half-lives are listed in Table 8. The proportion of records with errors was 0.10, with a 95% confidence

interval of 0.03 – 0.22. Errors in half-lives were due to miscalculations in two records, and transcribing the wrong value in two records. The source of the incorrect value entered in one record was not clear.

Errors in aerobic soil metabolism records and the correct half-lives are listed in Table 9. The proportion of records with errors was 0.26, with a 95% confidence interval of 0.14 – 0.41. Two records had unacceptable data and were originally coded as being approved studies, four records had half-life values calculated from the wrong data table, and one record had an error due to a miscalculation. Errors in six records could not be characterized.

No errors were found in the fifty field dissipation records.

Soil metabolism studies usually involve an aerobic study of the chemical followed by an anaerobic study after the soil is flooded. Aerobic soil metabolism records had the highest error rate, which may be attributed to the complex nature of the original studies. In these studies, several types of data are required that generate many data tables, some with cryptic titles and column names. Subsequently, it is difficult to determine which table and/or column to use in the regression equation for calculation of the half-life. The error rate for anaerobic soil metabolism records was less than half that of aerobic soil metabolism records. Although these types of studies are conducted in a similar manner, anaerobic studies usually have fewer data points and tables so that there is a smaller likelihood of using the wrong data column for the regression. Vapor pressure, hydrolysis, and field dissipation studies are less complex than soil metabolism studies. After interpretation of the data, there should be a lower probability for these records to contain errors. Among the less complex studies, the error rate for hydrolysis records was found to be the second highest. These records and vapor pressure records contained mainly mathematical and/or data entry errors.

The results of the z-tests (Table 10) to test the hypothesis that records with errors

were older than error-free records showed that the mean original date of data entry for records with errors was not significantly different from that of records without errors for all physical and chemical parameters. The power of the performed tests ($\alpha = 0.05$), however, was low in each case ranging from 0.0426 – 0.115. These results suggest inadequate sample sizes to detect a difference between the mean original date of data entry for records with and without errors.

Conclusions

The overall error rate for vapor pressure, hydrolysis, and soil metabolism records was 0.128 (32 errors in 250 records examined), with a high rate for aerobic soil metabolism records, a complex study. The majority of the errors originated from incorrect calculations and/or data entry.

As resources allow, all records in the PCD will be reviewed to correct as many errors as possible. A revised edition of this report will be published in the future.

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Table 1. Vapor pressure records selected from the Pesticide Chemistry Database by simple random sampling. Data entry sequence numbers are in parentheses.

2,4-D, 2 ethylhexyl ester (1)	Dichlofop-methyl (2)
2,4-D butyl ester (1)	Dimethipin (2)
Bifenthrin (1)	Diquat dibromide (4)**
Clofentezine (1)**	Disulfoton (12)
Dodemorph (3)	Fenamiphos (3)
Dodemorph (4)	Fluazifop-butyl (2)**
EPTC (8)	Flucythrinate (2)
Hydramethylnon (3)	Fluridone (1)
MCPA, dma salt (2)**	Fonofos (11)
MCPA, Na salt (1)	Lindane (7)
Thiram (1)	Linuron (8)
Acephate (4)	Malathion (7)
Alachlor (7)	Malathion (8)**
Amitraz (2)	Maleic hydrazide (1)
Amitrole (1)	Metalaxyl (1)
Atrazine (10)**	Metaldehyde (3)
Baythroid (9)	Methomyl (9)
Chlorpyrifos (12)	Oxydemeton methyl (3)
Chlorthal dimethyl (10)	Oxythioquinox (2)
Cycloate (4)	Pebulate (4)
Daminozide (14)	Phosphamidon (5)
Diazinon (10)	Piperonyl butoxide (1)
Diazinon (13)	Prometryn (7)
Diazinon (14)	Sulfometuron methyl (1)
Dichlobenil (10)	Thiabendazole (3)

**Record with errors

Table 2. Hydrolysis selected from the Pesticide Chemistry Database by simple random sampling. Data entry sequence numbers are in parentheses.

Daminozide (5)	Bensulide (7)
Dicrotophos (1)	Fluometuron (23)
Disulfoton (3)	Disulfoton (6)**
Fonofos (22)**	Fonofos (23)
Methomyl (8)	Oxythioquinox (2)
Phorate (5)	Prometryn (4)
Cycloate (5)	Butylate (6)
MCPA, dma salt (1)	Terbutryn (2)
Fenarimol (6)	Permethrin (2)
Permethrin (9)	Metalaxyl (10)
Ethalfluralin (11)**	Chloramben (7)**
Acifluorfen (6)	Acifluorfen (8)
Metsulfuron-methyl (4)	Acephate (8)
Chlorothalonil (10)	2,4 - D (5)**
Desmedipham (8)	Dichlobenil (12)**
Diflubenzuron (20)**	Endothall (6)
Endothall (8)	Oxamyl (7)
Pebulate (3)	Thiabendazole (7)
Piperonyl butoxide (1)	Propamocarb (1)
Linuron (22)	Dazomet (3)
Cyromazine (1)	Cyromazine (6)
Triclopyr, butoxyethyl ester (6)	Ethephon (3)
Thiodicarb (3)	Thiram (2)
Sulfosate (5)**	Sulfosate (6)
Fenbutatin oxide (1)	Benomyl (7)

**Record with errors

Table 3. Anaerobic soil metabolism records selected from the Pesticide Chemistry Database by simple random sampling. Data entry sequence numbers are in parentheses.

Ametryne (6)
Phorate (17)**
Simazine (12)
Picloram (24)
Picloram (26)
Picloram (27)
Chlorflurenol (3)**
Difenzoquat methyl sulfate (2)
Endothall, disodium salt (5)
Methyl bromide (7)
Metsulfuron-methyl (8)
Metsulfuron-methyl (10)
Triclopyr, be ester (2)
Sulfometuron methyl (3)
Sulfometuron methyl (5)
Sulfometuron methyl (10)
Sulfometuron methyl (12)
Phenmedipham (3)
Lambdacyhalothrin (2)
Mecoprop (3)
Triclopyr (2)
Triclopyr, tea salt (2)
Vernolate (5)
EPTC (18)
Tributyl phosphorotrithioate (3)
Chlorpyrifos (41)
Fenvalerate (4)
Cypermethrin (19)
Amitrole (5)
Amitrole (6)
Chlorsulfuron** (9)
Tebuthiuron (4)
Fenarimol (4)**
Fosetyl-Al (9)
Acephate (33)
Acephate (34)
Metaldehyde (4)
Monocrotophos (3)
Anilazine (4)
Bromacil (23)
Vinclozolin (11)
Diflubenzuron (15)
Clofentezine (12)
MCPA, dma salt (1)
Acrolein (3)**
Dienochlor (4)
Harmony (10)
Clethodim (6)
Oxamyl (34)
Trifluralin (20)

**Record with errors

Table 4. Aerobic soil metabolism records selected from the Pesticide Chemistry Database by simple random sampling. Data entry sequence numbers are in parentheses.

Captan (6)**	Chlorthal dimethyl (2)**
Chlorthal dimethyl (19)	Chlorpyrifos (16)
Chlorpyifos (33)	Fonofos (11)**
Fonofos (11)	Ethion (7)
Captafol (3)	Terbutryn (6)
Pendimethalin (4)	Thiobencarb (4)
Permethrin (5)**	Permethrin (7)**
Mepiquat chloride (1)**	Mepiquat chloride (2)**
Vinclozolin (2)	Sethoxydim (3)
Acephate (16)	Acephate (20)
Acephate (26)	Trichlorophon (1)
Chlorothalonil (24)	Chlorothalonil (28)
Chlorothalonil (4)	Methyl bromide (6)
Metiram (1)	Oxadiazon (2)
Oxadiazon (6)	Oxadiazon (7)
Prometryn (12)	Phenmedipham (1)
Diquat dibromide (14)	Oryzalin (7)**
Methyl bromide (8)	Paraquat dichloride (3)**
Bifenthrin (2)	Vinclozolin (8)
Vinclozolin (10)	Fenarimol (5)
Acrolein (2)**	Methyl parathion (11)
Pyrazon (9)	Clofentezine (6)**
Pebulate (13)	Propiconazole (5)
Fenamiphos (14)	Diclofop-methyl (16)**
Pebulate (17)	Sulprofos (8)**

**Record with errors

Table 5. Field dissipation records selected from the Pesticide Chemistry Database by simple random sampling. Data entry sequence numbers are in parentheses.

Methidathion (1)	Naptalam, Na salt (5)
Diquat dibromide (13)	Bromoxynil-octanoate (10)
Oxyfluorfen (6)	EPTC (22)
Cycloate (4)	Chlorothalonil (33)
Cycloate (5)	Benefin (14)
1,3-dichloropropene (36)	Simazine 22
Paraquat dichloride (6)	Oxadiazon (14)
Permethrin (16)	Phosmet (12)
Permethrin (18)	Sulfosate (4)
Permethrin (19)	Sulfosate (7)
Acephate (32)	Endosulfan (15)
Profenfos (2)	Dazomet (4)
Profenfos (3)	Metiram (4)
Profenfos (5)	Nitrapyrin (9)
Diazinon (13)	Nitrapyrin (12)
Molinate (11)	Nitrapyrin (14)
Thiobencarb (10)	Fenbutatin oxide (10)
Fenvalerate (9)	Vinclozolin (13)
Fenvalerate (10)	Isazophos (11)
Carbofuran (23)	Isazophos (13)
Isoxaben (1)	Napropamide (11)
Fenpropathrin (1)	Sethoxydim (11)
Chlorothalonil (31)	Sulprofos (3)
Diazinon (19)	Cyanazine (14)
Methidathion (2)	Malathion (15)

Table 6. Summary of Vapor pressure records with errors. Listed values are in mmHg.

Record	Error Type	Listed Value	Correction
Clofentezine (1)	Vapor Pressure	1.0E-09	9.75E-10
MCPA, dma salt (2)	Vapor Pressure	8.2E-07	<1.0E-07
Atrazine (10)	Vapor Pressure	1.68E-07	2.89E-07
	Temperature	22 °C	25 °C
Diquat dibromide (4)	Vapor Pressure	6.0E-08	4.0E-07
Fluazifop-butyl (2)	Vapor Pressure	3.29E-10	2.46E-07
Malathion (8)	Temperature	25 °C	35 °C

Table 7. Summary of hydrolysis records with errors. Listed values are the half-lives in days.

Record	Error Type	Listed Value	Correction
Fonofos (22)	Half-life	4.42	435
Diflubenzuron (20)	Half-life	24.7	257.7
Sulfosate (5)	Half-life	None	>32
Disulfoton (6)	Half-life	>30	1174
Chloramben (7)	Half-life	>365	>30
2,4 - D (5)	Half-life	34	>34
Dichlobenil (12)	Temp.	20 °C	22 °C
Ethalfluralin (11)	Half-life	33	>33

Table 8. Summary of anaerobic soil metabolism records with errors. Listed values are the half-lives in days.

Record	Listed Value	Correction
Phorate	6.9	14.38
Chlorsulfuron	661	66.1
Chlorflurenol	0.18	0.73
Acrolein	3.2	18.2
Fenaramol	223	>56

Table 9. Summary of aerobic soil metabolism records with errors. Listed values are the half-lives in days.

Record	Listed Value	Correction
Chlorthal dimethyl (2)	13.3	33.9
Fonofos (11)	448	Delete Record[a]
Permethrin (5)	<10.5	20.4
Permethrin (7)	<10.5	21.7
Paraquat dichloride (3)	2600	620
Acrolein (2)	0.119	0.135
Clofentezine (6)	58.0	114
Oryzalin (7)	6.33	63.3
Diclofop-methyl (16)	103	Delete Record[a]
Sulprofos (8)	3620	23.0
Mepiquat chloride (1)	85.0	34.2
Mepiquat chloride (2)	>29.0	24.2
Captan (6)	<1.0	1.06

[a]Data unacceptable

Table 10. Results of z-test analyses using the mean original dates of data entry to test the hypothesis that records with errors (G-1) are older than error-free records (G-2).

Category	Sample Size G1	Sample Size G2	Standard Error	z	p
Vapor Pressure	8	42	0.125	-0.546	0.585
Hydrolysis	3	47	0.218	0.0325	0.974
Anaerobic Metabolism	12	38	0.099	-0.330	0.741
Aerobic Metabolism	7	43	0.179	0.632	0.528

III. THE PESTICIDE CHEMISTRY DATABASE SUMMARY DOWNLOAD

Interpreting the Data

The PCD summary download table is a listing of the arithmetic mean physical and chemical parameter values from environmental fate studies submitted by registrants pursuant to the requirements of the Pesticide Contamination Prevention Act. The means in each column are expressed in scientific notation ie., the values 1000 and 0.001 would be represented respectively as 1.00E+03 and 1.00E-03. A blank column space indicates a data gap. The following restrictions were applied for the records used in the computation of the mean values:

1. Solubility Records - Temperatures between 20 and 30 °C
2. Vapor Pressure Records - Temperatures less than 30 °C
3. Hydrolysis Half-life Records - Temperatures between 20 and 30 °C and pH between 6.5 and 7.5

A complete listing of all records in the PCD is located in the Appendix.

Limitations of the Data

The mean parameter values can be used to gain an understanding of a chemical's fate in the environment, set research and monitoring priorities, and/or design laboratory or field experiments. When more precise values are needed, such as when modelling environmental fate processes to predict concentrations in various environmental compartments, the following caveats should be considered:

1. The overall error rate determined in the preceding quality control studies for vapor pressure, hydrolysis, and anaerobic and aerobic soil

metabolism records was 0.128. In general, high error rates are found for records involving complex studies like K_{oc} or aerobic soil metabolism determinations.

2. Mean values from K_{oc}, field dissipation, and soil metabolism studies are averaged over many different soil types, % soil moistures, and other soil characteristics.
3. Mean values do not represent any specific temperature and pH condition.

SUMMARY DOWNLOAD TABLE

Solubility Data for the Download Table follows.

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
2,4-D		1.40E-07	1.33E+02	3.92E+01
2,4-D Dimethylamine Salt		1.32E-10	1.00E+00	
2,4-D Isooctyl Ester				8.92E-01
2,4-d, 2-ethylhexyl ester		3.60E-06	6.02E+05	
2,4-d, butyl ester		6.80E-05	2.51E+04	
4(2,4-db), dimethylamine salt		1.00E-07	4.20E+00	3.50E+01
DDVP		1.65E-02	3.84E+01	5.77E+00
EPTC		2.65E-02	2.20E+04	3.00E+01
MCPA, ACID		8.20E-07	1.42E+02	
MCPA, ISOCTYL ESTER				
MCPA, dimethlamine salt		1.00E-07	1.00E+00	
MCPA, na salt		1.00E-07	1.00E-05	
MCPP, Potassium Salt				
acephate		2.66E-07	1.27E-01	1.69E+02
acifluorfen, sodium salt			2.10E+01	5.60E+01
acrolein		2.40E+02	1.10E+00	1.40E+00
alachlor			1.22E+03	3.00E+01
aldicarb		2.90E-05	1.41E+01	2.80E+01
ametryne		2.74E-06	4.23E+02	2.80E+01
amitraz		2.55E-06	3.00E+05	8.07E+00
amitrole		4.40E-07	1.08E-01	3.40E+01
anilazine			1.05E+03	1.91E+01
asulam, sodium salt			3.12E+00	
atrazine		2.34E-07	4.50E+02	3.00E+01
avermectin				
azinphosmethyl		1.60E-06	3.60E+02	1.93E+01
baythroid		3.24E-08	5.49E+05	1.93E+02
bendiocarb		3.50E-05	5.22E+01	2.02E+00
benefin		6.57E-05	1.95E+05	3.00E+01
benomyl		3.73E-08		6.25E-02
bensulfuron methyl		1.00E-07		
bensulide		8.00E-07	1.65E+04	2.20E+02
bentazon			1.83E+00	3.00E+01
bifenox		1.00E-07	3.00E+04	
bifenthrin		1.63E-07	1.00E+06	
bromacil		3.10E-07		3.00E+01
bromoxynil -butyrate		1.38E-04		5.20E+01
bromoxynil -octanonate		1.39E-06		2.80E+01

Pesticide Chemistry Database
Summary Download

Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
2,4-D		6.60E+01	5.93E+01	7.52E-01	1.76E-12
2,4-D Dimethylamine Salt			3.08E+01		3.81E-14
2,4-D Isooctyl Ester					
2,4-d, 2-ethylhexyl ester					1.80E-05
2,4-d, butyl ester					2.64E-06
4(2,4-db), dimethylamine salt	2.69E+02	2.45E+01	2.43E+01	1.50E+00	5.50E-14
DDVP					3.06E-07
EPTC	6.45E+01	4.21E+01	3.52E+00	1.99E+00	1.85E-05
MCPA, ACID					5.50E-10
MCPA, ISOCTYL ESTER			1.58E+01		
MCPA, dimethlamine salt	1.87E+03	2.40E+01	1.47E+01	6.66E-01	3.19E-14
MCPA, na salt					8.32E-14
MCPP, Potassium Salt			9.21E+00		
acephate	5.82E+00	2.79E+00	1.69E+00	3.39E-02	8.83E-14
acifluorfen, sodium salt					
acrolein	7.52E+00	1.58E-01		7.63E-01	1.33E-04
alachlor	5.40E+00	2.00E+01	6.00E+00	1.55E+00	2.48E-08
aldicarb	1.84E+00	1.78E+00	5.63E+01	1.00E+00	1.23E-09
ametryne	1.89E+02	3.69E+01		3.45E+00	2.49E-09
amitraz	4.35E-01	2.00E-01	1.00E+00	2.77E+01	1.06E-05
amitrole	1.20E+02	3.70E+00		2.32E+00	1.32E-13
anilazine	4.06E+01	1.41E+00		2.06E+01	2.80E-10
asulam, sodium salt				1.47E+00	
atrazine	1.59E+02	1.46E+02	8.59E+01	1.13E+00	1.97E-09
avermectin	1.43E+02		3.10E+01		
azinphosmethyl	6.80E+01	4.40E+01	8.12E+00	8.40E+00	2.55E-08
baythroid	3.36E+01	5.95E+01		1.37E+02	4.98E-06
bendiocarb		3.45E+00		8.08E-01	2.50E-08
benefin	1.50E+01	5.10E+01	1.24E+02	7.95E+01	2.92E-04
benomyl	1.00E+00	7.92E-01		3.96E+01	
bensulfuron methyl				7.63E+00	1.86E-15
bensulide	2.01E+03	4.32E+02	1.52E+01	1.07E+02	7.52E-08
bentazon	3.65E+02	4.00E+01	4.81E+00	1.71E+00	
bifenox		2.02E+01			1.13E-07
bifenthrin	1.80E+02	1.23E+02	1.44E+02	3.57E+03	7.20E-03
bromacil	7.25E+01	3.47E+02	1.46E+02	1.95E-01	1.23E-10
bromoxynil -butyrate				5.19E+00	2.35E-06
bromoxynil -octanonate	4.15E+00	2.82E+00	4.31E+00		9.21E-06

Pesticide Chemistry Database
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Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
buprofezin				
butylate		1.02E-02	1.40E+04	5.33E+02
cacodylic acid			4.13E-01	3.50E+01
captafol				
captan		7.78E-08	6.05E+02	
carbaryl		1.17E-06	7.08E+01	1.20E+01
carbendazim			2.90E+01	
carbofuran			2.15E+01	
carboxin		2.76E-07		
chloramben				3.65E+02
chlorflurenol			2.40E+00	
chlorobenzilate				
chlorophacinone				4.50E+01
chloropicrin		1.98E+01	2.69E+02	1.91E+02
chlorothalonil		2.00E-06	7.62E+02	4.90E+01
chlorpropham		5.80E-05	1.12E+03	
chlorpyrifos		1.63E-05	5.01E+04	7.21E+01
chlorsulfuron		2.27E-11	7.80E-01	1.30E+03
chlorthal dimethyl		2.50E-06	1.71E+03	
cimectacarb		2.23E-05	3.08E+02	4.56E+02
clethodim		1.00E-07	6.59E+03	3.00E+01
clofentezine		9.75E-10	1.24E+04	1.43E+00
coumaphos				7.29E+02
cryolite				
cyanazine		3.20E-08	1.27E+02	3.68E+03
cycloate		1.60E-03	1.27E+04	3.00E+01
cyhexatin		1.40E-12	6.97E+04	2.80E+01
cypermethrin		1.30E-09	3.98E+06	3.80E+02
cyromazine				2.80E+01
daminozide		1.70E-04	3.20E-02	3.00E+01
dazomet		9.36E-09		1.46E-01
desmedipham		3.00E-09	3.22E+03	8.17E-01
diazinon		9.07E-05	1.98E+03	1.38E+02
dicamba		9.24E-06	3.51E+00	3.00E+01
dichlobenil		7.64E-04	5.50E+02	1.81E+03
dichloran		1.97E-06	1.58E+02	7.20E+01
diclofop-methyl		1.88E-06	3.55E+00	2.14E+01
dicofol		3.95E-07	1.90E+02	2.75E+00
dicrotophos				7.20E+01

Pesticide Chemistry Database
Summary Download

Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
buprofezin				9.84E+01	
butylate	6.36E+01	6.95E+01	1.23E+01	4.77E+00	4.40E-05
cacodylic acid	3.65E+02			1.45E+01	
captafol	2.20E+00	9.85E+00			
captan	6.93E-01	6.93E+00	4.05E+00		6.20E-09
carbaryl	8.66E+01	5.50E+00	9.49E+00	2.66E+00	2.74E-09
carbendazim			9.00E+01		
carbofuran	1.97E+01	2.21E+01	3.04E+01		
carboxin					
chloramben					
chlorflurenol	7.30E-01	7.50E-02			
chlorobenzilate				3.35E+01	
chlorophacinone					
chloropicrin		2.75E+00		2.47E-01	2.51E-03
chlorothalonil	7.60E+00	4.53E+01	6.00E+01	1.57E+01	1.40E-07
chlorpropham					2.37E-06
chlorpyrifos	1.36E+02	1.13E+02	4.50E+01	1.25E+02	6.60E-06
chlorsulfuron	1.62E+02	2.79E+01	2.22E+01	4.15E-01	1.54E-15
chlorthal dimethyl		2.65E+01	3.48E+01	2.93E+01	2.20E-06
cimectacarb	1.31E+01		1.34E+00		1.24E-09
clethodim	1.91E+02	2.32E+00	3.09E+00	4.76E-01	1.58E-10
clofentezine	4.47E+01	7.23E+01	3.32E+01		1.88E-07
coumaphos		2.97E+03			
cryolite				1.56E+01	
cyanazine	1.08E+02	1.54E+01	3.03E+01	1.17E+00	6.60E-11
cycloate	1.09E+02	4.31E+01	1.07E+01	8.52E+01	4.76E-06
cyhexatin					
cypermethrin	9.42E+01	1.10E+03		7.97E+01	2.50E-07
cyromazine				1.44E+01	5.41E-14
daminozide					
dazomet	1.41E+01	7.50E-01	7.29E-01		2.57E-10
desmedipham		9.46E+01	2.67E+01	6.23E+00	1.30E-10
diazinon	1.56E+01	3.97E+01	1.42E+01	1.46E+01	8.70E-07
dicamba	8.81E+01	9.65E+00	8.65E+00	1.74E-02	4.43E-10
dichlobenil				9.02E-04	1.09E-05
dichloran	6.62E+01	5.49E+02		1.29E+01	5.11E-08
diclofop-methyl	6.30E-01	3.56E+01	3.54E+01	1.35E+02	
dicofol	1.59E+01	6.64E+01	6.56E+01	5.64E+01	2.35E-07
dicrotophos		5.00E+00		1.24E+00	

Pesticide Chemistry Database
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Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
didecyldimethylammoniumchlorid				
dienochlor		2.16E-06	1.71E+03	9.34E+01
diethatyl ethyl		1.82E-05	3.61E+03	3.25E+01
difenzoquat methyl sulfate		1.00E-07	1.35E+00	
diflubenzuron		9.30E-10	7.76E+03	2.58E+02
diiodomethyl-p-tolyl sulfone			4.62E+02	
dimethipin		3.80E-07		
dimethoate		1.85E-06	5.06E+00	6.79E+01
dinoseb				
diphenamid		1.15E-06	2.03E+02	3.10E+01
diquat dibromide		5.95E+00		3.00E+01
disulfoton		7.07E-05	8.91E+03	1.77E+02
dithiopyr		3.96E-06	5.63E+04	
diuron		6.90E-08	6.98E+02	1.29E+03
dodecylquanidine hydrochloride				
dodemorph		1.14E-04	9.07E+03	3.81E+03
endosulfan		9.56E-06	5.84E+04	1.48E+01
endothall, disodium salt		3.92E-05	8.00E-03	3.60E+01
esfenvalerate				
ethalfluralin		8.80E-05	1.29E+05	
ethephon				2.43E+00
ethion				3.00E+01
ethofumesate		4.90E-06	4.88E+02	2.90E+03
ethoprop		3.80E-04	3.89E+03	4.49E+02
fenamiphos		2.42E-05	1.64E+03	3.01E+02
fenarimol		2.19E-07	4.90E+03	
fenbutatin oxide		1.80E-11	1.40E+05	6.25E+02
fenoxaprop-ethyl		3.20E-08	1.92E+04	7.51E+01
fenpropathrin		2.15E-06	1.11E+03	5.56E+02
fensulfothion		1.97E-06		1.44E+02
fenthion				4.13E+01
fenvalerate		1.50E-09	2.09E+05	3.00E+01
fluazifop-butyl		3.29E-10	3.16E+04	
flucythrinate		8.70E-09	5.50E+04	
fluometuron		9.38E-07	2.42E+02	4.69E+02
fluridone		1.20E-07	9.86E+02	
flurprimidol		3.64E-07		1.53E+05
flutolanil				
fluvalinate		5.40E-07	1.71E+04	3.85E+01

Pesticide Chemistry Database
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Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
didecyldimethylammoniumchlorid	3.65E+02	3.65E+02			
dienochlor	6.10E+00	1.01E+00	3.90E+00	1.45E+04	1.35E-04
diethatyl ethyl				4.42E+00	6.70E-08
difenzoquat methyl sulfate	6.81E+03	1.60E+03	1.50E+02	1.15E+03	5.81E-14
diflubenzuron	3.40E+01	2.08E+00	4.15E+01	1.11E+03	4.70E-09
diiodomethyl-p-tolyl sulfone	4.44E+01	9.38E+01			
dimethipin	1.28E+03			2.14E-01	2.30E-12
dimethoate	2.20E+01	2.38E+00	7.87E+00	3.39E-01	1.40E-11
dinoseb				2.68E+00	
diphenamid	6.42E+02	2.49E+02		1.26E+00	1.72E-09
diquat dibromide	1.06E+03	3.45E+03	4.21E+02	4.01E+03	
disulfoton		1.69E+00	2.86E+00	6.41E+00	1.60E-06
dithiopyr	2.17E+04			2.53E+01	7.66E-07
diuron	9.95E+02	3.72E+02	1.16E+02	8.75E+00	5.10E-10
dodecylquanidine hydrochloride				1.05E+04	
dodemorph				1.73E+02	6.01E-06
endosulfan	1.48E+02	3.16E+01	8.76E+01	2.28E+02	2.50E-05
endothall, disodium salt	8.27E+00	8.50E+00	7.29E+00	5.84E+00	8.80E-11
esfenvalerate		1.05E+02	1.40E+01		
ethalfluralin	1.40E+01	4.50E+01	5.10E+01	4.88E+01	1.84E-04
ethephon	5.30E+00	7.50E+00		3.00E+01	
ethion		1.02E+02			
ethofumesate		9.30E+01	1.22E+02	3.64E+00	3.69E-08
ethoprop	1.30E+02	3.39E+01	2.34E+01	2.05E+00	1.44E-09
fenamiphos	8.79E+01	2.83E+01		2.50E+00	4.15E-08
fenarimol	1.62E+03	1.10E+03	3.35E+02	6.65E+00	7.00E-09
fenbutatin oxide	9.00E+01	9.00E+01	9.53E+02	9.10E+02	1.35E-09
fenoxaprop-ethyl	2.71E+01	1.87E+01	7.50E+00		8.35E-09
fenpropathrin	1.86E+02	4.29E+02	3.47E+01		2.04E-07
fensulfothion				5.83E+00	
fenthion				3.13E+01	
fenvalerate	1.55E+02	1.79E+02	3.11E+01	4.68E+01	6.30E-07
fluazifop-butyl	2.56E+00	1.44E+00	7.10E+00	1.34E+01	1.10E-07
flucythrinate					
fluometuron	2.86E+01	1.09E+01	1.03E+02	1.30E+00	1.59E-09
fluridone			6.67E+01		
flurprimidol	3.62E+03			3.41E+00	
flutolanil				1.47E+01	
fluvalinate		1.16E+01	5.35E+01	2.48E+03	3.04E-05

Pesticide Chemistry Database
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Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
folpet		1.60E-07	9.47E+02	
fonofos		2.73E-04	8.70E+03	4.32E+02
formetanate HCl		1.58E-11	2.00E-03	9.58E-01
fosamine,ammonium salt			1.20E-03	3.00E+01
fosethyl -Al		1.00E-07	2.00E-03	
glyphosate		7.50E-08	3.30E-04	3.50E+01
halosulfuron methyl				
harmony		1.05E-10	2.10E-02	1.82E+02
hexazinone		1.16E-07	1.50E+01	5.60E+01
hydramethylnon		6.05E-08	2.06E+02	3.00E+01
imazalil				
imazethapyr		1.00E-07		
imazethapyr, ammonium salt			1.93E+01	3.00E+01
imidacloprid		1.00E-07	3.70E+00	3.00E+01
iprodione		1.00E-07		4.73E+00
isazophos		5.53E-05	9.58E+01	5.10E+01
isoxaben		3.90E-07	8.71E+03	1.27E+03
lambdacyhalothrin		1.56E-09		4.53E+02
lindane		3.30E-05	3.14E+03	3.09E+02
linuron		1.40E-06	1.02E+03	2.62E+02
malathion		1.32E-05	1.82E+02	6.21E+00
maleic hydrazide			7.49E-02	
mancozeb			7.77E+00	2.28E+00
maneb				
mcpp, dimethylamine salt		6.78E-08		
mecoprop		8.98E-04	1.53E+01	3.10E+01
mefluidide				1.93E+03
mepiquat chloride			1.52E-03	
metalaxyl		5.63E-06	3.30E+01	6.00E+02
metaldehyde		7.80E-01	1.33E+00	6.15E+03
metam sodium				4.85E+00
methamidophos		2.63E-05	1.60E-01	2.06E+01
methidathion		3.37E-06	1.66E+02	2.58E+01
methiocarb		3.94E-07	2.20E+03	2.40E+01
methomyl		4.90E-05	1.25E+00	3.00E+01
methyl bromide			5.33E+01	
methyl isothiocyanate		1.60E+01	1.58E+01	2.04E+01
methyl parathion		1.33E-05	6.29E+02	4.46E+01
metiram			2.72E+01	1.07E+03

Pesticide Chemistry Database
Summary Download

Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
folpet					
fonofos	1.50E+02	7.98E+01	2.24E+01	6.48E+00	6.50E-06
formetanate HCl	1.50E+01	7.70E+00	8.05E+01	2.35E+00	8.10E-15
fosamine,ammonium salt				8.84E+01	
fosethyl -Al	1.70E+00	3.66E-02		6.50E+00	1.15E-10
glyphosate	2.21E+01	9.65E+01	4.36E+01	6.10E+01	1.44E-12
halosulfuron methyl				1.51E+00	
harmony	6.78E+01			7.25E-01	2.20E-10
hexazinone	2.32E+02	7.71E+02	1.39E+02	3.00E+00	
hydramethylnon		3.83E+02		1.54E+03	
imazalil				1.30E+02	
imazethapyr	5.68E+02	2.41E+03	1.27E+02	6.50E-01	
imazethapyr, ammonium salt					2.24E-11
imidacloprid	2.71E+01	9.97E+02	1.09E+02	2.26E+00	6.50E-11
iprodione	3.24E+01	6.37E+01	8.39E+01		3.56E-09
isazophos	8.06E+00	4.17E+00	3.29E+01	1.66E+00	1.37E-07
isoxaben		2.05E+02	7.74E+01	3.03E+00	1.10E-07
lambdacyhalothrin	1.14E+02		3.18E+01		1.82E-07
lindane	3.70E-03	9.80E+02	1.66E+02	2.21E+01	
linuron	1.02E+02	2.24E+01	6.59E+01	5.65E+00	5.80E-09
malathion	3.00E+01	2.50E+00	1.00E+00	3.11E+00	1.19E-08
maleic hydrazide				7.96E-01	5.90E-11
mancozeb	7.56E+00	2.00E+00	9.91E+01		4.00E-09
maneb				5.68E+00	
mcpp, dimethylamine salt					
mecoprop	5.41E+02	1.33E+01		4.04E-01	
mefluidide					
mepiquat chloride	3.59E+02	3.95E+01			
metalaxyl	6.84E+01	6.24E+01	6.53E+01	2.49E+00	1.49E-10
metaldehyde	2.23E+02	6.72E+01	1.80E+02	2.34E-01	4.12E-05
metam sodium	1.00E+00	1.60E-02	3.28E+00		
methamidophos		5.83E-01		2.90E-02	3.22E-12
methidathion		3.10E+00	5.00E+00	3.97E+00	1.95E-09
methiocarb	6.44E+01	6.44E+01		5.95E+00	2.70E-09
methomyl	1.00E+00	4.62E+01	2.98E+01	8.38E-01	1.90E-10
methyl bromide	3.82E+00	9.83E+00		6.91E+00	
methyl isothiocyanate					1.79E-04
methyl parathion	1.09E+00	1.19E+01		4.55E+00	8.46E-02
metiram		5.20E-01	8.08E+01	1.42E+01	

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
metolachlor		3.14E-05	8.50E+02	2.00E+02
metribuzin		3.20E-07	5.38E+01	4.76E+03
metsulfuron-methyl		2.50E-12	1.80E-02	3.00E+01
mevinphos		1.82E-03	1.34E+00	2.50E+01
molinate		5.00E-03	7.56E+02	1.56E+03
monocrotophos			7.00E-01	
monosodium methanearsonate		8.00E-08	5.00E+00	3.50E+01
naled		2.63E-07	9.20E+01	6.80E-01
napropamide		2.54E-10	2.10E+03	3.50E+01
naptalam,sodium salt			1.07E+00	8.78E+02
nicosulfuron		1.00E-07	1.55E-01	3.00E+01
nitrapyrin		1.70E-03	2.06E+03	8.46E+00
norflurazon		3.82E-11	2.80E+02	2.65E+03
oryzalin		1.00E-08		
oxadiazon		7.76E-07	8.13E+04	1.53E+02
oxamyl		3.84E-07	3.60E-01	8.00E+00
oxycarboxin				
oxydemeton methyl		3.34E-05	1.80E-01	3.96E+01
oxyfluorfen			2.94E+04	1.14E+02
oxythioquinox		3.08E-07	6.03E+03	2.00E+00
para-dichlorobenzene			2.46E+03	
paraquat dichloride				3.00E+01
parathion		7.05E-06	1.60E+03	3.02E+02
pebulate		5.84E+00	9.60E+03	2.34E+02
pendimethalin		9.40E-06	1.52E+05	2.80E+01
pentachloronitrobenzene		7.74E-05	1.15E+05	1.05E+02
permethrin		1.42E-08	3.16E+03	
phenmedipham		1.00E-11	3.85E+03	6.05E-01
phorate		6.44E-04	8.39E+03	3.10E+00
phosalone		2.50E+01	5.89E+04	5.13E+01
phosmet		4.90E-07	9.08E+02	3.75E-01
phosphamidon		1.65E-05	6.24E+00	6.47E+01
picloram			1.20E+01	
piperalin		4.50E-08	2.05E+04	1.64E+01
piperonyl butoxide		1.00E-07	4.51E+04	2.51E+02
pirate		1.00E-07	6.77E+04	3.00E+01
prodiamine			1.27E+04	3.00E+01
profenofos		9.00E-07	2.74E+04	4.28E+01
prometon		7.70E-06	4.92E+02	1.13E+03

Pesticide Chemistry Database
Summary Download

Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
metolachlor	6.05E+01	2.60E+01	1.14E+02	1.62E+00	2.40E-08
metribuzin	2.76E+02	1.40E+02	8.88E+01	7.77E-01	3.51E-11
metsulfuron-methyl	3.38E+02	2.40E+01		8.83E-01	
mevinphos	1.71E+01	7.58E+00	4.19E+00	8.31E-01	1.99E-06
molinate	1.05E+02	4.10E+01	1.73E+01	1.53E+00	1.30E-06
monocrotophos	8.08E+00	6.86E+00		2.42E-01	
monosodium methanearsonate			3.30E+01	1.71E+01	
naled	1.53E+00	3.00E+00		2.58E+00	5.01E-08
napropamide	5.06E+01	4.55E+02	1.14E+01	7.98E+00	8.10E-10
naptalam, sodium salt	2.41E+02		2.40E+01	8.92E+00	
nicosulfuron	6.30E+01	1.02E+02	3.21E+01	6.95E-01	4.20E-12
nitrapyrin	5.90E+01	2.98E+01	3.94E+01	6.24E+00	1.43E-05
norflurazon	3.48E+02	1.72E+02	1.72E+02	5.74E+00	3.44E-10
oryzalin	1.00E+01	6.33E+01	9.58E+01	7.09E+00	
oxadiazon	5.39E+03	6.45E+02	1.30E+02	1.48E+01	3.50E-07
oxamyl	5.63E+00	1.07E+01	5.50E+01	1.50E-01	3.92E-13
oxycarboxin				7.49E-01	
oxydemeton methyl		1.00E+00		3.78E-01	
oxyfluorfen	6.03E+02	4.35E+02	1.75E+02	9.95E+01	1.02E-06
oxythioquinox	2.91E+00	1.99E+01	1.55E+00	2.21E+02	6.00E-08
para-dichlorobenzene					
paraquat dichloride	6.44E+02	6.20E+02	1.00E+03	1.00E+04	
parathion			1.73E+01	1.18E+01	
pebulate	2.57E+02	1.08E+02	6.06E+00	4.10E+00	2.45E-05
pendimethalin	6.00E+01	1.32E+03	4.20E+01	3.11E+02	1.27E-08
pentachloronitrobenzene	1.22E+01	7.85E+01	2.33E+02	5.69E+01	2.15E-04
permethrin	5.01E+01	2.51E+01	3.71E+01	1.62E+02	8.78E-08
phenmedipham	4.74E+01	5.40E+01	6.32E+01		6.69E-09
phorate	1.44E+01	3.00E+00	1.76E+00	8.03E+00	7.63E-03
phosalone				2.58E+01	7.30E-08
phosmet	2.67E+01	7.20E+00	1.06E+01	1.34E+01	1.01E-08
phosphamidon		7.71E-01		1.00E+00	6.51E-12
picloram	8.99E+02	3.25E+02			
piperalin				2.26E+02	9.60E-10
piperonyl butoxide	9.27E+02	7.90E+01	1.36E+01	1.21E+01	3.11E-09
pirate		1.37E+03		1.05E+02	4.49E-07
prodiamine	1.96E+01	1.06E+02		1.71E+02	
profenofos	2.90E+00	1.90E+00	1.54E+01	2.68E+01	
prometon	6.10E+01	4.59E+02	5.10E+02	1.90E+00	2.00E-09

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
prometryn		1.05E-06	1.24E+03	2.80E+01
propamocarb		6.00E-06		
propanil		6.45E-07	1.93E+02	5.00E+03
propargite		4.19E-08	5.31E+03	6.30E+01
propham			4.50E+02	
propiconazole		4.20E-07	8.92E+02	
propoxur		5.18E-05	3.60E+01	
propyzamide		4.35E-07	1.57E+03	4.20E+01
pyrazon			1.55E+01	
pyridate			1.10E+04	
pyrithiobac sodium		3.60E-11	1.41E+00	3.50E+01
resmethrin		7.50E-08	2.66E+05	7.83E+01
riclpyr		3.60E-06	4.49E+00	6.53E+00
sethoxydim		1.50E-07	1.10E+03	
simazine		2.21E-08	1.22E+02	2.80E+01
sodium tetrathiocarbonate				8.00E-02
strychnine			3.95E+01	4.91E+03
sulfometuron methyl		5.50E-16	3.79E+00	3.00E+01
sulfosate				7.96E+02
sulprofos		6.32E-07	3.00E+05	4.85E+02
tebuthiuron		2.61E-06	6.30E+01	
temephos		6.13E-08	8.06E+04	4.60E+02
terbacil				
terbutryn		1.68E-06	4.46E+03	
terrazole			2.34E+03	
thiabendazole		4.00E-09	2.19E+02	
thiobencarb			2.93E+01	1.60E+02
thiodicarb			3.04E+01	1.30E+01
thiophanate-methyl		7.12E-08	3.14E+01	4.09E+01
thiram		8.54E-06	5.56E+01	3.48E+00
tralomethrin		3.60E-11	1.16E+05	3.00E+01
triallate				1.17E+03
tributyl phosphorotrithioate		3.30E-06	3.31E+05	3.00E+01
trichlorophon		2.68E-06	2.70E+00	1.42E+00
triclopyr, butoxyethyl ester		3.60E-06	4.49E+00	6.53E+00
triclopyr, triethylamine salt		3.60E-07	1.23E+00	
triclopyr, triethylamine salt		3.60E-07	1.23E+00	
triadimefon		3.01E-07	1.17E+03	1.76E+03
triflumizole		1.43E-06	2.35E+04	1.16E+02

Pesticide Chemistry Database
Summary Download

Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
prometryn	3.16E+02	2.74E+02	7.66E+01	1.74E+00	7.11E-09
propamocarb					
propanil	3.04E+00	2.43E+00		5.67E+00	1.22E-09
propargite	2.90E+02	4.69E+01	8.22E+01	2.11E+02	1.02E-08
propham				3.12E-01	
propiconazole	2.11E+02	1.15E+03		5.34E+00	1.89E-09
propoxur		1.43E+02		1.33E+01	1.45E-09
propyzamide	7.62E+02	3.92E+02		5.80E+00	9.80E-09
pyrazon	4.89E+02	1.24E+02		1.34E+02	
pyridate	3.01E+01	3.91E+01	2.94E+01		
pyrithiobac sodium		6.00E+01		2.68E-01	
resmethrin	1.86E+02	1.98E+02			5.03E-05
riclpyr	2.65E+01		3.90E+01		2.50E-07
sethoxydim	2.50E+01	6.50E+00	9.93E+01	4.77E-01	7.40E-11
simazine	1.18E+02	1.10E+02	8.05E+01	4.07E+00	5.40E-10
sodium tetrathiocarbonate	8.70E+01	6.18E+00	1.00E+00		
strychnine				8.10E+01	
sulfometuron methyl	1.87E+02	5.21E+01	4.52E+01	1.38E+00	2.21E-17
sulfosate	5.24E+01		7.17E+00	3.23E+02	
sulprofos		7.65E+01	2.44E+01	6.90E+00	8.60E-07
tebuthiuron	1.52E+03	1.22E+03		8.43E-01	3.00E-10
temephos	2.12E+01			2.47E+02	1.23E-06
terbacil	1.78E+02	5.20E+02		9.00E-01	
terbutryn	3.69E+01	7.05E+01		6.34E+01	1.47E-08
terrazole				1.16E+00	
thiabendazole					
thiobencarb	3.06E+02	3.70E+01	5.48E+01	1.07E+01	2.71E-07
thiodicarb	1.30E-01	3.60E+00		1.05E+00	
thiophanate-methyl	2.24E+00	1.00E+00		2.54E+00	1.30E-09
thiram				3.30E+01	1.90E-09
tralomethrin	3.50E+01	3.15E+00	6.36E+00	3.33E+03	3.95E-10
triadimefon	1.20E+02	5.59E+00		3.64E+00	9.00E-10
triallate		4.70E+01	1.90E+01	2.08E+01	1.46E-05
tributyl phosphorotrithioate	2.22E+02	7.45E+02	3.15E+01	7.69E+01	3.10E-07
trichlorophon	1.87E+00	6.58E+00		1.81E+00	4.50E-12
triclopyr, butoxyethyl ester	2.65E+01		3.90E+01		2.50E-07
triclopyr, triethylamine salt	1.60E+03	1.28E+01		6.20E-01	6.00E-10
triclopyr, triethylamine salt	1.60E+03	1.28E+01		6.20E-01	6.00E-10
triflumizole		2.30E+01	6.70E+00	2.05E+01	3.59E-08

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)	Vapor Pressure (mmHg)	Octanol-Water Coeff. (Kow)	Hydrolysis t½ (days)
trifluralin		1.03E-04	1.18E+05	
triforine		5.74E-04	1.60E+02	
uniconazole-p		2.26E-08	5.88E+03	3.00E+01
vernolate		1.30E-05	6.60E+03	7.22E+02
vinclozolin		2.33E-09	1.05E+03	1.30E+00
ziram		2.43E-09	1.22E+01	

Pesticide Chemistry Database
Summary Download

Active Ingredient	Anaerobic t½ (days)	Aerobic t½ (days)	Field Dissip. t½ (days)	Soil Adsorp. Coeff. (Kd)	Henrys Const. (Kh)
trifluralin	3.73E+01	1.69E+02	1.09E+02	1.21E+02	1.51E-04
triforine			2.04E+02	3.35E+00	3.48E-05
uniconazole-p		3.32E+02			
vernolate	6.10E+01	8.32E+01	9.27E+00	2.06E+00	2.50E-05
vinclozolin	1.53E+01	2.80E+01	6.57E+02	4.99E+00	1.08E-07
ziram					

SOLUBILITY DATA

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)
1,3-dichloropropene	2.25E+03
2,4-D	2.76E+04
2,4-D Dimethylamine Salt	4.51E+05
2,4-d, 2-ethylhexyl ester	8.68E-02
2,4-d, butyl ester	9.38E+00
4(2,4-db), dimethylamine salt	7.42E+05
DDVP	1.57E+03
EPTC	3.45E+02
MCPA, ACID	1.60E+05
MCPA, dimethlamine salt	5.38E+05
MCPA, na salt	4.11E+04
acephate	8.18E+05
acrolein	2.38E+05
alachlor	2.00E+01
aldicarb	5.87E+03
ametryne	1.12E+02
amitraz	9.30E-02
amitrole	1.39E+04
anilazine	8.02E+00
asulam, sodium salt	1.76E+04
atrazine	3.25E+01
azinphosmethyl	2.80E+01
baythroid	2.00E-04
bendiocarb	4.18E+02
benefin	4.06E+04
bensulfuron methyl	3.46E+01
bensulide	5.60E+00
bentazon	5.30E+02
bifenox	3.92E-04
bromacil	9.29E+01
bromoxynil -butyrate	2.68E+01
bromoxynil -octanonate	8.00E-02
butylate	4.35E+01
cacodylic acid	2.57E+05
captafol	1.40E+00
captan	3.30E+00
carbaryl	8.11E+01
carbofuran	3.51E+02

Pesticide Chemistry Database
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Active Ingredient	Solubility (ppm)
chlorflurenol	3.93E+01
chloropicrin	2.00E+03
chlorothalonil	1.20E+00
chlorpyrifos	1.39E+00
chlorsulfuron	2.83E+04
chlorthal dimethyl	5.00E-01
cimectacarb	1.14E+04
clethodim	6.63E+02
clofentezine	2.17E-03
cyanazine	1.55E+02
cycloate	9.50E+01
cypermethrin	3.97E-03
cyromazine	1.36E+03
dazomet	3.63E+03
desmedipham	9.03E-01
diazinon	6.00E+00
dicamba	2.89E+04
dicamba,diethanolamine salt	6.75E+05
dichlobenil	2.10E+00
dichloran	6.00E-01
diclofop-methyl	1.07E+05
dicofol	8.30E-01
dienochlor	1.00E-02
diethatyl ethyl	1.20E+02
difenzoquat methyl sulfate	8.17E+05
diflubenzuron	8.00E-02
dimethipin	3.39E+03
dimethoate	3.98E+04
diphenamid	2.10E+01
diquat dibromide	6.77E+04
disulfoton	1.20E+00
dithiopyr	1.38E+00
diuron	3.64E+01
dodemorph	2.46E+01
endosulfan	3.25E-02
endothall, disodium salt	1.10E+05
ethalfluralin	3.33E+04
ethofumesate	2.50E+01

Pesticide Chemistry Database
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Active Ingredient	Solubility (ppm)
ethoprop	8.43E+02
fenamiphos	4.82E+02
fenarimol	1.40E+01
fenbutatin oxide	1.42E-02
fenoxaprop-ethyl	8.00E-01
fenoxycarb	5.66E+00
fenpropathrin	3.63E-02
fenthion	4.20E+00
fenvalerate	1.31E-03
fluazifop-butyl	1.10E+00
flucythrinate	6.00E-02
fluometuron	1.11E+02
flurprimidol	1.27E+02
fluvalinate	1.22E-02
folpet	1.05E+00
fonofos	1.69E+00
formetanate HCl	8.22E+04
fosethyl -Al	1.36E+04
glyphosate	1.16E+03
harmony	5.10E+03
hexazinone	2.98E+03
imazethapyr	3.51E+02
imidacloprid	5.14E+02
iprodione	1.22E+01
isazophos	1.68E+02
isoxaben	1.50E+00
lambdacyhalothrin	5.00E-03
lindane	4.68E+01
linuron	7.72E+01
malathion	1.25E+02
mancozeb	1.31E+01
maneb	4.17E+02
mcpp, dimethylamine salt	1.06E+06
mecoprop	7.34E+02
mepiquat chloride	5.00E+05
metalaxyl	8.41E+03
metaldehyde	1.90E+02
metam sodium	9.63E+03

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)
methamidophos	1.20E+06
methidathion	2.21E+02
methiocarb	2.70E+01
methomyl	5.47E+03
methyl bromide	1.35E+02
methyl isothiocyanate	8.42E+03
methyl parathion	7.03E+01
metolachlor	4.93E+02
metribuzin	9.81E+04
mevinphos	2.00E+03
molinate	9.70E+02
monosodium methanearsonate	1.04E+05
naled	4.25E+03
napropamide	7.40E+01
naptalam, sodium salt	2.49E+05
nicosulfuron	1.97E+03
nitrapyrin	7.21E+01
norflurazon	3.37E+01
oryzalin	1.47E+04
oxadiazon	1.00E+00
oxamyl	2.82E+04
oxycarboxin	2.84E+04
oxydemeton methyl	5.50E+05
oxyfluorfen	1.16E-01
oxythioquinox	1.00E+00
paraquat dichloride	6.26E+04
parathion	1.25E+01
pebulate	1.00E+02
pendimethalin	4.46E+04
pentachloronitrobenzene	2.45E-01
permethrin	7.00E-02
phenmedipham	6.00E-01
phorate	2.90E+01
phosalone	3.05E+00
phosmet	2.00E+01
phosphamidon	
piperalin	5.01E+03
piperonyl butoxide	1.43E+01

Pesticide Chemistry Database
Summary Download

Active Ingredient	Solubility (ppm)
pirate	1.30E-01
profenofos	2.84E+01
prometon	7.18E+02
prometryn	3.29E+01
propamocarb	1.01E+05
propanil	1.52E+02
propiconazole	1.00E+02
propoxur	1.75E+03
propyzamide	1.29E+01
pyrazon	3.80E+01
pyrithiobac sodium	7.28E+05
resmethrin	3.79E-02
riclpyr	6.81E+00
sethoxydim	6.95E+03
simazine	6.15E+00
sulfometuron methyl	5.00E+02
sulfosate	3.31E+06
sulprofos	2.21E-01
tebuthiuron	5.39E+04
terbutryn	2.20E+01
terrazole	1.06E+02
thiobencarb	2.75E+01
thiodicarb	2.35E+01
thiophanate-methyl	2.46E+01
thiram	8.34E+00
tralomethrin	8.00E-02
triadimefon	6.40E+01
triallate	2.96E+00
tributyl phosphorotrithioate	2.30E+00
trichlorophon	1.20E+05
triclopyr, butoxyethyl ester	6.81E+00
triclopyr, triethylamine salt	1.75E+05
triflumizole	1.81E+01
trifluralin	3.00E-01
triforine	9.67E+00
uniconazole-p	8.41E+00
vernolate	1.08E+02
vinclozolin	3.41E+00