



UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
WASHINGTON D.C., 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

PC Code: 114000, 114002,  
114003  
DP Barcode: 334508

**MEMORANDUM**

**Subject:** Drinking Water Assessment for *N*-[2,4-dimethyl-5-  
[[trifluoromethyl)sulfonyl]amino]phenyl]acetamide (**Mefluidide**), *N*-[2,4-dimethyl-5-  
[[trifluoromethyl)sulfonyl]amino]phenyl]acetamide monopotassium salt (**Potassium  
Mefluidide**), and *N*-[2,4-dimethyl -5-[[trifluoromethyl)sulfonyl]  
amino]phenyl]acetamide compound with 2,2'-iminobis[ethanol] (1:1)  
(**Diethanolamine Mefluidide**)

**To:** Wilhelmena Livingston, Chemical Review Manager  
Registration Division

**From:** James Hetrick, Ph.D., Senior Chemist  
Thuy Nguyen, RAPL  
Nancy Andrews, Branch Chief  
Environmental Risk Branch 1  
Environmental Fate and Effects Division (7507P)

**Date:** March 19, 2007

This drinking water exposure assessment is a revised drinking water assessment for mefluidide, diethanolamine mefluidide (mefluidide-DEA), and potassium mefluidide (mefluidide-K). The drinking water assessment was revised to correct maximum application rates. Therefore, this drinking water assessment supplants the February 26, 2007 drinking water assessment for mefluidide, mefluidide-DEA, and mefluidide-K.

The exposure assessment strategy is designed to bridge the environmental fate data for the mefluidide-K, mefluidide-DEA, and mefluidide to mefluidide acid. This bridging assumes complete and rapid dissociation of the potassium and diethanolamine salts of

mefluidide to mefluidide acid. Additionally, the acetamide functional group in mefluidide exhibits an enol-keto equilibrium between mefluidide acid and mefluidide. Therefore, mefluidide acid is a common intermediate compound among mefluidide, mefluidide-DEA, and mefluidide-K.

The drinking water assessment provides Tier II (PRZM-EXAMS) surface water modeling and Tier 1 (SCI-GROW) groundwater modeling. The mefluidide acid concentrations in surface water source drinking water are not expected to exceed 31.9 µg/L for the 1 in 10 year daily peak concentration, 9.5 µg/L for the 1 in 10 year annual concentration, and 5.3 µg/L for the 30 year annual average concentration. Mefluidide acid concentrations in ground water source drinking water are not expected to exceed 0.665 µg/L. EFED provided additional refinement of the drinking water assessment using the golf course area factors (GCAF). The adjustment factors, however, may not be applicable because the GCAF assumes that mefluidide, mefluidide-K, and mefluidide-DEA are used exclusively on golf courses. Based on the current use characterization, mefluidide and its salts can be used on residential sites, agricultural sites, and industrial sites in addition to golf courses.

### **Use Characterization**

Mefluidide is used to control ornamental and non-ornamental woody plants, ground cover, hedges trees, turf grasses, grass and broadleaf weeds. It is also registered for growth control of low maintenance turf on rights-of-ways, airports, and industrial sites. There are multiple active ingredient products that contain an additional plant growth regulator and herbicides such as, paclobutrazol, imazapyr, and imazethapyr. Current formulations include; granular, liquid-ready to use, and soluble concentrate/liquid. Mefluidide can be applied as a band treatment, broadcast, spot treatment, and spray. The equipment used to apply mefluidide includes; backpack sprayer, boom sprayer, ground equipment, hand held sprayer, handgun, hose-end sprayer, power sprayer, pressure sprayer, and spreader.

Annual use of mefluidide in the United States is generally less than 10,000 lbs ae. The highest use areas include South Carolina, North Carolina, Virginia, West Virginia, California, Nevada, Arizona, and New Mexico. The maximum application rates for mefluidide applied as ground sprays are 0.89 lb ae/A for mefluidide-K and 1.5 lb ae/A for mefluidide-DEA. The maximum application rates for mefluidide (granular formulation) is 0.05 lb ae/A. Mefluidide, mefluidide-K, and mefluidide-DEA can be applied 3 times per season .

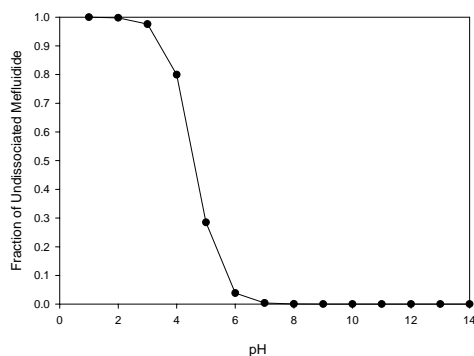
The uses that will be included in the reregistration assessment are; agricultural/farm structures/buildings and equipment, agricultural/nonagricultural uncultivated areas/soils, airports/landing fields, commercial industrial lawns, commercial institutional/industrial premises/equipment (indoor/outdoor), golf course turf, hospitals/medical institutions premises (human veterinary), household domestic dwellings outdoor premises, industrial areas (outdoor), nonagricultural outdoor buildings/structures, nonagricultural rights-of-way/fencerows/hedgerows, ornamental and or shade trees, ornamental ground cover,

ornamental herbaceous plants, ornamental lawns and turf, ornamental nonflowering plants, ornamental woody shrubs and vines, paths/patios, paved area (private roads/sidewalks), recreational areas, and residential lawns.

## **Environmental Fate Data**

The risk assessment strategy is designed to bridge the environmental fate data for the mefluidide-K, mefluidide-DEA, and mefluidide to mefluidide acid. Although the registrant did not provide any dissociation data to substantiate the kinetics of dissociation of mefluidide-K and mefluidide-DEA, the ionic nature of these compounds suggests they will dissociate to form mefluidide acid. The reported pKa for mefluidide acid is 4.6. These data suggest complete dissociation of mefluidide acid to occur at pH~7, with 50% or greater dissociation at pHs  $\leq$  4.6 (Figure 1). Additionally, the acetamide functional group in mefluidide exhibits an enol-keto equilibrium between mefluidide and mefluidide acid.

**Figure 1: Fraction of Undissociated Mefluidide as a Function of pH**



Possible routes of dissipation for mefluidide are photodegradation on soil surfaces, microbial-mediated degradation, leaching, and runoff. Mefluidide is not prone to abiotic hydrolysis or photolysis in sterile buffer solutions within the environmentally relevant pH range of 4 to 9 (Accession No. 226846, MRID 42935401). There are data showing mefluidide undergoes rapid photodegradation ( $t_{1/2} = 2$  to 3 days) in natural well water (Accession No. 226851). On soil surfaces, mefluidide photodegraded with a half-life of 116.4 hours. Nine unidentified photodegradation products were detected in the soil (MRID 43040801).

Mefluidide in aerobic soils degraded with a half-life of 12 days (MRID 43162201). The only degradation product was 5-amino-2, 4-dimethyltrifluoromethanesulfonilide. It was found at a maximum daily concentration of 2.8% of applied mefluidide at 22 days posttreatment. Nonextractable radiolabeled mefluidide residues accounted for 32 to 37% at 366 days posttreatment. Evolved  $\text{CO}_2$  accounted for 20.9% at 366 days post-treatment. Mefluidide was stable ( $t_{1/2} > 1$  year) in anaerobic environments (MRID 43120001).

Mefluidide has Freundlich adsorption coefficients of 0.22 ( $1/n=0.35$ ) in sand, 0.14 ( $1/n=0.95$ ) in silt loam soil, 0.073 ( $1/n=0.95$ ) in silt loam soil, 0.083 ( $1/n=1.3$ ) in clay soil, and 0.11 ( $1/n=1.0$ ) in sand sediment (MRID 42998201). There was no relationship of soil OC content and  $K_d$ . Aged residues of mefluidide were detected in the leachate of aged residue soil column leaching studies (MRID 43020801).

Mefluidide dissipated with a half-life of 2.0 to 3.3 days in warm-season turf soil in Georgia and 1.2 to 1.4 days in cool-season grass soil in Missouri (MRID 43276802 and 43276801). It was not detected in soil samples at depths greater than 6 inches. Degradation products were not evaluated in the field dissipation studies. Mefluidide dissipated from grass foliage at half-lives of 1.7 to 6.91 days (upper 90<sup>th</sup> percentile of mean half-life=4.0414 day,  $k=0.1715 \text{ days}^{-1}$ ).

Bioaccumulation of mefluidide in fish tissue is not expected due to a low octanol water partitioning coefficient ( $\log K_{ow}=1.97$ ;  $K_{ow}=94.5$ ). It also was not found to substantially accumulate ( $BCF = 0$  to 1.11) in catfish tissues during bioaccumulation studies (Accession Number 226851).

## **Modeling**

PRZM (3.12 beta) and EXAM (2.97.5) using PE4V01.pl (August 13, 2003) were used to estimate mefluidide residue concentrations in surface water. Because mefluidide use is associated with turf, the aquatic exposure assessment was conducted using the PA and FL turf scenarios. These use scenarios were selected to represent of rights-of-way, residential turf, industrial areas with turf (ie, airports, etc.), and golf courses. The turf scenarios are expected to be conservative estimate of mefluidide runoff potential because they assume 100% of the watershed is treated with mefluidide as well as the runoff scenarios are located in areas with high runoff potential. Concentrations of mefluidide are expressed in acid equivalence<sup>1</sup> to address the bridging of mefluidide-K, mefluidide-DEA, mefluidide to to mefluidide acid. PRZM /EXAMS input parameters for mefluidide are shown in **Table 1**.

---

<sup>1</sup> Acid equivalence was calculated using the following equations:

Mefluidide-DEA=  $310 \text{ g/mole (MW mefluidide)}/415.24 \text{ g/mole (MW mefluidide-DEA)}=0.75* \text{app rate}$

Mefluidide-K=  $310 \text{ g/mole (MW mefluidide)}/348.29 \text{ g/mole (MW mefluidide-K)}=0.89* \text{app rate}$

Mefluidide =  $310 \text{ g/mole (MW mefluidide)}/310 \text{ g/mole (MW mefluidide acid)}= 1.0* \text{app rate}$

**Table 1. Input Parameters for Mefluidide Acid for PRZM/EXAMS Modeling for Aquatic Exposure Assessment**

<b>Variable Description</b>	<b>Input Value</b>	<b>Source of Info/Reference</b>
Application date(s) (day/mo/yr)	15/05	Product label
Number of Applications	3	Label Recommendation
Application Interval (days)	42 days	Label Recommendation
Incorporation depth (cm)	Default	Product label
Application rate (kg a.e. ha <sup>-1</sup> )	Acid- 0.56 DEA salt- 1.37 K salt- 1.12	EPA Reg. No. 538-181 EPA Reg. No. 2217-788 EPA Reg. No. 2217-765
Application efficiency (fraction)	0.99- Spray 1.00-Granular	Spray Drift Task Force Data
Spray drift fraction: For aquatic ecological exposure assessment, use 0.05 for aerial spray; 0.01 for ground spray. For drinking water assessment, use 0.16 for aerial 0.064 for ground spray.	0.064	Spray Drift Task Force Data
Foliar extraction (frac./cm rain)	0.5 is the default unless field data is available	Default or field data
Decay rate on foliage ( days-1)	T <sub>1/2</sub> =4.0414 days Rate constant = 0.1715/day	Derived as 90 <sup>th</sup> percentile of the mean foliar dissipation half-life from field dissipation studies (MRID 43276801 MRID 43276802)
Volatilization rate from foliage (day-1)	0.0 is the default unless field data is available	Default or field data
Plant uptake factor (frac. of evap)	0.0	Default – No data available
Aerobic soil metabolism Half-life (days)	T <sub>1/2</sub> =36 days Estimation = 3 X 12 days	MRID 43162201
Anaerobic Aquatic Metabolism Half-life (days)	Stable	MRID 43120001
Aerobic Aquatic Metabolism Half-life (days)	72 days Estimation= 2 X 36 days	No Data Available
Photodegradation in Water Half-life (days)	Stable	MRID 42935401

Adsorption Soil: Water Partitioning Coefficients	0.073 (lowest non-sand Kd)	MRID 42998201
Molecular Weight (grams/mole)	310.6	Calculated for Mefluidide structure
Henry's Constant (atm m <sup>3</sup> /mol)	2.27E <sup>-7</sup>	EFED One Liner
Vapor Pressure (torr)	1E-4	EFED One Liner
Solubility (mg/L)	180	EFED One Liner
Chemical Application Method	2	Foliar Application

The 1 in 10 year peak concentration for mefluidide acid is not expected to exceed 31.9 µg/L (Table 2). The 1 in 10 year annual average and 30 year annual average concentrations are not expected to exceed 9.5 µg/L and 5.3 µg/L, respectively. These concentrations have not been adjusted for any percent crop area factor (PCA) because the crop area factors do not account for non-agricultural uses such as turf, ornamentals, etc. A major uncertainty in the assessment is the persistence of mefluidide acid in aerobic aquatic environments. This assessment was conducted using an estimated aerobic aquatic half-life of 72 days (Guidance for Chemistry and Management Practice Input Parameters for Use in Modeling the Environmental Fate and Transport of Pesticides, Version 2, 11/7/2000). Because this estimated half-life was designed to approximate upper 90<sup>th</sup> percentile of the mean half-life, it is anticipated to be a conservative estimate of mefluidide acid persistence in aquatic environments.

**Table 2 Non-PCA Corrected Tier II Estimated Drinking Water Concentrations in Surface Water for Mefluidide Acid**

Scenario	Chemical	Mefluidide Acid Concentration (µg ae/L)		
		1 in 10 year Peak	1 in 10 year annual average	30 year annual average
FL Turf	Mefluidide	10.9	3.1	0.9
	Mefluidide-DEA	<b>31.9</b>	<b>9.5</b>	4.2
	Mefluidide-K	14.9	3.8	2.1
PA Turf	Mefluidide	5.4	1.7	0.6
	Mefluidide-DEA	21.7	8.6	<b>5.3</b>
	Mefluidide-K	17.8	7.0	4.3

### Golf Course Area Factors (GCAF)

Because mefluidide is used on golf courses, golf course area factors (GCAF) were applied as an additional refinement to the surface water assessment (Bradbury, 12/7/2005 Golf Course Adjustment Factors for Simulating Aquatic Exposure Concentrations).

**Application of the GCAF assumes that mefluidide, mefluidide-K, and mefluidide-DEA are used exclusively on golf courses. Based on the current use characterization for**

*mefluidide and its salts, they can be used on residential sites, agricultural sites, and industrial sites in addition to golf courses.* For mefluidide use only on tees and greens, the 1 in 10 year peak concentration for mefluidide acid is not expected to exceed 1.6 µg/L. The 1 in 10 year annual average and 30 year annual average concentrations are not expected to exceed 0.5 µg/L and 0.3 µg/L, respectively (Table 3).

**Table 3 Tier II Estimated Drinking Water Concentrations in Surface Water for Mefluidide Acid on Tees and Greens (GCAF=0.05)**

Scenario	Chemical	Mefluidide Acid Concentration (µg ae/L)		
		1 in 10 year Peak	1 in 10 year annual average	30 year annual average
FL Turf	Mefluidide	0.5	0.2	0.0
	Mefluidide-DEA	<b>1.6</b>	<b>0.5</b>	0.2
	Mefluidide-K	0.7	0.2	0.1
PA Turf	Mefluidide	0.3	0.1	0.0
	Mefluidide-DEA	1.1	0.4	<b>0.3</b>
	Mefluidide-K	0.9	0.4	0.2

For mefluidide use only on fairways, the 1 in 10 year peak concentration for mefluidide acid is not expected to exceed 9.3 µg/L. The 1 in 10 year annual average and 30 year annual average concentrations are not expected to exceed 2.8 µg/L and 1.5 µg/L, respectively (Table 4).

**Table 4 Tier II Estimated Drinking Water Concentrations in Surface Water for Mefluidide Acid on Fairways (GCAF=0.29)**

Scenario	Chemical	Mefluidide Acid Concentration (µg ae/L)		
		1 in 10 year Peak	1 in 10 year annual average	30 year annual average
FL Turf	Mefluidide	3.2	0.9	0.3
	Mefluidide-DEA	<b>9.3</b>	<b>2.8</b>	1.2
	Mefluidide-K	4.3	1.1	0.6
PA Turf	Mefluidide	1.6	0.5	0.2
	Mefluidide-DEA	6.3	2.5	<b>1.5</b>
	Mefluidide-K	5.2	2.0	1.2

For mefluidide use only on roughs, the 1 in 10 year peak concentration for mefluidide acid is not expected to exceed 21.1 µg/L. The 1 in 10 year annual average and 30 year annual average concentrations are not expected to exceed 6.3 µg/L and 3.5 µg/L, respectively (Table 5).

**Table 5 Tier II Estimated Drinking Water Concentrations in Surface Water for Mefluidide Acid on Roughs (GCAF=0.66)**

Scenario	Chemical	Mefluidide Acid Concentration (µg ae/L)		
		1 in 10 year Peak	1 in 10 year annual average	30 year annual average
FL Turf	Mefluidide	7.2	2.0	0.6
	Mefluidide-DEA	<b>21.1</b>	<b>6.3</b>	2.8
	Mefluidide-K	9.8	2.5	1.3
PA Turf	Mefluidide	3.6	1.2	0.4
	Mefluidide-DEA	14.4	5.7	<b>3.5</b>
	Mefluidide-K	11.7	4.6	2.8

For mefluidide use only on tees, greens and fairways, the 1 in 10 year peak concentration for mefluidide acid is not expected to exceed 10.8 µg/L. The 1 in 10 year annual average and 30 year annual average concentrations are not expected to exceed 3.2 µg/L and 1.8 µg/L, respectively (Table 6).

**Table 6 Tier II Estimated Drinking Water Concentrations in Surface Water for Mefluidide Acid on Tees and Greens and Fairways (GCAF=0.34)**

Scenario	Chemical	Mefluidide Acid Concentration (µg ae/L)		
		1 in 10 year Peak	1 in 10 year annual average	30 year annual average
FL Turf	Mefluidide	3.7	1.0	0.3
	Mefluidide-DEA	<b>10.8</b>	<b>3.2</b>	1.4
	Mefluidide-K	5.1	1.3	0.7
PA Turf	Mefluidide	1.8	0.6	0.2
	Mefluidide-DEA	7.4	2.9	<b>1.8</b>
	Mefluidide-K	6.0	2.4	1.5

For mefluidide use only on tees, greens, fairways and roughs, the 1 in 10 year peak concentration for mefluidide acid is not expected to exceed 31.9 µg/L. The 1 in 10 year annual average and 30 year annual average concentrations are not expected to exceed 9.5 µg/L and 5.3 µg/L, respectively (Table 2).



## Ground Water

The ground water modeling was conducted using SCI-GROW (SG2.3,7/29/2003). The modeling was conducted for mefluidide acid (Table 7). Tier I EECs in ground water are shown in Table 8. The concentration of mefluidide acid in shallow ground water is not expected to exceed 0.665 µg/L.

Data	Units	Value	Source	Comments
Aerobic Soil Metabolism	Days	12	MRID 43162201	Estimated half-life
Soil:Water Coefficient (K <sub>oc</sub> )	L/g	7.3	MRID 42998201	Estimated K <sub>oc</sub> for low organic carbon soil (1% OC) K <sub>oc</sub> = 0.073/0.01

Chemical	Application Method	Single Application Rate (lbs ai/ha)	Number of Applications	Estimated Groundwater Concentration (µg/L)
Mefluidide	Ground Spray	0.5	3	0.272
Mefluidide-K	Ground Spray	1.0	3	0.545
Mefluidide-DEA	Ground Spray	1.22	3	0.665

## Monitoring Data

No NAWQA surface or ground water monitoring data were found for mefluidide, mefluidide-K and mefluidide-DEA.

## Uncertainties, Assumptions, and Limitations

The exposure assessment strategy is designed to bridge the environmental fate and effects data for the mefluidide-K and mefluidide-DEA, mefluidide to mefluidide acid. Although the registrant did not submit dissociation data for mefluidide-K and mefluidide-DEA, the ionic nature of these compounds suggest they will dissociate rapidly and completely to form mefluidide acid. The reported  $pK_a$  for mefluidide acid (4.6) indicates complete dissociation of mefluidide acid is expected to occur at  $pH \sim 7$ , with 50% or greater dissociation at  $pHs \leq 4.6$ . Mefluidide acid is in equilibrium<sup>2</sup> with mefluidide. In order to assess the environmental fate and effects of mefluidide-K, mefluidide-DEA, mefluidide, the exposure assessment strategy was to bridge the environmental fate data for the mefluidide, mefluidide-K, and mefluidide-DEA through the formation of mefluidide acid.

The surface water concentrations were not corrected for percent crop area (PCA) because the PCA does not account for turf uses. Golf course area factors (GCAF), however, were applied as a possible refinement to the surface water assessment (Bradbury, 12/7/2005 Golf Course Adjustment Factors for Simulating Aquatic Exposure Concentrations).

**Application of the GCAF assumes that mefluidide, mefluidide-K, and mefluidide-DEA are used exclusively on golf courses.** The GCAF, however, may not be applicable because mefluidide and its salts can also be used on residential sites, agricultural sites, and industrial sites.

---

<sup>2</sup> The acetamide functional group in mefluidide exhibits in a enol-keto equilibrium with mefluidide acid . This equilibrium is expected to favor the formation of the keto form (mefluidide) over the enol form (mefluidide acid) (Morrison and Boyd, 1976).

## APPENDIX

### FL TURF – Mefluidide

stored as Mefluacidi.out

Chemical: Mefluidide

PRZM environment: FLturfC.txt modified Monday, 16 June 2003 at 12:48:06

EXAMS environment: ir298.exv modified Thuday, 29 August 2002 at 14:34:12

Metfile: w12834.dvf modified Wedday, 3 July 2002 at 08:04:28

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	6.482	6.239	5.541	4.283	3.578	1.162
1962	0.8627	0.8378	0.7505	0.637	0.5404	0.3206
1963	10.9	10.61	9.587	7.413	6.184	2.109
1964	2.115	2.053	1.9	1.497	1.254	0.6738
1965	0.2115	0.208	0.194	0.1656	0.1467	0.08205
1966	17.26	16.77	14.8	11.37	9.497	4.001
1967	1.719	1.688	1.565	1.329	1.175	0.6323
1968	8.767	8.524	7.608	5.893	4.925	1.645
1969	4.835	4.711	4.436	3.478	2.9	1.142
1970	1.342	1.31	1.183	0.9645	0.8992	0.4436
1971	6.223	6.054	5.377	4.171	4.006	1.941
1972	1.772	1.728	1.554	1.208	1.012	0.4506
1973	1.628	1.592	1.486	1.206	1.027	0.3642
1974	4.749	4.655	4.2	3.288	2.754	0.9066
1975	1.928	1.874	1.678	1.312	1.099	0.5899
1976	13.03	12.72	11.51	9.118	8.755	3.395
1977	0.771	0.7596	0.7137	0.619	0.5497	0.2765
1978	0.7395	0.7223	0.6528	0.5297	0.46	0.1645
1979	0.4851	0.4708	0.4159	0.3226	0.2703	0.09503
1980	4.344	4.235	3.769	2.877	2.388	1.079
1981	0.3991	0.3935	0.3706	0.3213	0.2863	0.1617
1982	6.245	6.104	5.547	4.517	4.006	1.539
1983	1.777	1.741	1.628	1.428	1.388	0.5915
1984	10.79	10.57	9.669	8.551	8.228	3.194
1985	0.6379	0.6237	0.58	0.4988	0.4416	0.2591
1986	0.8722	0.8532	0.7593	0.5859	0.4893	0.163
1987	1.434	1.392	1.23	0.9424	0.7838	0.2741
1988	0.1337	0.1316	0.1229	0.1056	0.094	0.04157
1989	0.06216	0.06093	0.05496	0.04325	0.0362	0.01285
1990	0.2021	0.1961	0.1732	0.1329	0.1108	0.03715

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	17.26	16.77	14.8	11.37	9.497	4.001
0.0645161290322581	13.03	12.72	11.51	9.118	8.755	3.395
0.0967741935483871	10.9	10.61	9.669	8.551	8.228	3.194
0.129032258064516	10.79	10.57	9.587	7.413	6.184	2.109
0.161290322580645	8.767	8.524	7.608	5.893	4.925	1.941
0.193548387096774	6.482	6.239	5.547	4.517	4.006	1.645
0.225806451612903	6.245	6.104	5.541	4.283	4.006	1.539
0.258064516129032	6.223	6.054	5.377	4.171	3.578	1.162
0.290322580645161	4.835	4.711	4.436	3.478	2.9	1.142
0.32258064516129	4.749	4.655	4.2	3.288	2.754	1.079
0.354838709677419	4.344	4.235	3.769	2.877	2.388	0.9066
0.387096774193548	2.115	2.053	1.9	1.497	1.388	0.6738
0.419354838709677	1.928	1.874	1.678	1.428	1.254	0.6323
0.451612903225806	1.777	1.741	1.628	1.329	1.175	0.5915
0.483870967741936	1.772	1.728	1.565	1.312	1.099	0.5899
0.516129032258065	1.719	1.688	1.554	1.208	1.027	0.4506
0.548387096774194	1.628	1.592	1.486	1.206	1.012	0.4436
0.580645161290323	1.434	1.392	1.23	0.9645	0.8992	0.3642
0.612903225806452	1.342	1.31	1.183	0.9424	0.7838	0.3206
0.645161290322581	0.8722	0.8532	0.7593	0.637	0.5497	0.2765
0.67741935483871	0.8627	0.8378	0.7505	0.619	0.5404	0.2741
0.709677419354839	0.771	0.7596	0.7137	0.5859	0.4893	0.2591

0.741935483870968	0.7395	0.7223	0.6528	0.5297	0.46	0.1645
0.774193548387097	0.6379	0.6237	0.58	0.4988	0.4416	0.163
0.806451612903226	0.4851	0.4708	0.4159	0.3226	0.2863	0.1617
0.838709677419355	0.3991	0.3935	0.3706	0.3213	0.2703	0.09503
0.870967741935484	0.2115	0.208	0.194	0.1656	0.1467	0.08205
0.903225806451613	0.2021	0.1961	0.1732	0.1329	0.1108	0.04157
0.935483870967742	0.1337	0.1316	0.1229	0.1056	0.094	0.03715
0.967741935483871	0.06216	0.06093	0.05496	0.04325	0.0362	0.01285
0.1	10.889	10.606	9.6608	8.4372	8.0236	3.0855
Average of yearly averages:						0.924921666666667

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: Mefluacidi

Metfile: w12834.dvf

PRZM scenario: FLturfC.txt

EXAMS environment file: ir298.exv

Chemical Name: Mefluidide

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	310.6	g/mol	
Henry's Law Const.	henry	2.27E-7	atm-m <sup>3</sup> /mol	
Vapor Pressure	vapr	1E-4	torr	
Solubility	sol	180	mg/L	
Kd	Kd	0.073	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw	72	days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	36	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method:	CAM 2	integer		See PRZM manual
Incorporation Depth:	DEPI		cm	
Application Rate:	TAPP	0.56	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT			fraction of application rate applied to pond
Application Date	Date	1-4		dd/mm or dd/mmm or dd-mm or dd-mmm
Interval 1	interval	42	days	Set to 0 or delete line for single app.
Interval 2	interval	42	days	Set to 0 or delete line for single app.

Record 17: FILTRA

IPSCND 1

UPTKF

Record 18: PLVKRT

PLDKRT 0.1715

FEXTRC 0.5

Flag for Index Res. Run IR IR

Flag for runoff calc. RUNOFF total none, monthly or total(average of entire run)

## FL TURF – Mefluidide-K

stored as MefluK.out

Chemical: Mefluidide

PRZM environment: FLturfC.txt modified Monday, 16 June 2003 at 12:48:06

EXAMS environment: ir298.exv modified Thuday, 29 August 2002 at 14:34:12

Metfile: wl2834.dvf modified Wedday, 3 July 2002 at 08:04:28

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	4.267	4.161	3.749	2.964	2.683	1.073
1962	4.285	4.171	3.729	2.936	2.697	1.111
1963	5.688	5.575	4.98	4.07	3.455	1.448
1964	4.414	4.301	3.861	3.001	2.769	1.14
1965	4.274	4.17	3.764	3.091	2.758	1.181
1966	14.93	14.6	13.31	11.56	10.23	3.684
1967	4.336	4.224	3.806	3.18	2.866	1.294
1968	4.253	4.144	3.884	3.224	2.841	1.207
1969	13.24	12.9	12.05	9.413	7.848	2.886
1970	5.844	5.689	5.208	4.539	4.247	1.698
1971	13.04	12.73	11.48	9.959	9.404	3.599
1972	7.44	7.253	6.52	5.139	4.32	1.809
1973	6.366	6.203	5.587	5.065	4.694	1.804
1974	4.271	4.161	3.727	2.934	2.694	1.123
1975	5.576	5.428	4.853	4.112	3.77	1.481
1976	29.91	29.19	26.4	20.96	19.96	7.768
1977	4.683	4.565	4.364	3.585	3.311	1.613
1978	5.287	5.142	4.584	3.787	3.431	1.37
1979	4.24	4.13	3.704	2.896	2.659	1.088
1980	6.687	6.517	6.019	5.511	5.166	1.939
1981	4.302	4.196	3.913	3.166	2.84	1.195
1982	14.86	14.52	13.2	11.67	10.34	3.773
1983	6.996	6.845	6.272	5.583	5.432	2.255
1984	24.4	23.81	21.53	19.65	19.02	7.386
1985	5.127	4.992	4.549	3.677	3.466	1.577
1986	4.318	4.21	3.788	2.965	2.727	1.115
1987	4.339	4.229	3.799	2.963	2.729	1.103
1988	4.29	4.186	3.779	2.982	2.719	1.111
1989	4.363	4.25	3.813	2.969	2.726	1.1
1990	4.24	4.124	3.676	2.852	2.64	1.06

### Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129		29.91	29.19	26.4	20.96	19.96 7.768
0.0645161290322581		24.4	23.81	21.53	19.65	19.02 7.386
0.0967741935483871		14.93	14.6	13.31	11.67	10.34 3.773
0.129032258064516		14.86	14.52	13.2	11.56	10.23 3.684
0.161290322580645		13.24	12.9	12.05	9.959	9.404 3.599
0.193548387096774		13.04	12.73	11.48	9.413	7.848 2.886
0.225806451612903		7.44	7.253	6.52	5.583	5.432 2.255
0.258064516129032		6.996	6.845	6.272	5.511	5.166 1.939
0.290322580645161		6.687	6.517	6.019	5.139	4.694 1.809
0.32258064516129		6.366	6.203	5.587	5.065	4.32 1.804
0.354838709677419		5.844	5.689	5.208	4.539	4.247 1.698
0.387096774193548		5.688	5.575	4.98	4.112	3.77 1.613
0.419354838709677		5.576	5.428	4.853	4.07	3.466 1.577
0.451612903225806		5.287	5.142	4.584	3.787	3.455 1.481
0.483870967741936		5.127	4.992	4.549	3.677	3.431 1.448
0.516129032258065		4.683	4.565	4.364	3.585	3.311 1.37
0.548387096774194		4.414	4.301	3.913	3.224	2.866 1.294
0.580645161290323		4.363	4.25	3.884	3.18	2.841 1.207
0.612903225806452		4.339	4.229	3.861	3.166	2.84 1.195
0.645161290322581		4.336	4.224	3.813	3.091	2.769 1.181
0.67741935483871		4.318	4.21	3.806	3.001	2.758 1.14
0.709677419354839		4.302	4.196	3.799	2.982	2.729 1.123
0.741935483870968		4.29	4.186	3.788	2.969	2.727 1.115
0.774193548387097		4.285	4.171	3.779	2.965	2.726 1.111
0.806451612903226		4.274	4.17	3.764	2.964	2.719 1.111
0.838709677419355		4.271	4.161	3.749	2.963	2.697 1.103
0.870967741935484		4.267	4.161	3.729	2.936	2.694 1.1

0.903225806451613	4.253	4.144	3.727	2.934	2.683	1.088
0.935483870967742	4.24	4.13	3.704	2.896	2.659	1.073
0.967741935483871	4.24	4.124	3.676	2.852	2.64	1.06

0.1      14.923 14.592 13.299 11.659 10.329 3.7641  
Average of yearly averages:      2.06636666666667

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: MefluK  
Metfile:            wl2834.dvf  
PRZM scenario: FLturfC.txt  
EXAMS environment file:            ir298.exv  
Chemical Name: Mefluidide

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	310.6	g/mol	
Henry's Law Const.	henry	2.27E-7	atm-m <sup>3</sup> /mol	
Vapor Pressure vapr	1E-4	torr		
Solubility	sol	180	mg/L	
Kd	Kd	0.073	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw	72	days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	36	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	2	integer		See PRZM manual
Incorporation Depth:	DEPI		cm	
Application Rate:	TAPP	1.12	kg/ha	
Application Efficiency:	APPEFF	0.99		fraction
Spray Drift	DRFT	0.064		fraction of application rate applied to pond
Application Date	Date	1-4		dd/mm or dd/mm or dd-mm or dd-mmm
Interval 1	interval	42	days	Set to 0 or delete line for single app.

Record 17:      FILTRA  
                 IPSCND 1  
                 UPTKF

Record 18:      PLVKRT  
                 PLDKRT 0.1715  
                 FEXTRC 0.5

Flag for Index Res. Run            IR            IR  
Flag for runoff calc. RUNOFF total    none, monthly or total(average of entire run)

## FL TURF – Mefluidide-DEA

stored as MefluDEA.out

Chemical: Mefluidide

PRZM environment: FLturfC.txt modified Monday, 16 June 2003 at 12:48:06

EXAMS environment: ir298.exv modified Thuday, 29 August 2002 at 14:34:12

Metfile: w12834.dvf modified Wedday, 3 July 2002 at 08:04:28

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	21.64	21.07	18.73	14.48	12.11	4.732
1962	7.879	7.663	7.011	5.648	5.274	2.786
1963	32.13	31.44	28.29	21.87	18.24	7.077
1964	10.78	10.47	9.703	7.608	6.552	3.598
1965	6.631	6.456	5.767	4.785	4.604	2.253
1966	47.56	46.2	40.79	31.34	26.17	11.71
1967	8.962	8.721	7.826	6.149	5.889	3.567
1968	27.16	26.41	23.61	18.28	15.27	5.988
1969	16.86	16.43	15.32	12.85	11.2	4.732
1970	8.814	8.554	7.585	6.295	6.011	2.978
1971	20.99	20.42	18.14	14.31	14.01	6.711
1972	9.367	9.133	8.211	7.353	6.667	3.06
1973	7.865	7.664	6.903	6.285	6.117	2.85
1974	17.58	17.18	15.51	12.13	10.15	4.185
1975	10.71	10.41	9.281	7.264	6.713	3.409
1976	36.77	35.87	32.45	26.61	24.94	10.26
1977	6.979	6.769	5.958	5.283	4.935	2.623
1978	6.909	6.703	5.914	5.325	4.957	2.309
1979	6.164	5.981	5.694	4.726	4.569	2.179
1980	16.45	16.11	14.29	10.94	9.373	4.572
1981	6.631	6.432	5.671	4.926	4.672	2.358
1982	18.3	17.88	16.25	14.36	13.45	5.754
1983	9.351	9.101	8.078	7.702	7.197	3.484
1984	29.92	29.2	26.46	24.13	23.63	9.795
1985	6.806	6.604	5.842	5.249	4.904	2.584
1986	7.537	7.363	6.527	5.411	5.006	2.384
1987	9.324	9.056	8	6.28	5.546	2.648
1988	6.322	6.144	5.447	4.612	4.384	2.097
1989	6.215	6.037	5.332	4.526	4.28	1.981
1990	6.229	6.049	5.549	4.472	4.338	2.016

### Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	47.56	46.2	40.79	31.34	26.17	11.71
0.0645161290322581	36.77	35.87	32.45	26.61	24.94	10.26
0.0967741935483871	32.13	31.44	28.29	24.13	23.63	9.795
0.129032258064516	29.92	29.2	26.46	21.87	18.24	7.077
0.161290322580645	27.16	26.41	23.61	18.28	15.27	6.711
0.193548387096774	21.64	21.07	18.73	14.48	14.01	5.988
0.225806451612903	20.99	20.42	18.14	14.36	13.45	5.754
0.258064516129032	18.3	17.88	16.25	14.31	12.11	4.732
0.290322580645161	17.58	17.18	15.51	12.85	11.2	4.732
0.32258064516129	16.86	16.43	15.32	12.13	10.15	4.572
0.354838709677419	16.45	16.11	14.29	10.94	9.373	4.185
0.387096774193548	10.78	10.47	9.703	7.702	7.197	3.598
0.419354838709677	10.71	10.41	9.281	7.608	6.713	3.567
0.451612903225806	9.367	9.133	8.211	7.353	6.667	3.484
0.483870967741936	9.351	9.101	8.078	7.264	6.552	3.409
0.516129032258065	9.324	9.056	8	6.295	6.117	3.06
0.548387096774194	8.962	8.721	7.826	6.285	6.011	2.978
0.580645161290323	8.814	8.554	7.585	6.28	5.889	2.85
0.612903225806452	7.879	7.664	7.011	6.149	5.546	2.786
0.645161290322581	7.865	7.663	6.903	5.648	5.274	2.648
0.67741935483871	7.537	7.363	6.527	5.411	5.006	2.623
0.709677419354839	6.979	6.769	5.958	5.325	4.957	2.584
0.741935483870968	6.909	6.703	5.914	5.283	4.935	2.384
0.774193548387097	6.806	6.604	5.842	5.249	4.904	2.358
0.806451612903226	6.631	6.456	5.767	4.926	4.672	2.309
0.838709677419355	6.631	6.432	5.694	4.785	4.604	2.253
0.870967741935484	6.322	6.144	5.671	4.726	4.569	2.179
0.903225806451613	6.229	6.049	5.549	4.612	4.384	2.097

0.935483870967742      6.215   6.037   5.447   4.526   4.338   2.016  
0.967741935483871      6.164   5.981   5.332   4.472   4.28   1.981

0.1      31.909   31.216   28.107   23.904   23.091   9.5232  
Average of yearly averages:      4.22266666666667

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: MefluDEA

Metfile:            w12834.dvf

PRZM scenario: FLturfC.txt

EXAMS environment file:            ir298.exv

Chemical Name: Mefluide

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	310.6	g/mol	
Henry's Law Const.	henry	2.27E-7	atm-m <sup>3</sup> /mol	
Vapor Pressure	vapr	1E-4	torr	
Solubility	sol	180	mg/L	
Kd	Kd	0.073	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw	72	days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	36	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	2	integer		See PRZM manual
Incorporation Depth:	DEPI		cm	
Application Rate:	TAPP	1.37	kg/ha	
Application Efficiency:	APPEFF	0.99		fraction
Spray Drift	DRFT	0.064		fraction of application rate applied to pond
Application Date	Date	1-4		dd/mm or dd/mm or dd-mm or dd-mmm
Interval 1	interval	42	days	Set to 0 or delete line for single app.
Interval 2	interval	42	days	Set to 0 or delete line for single app.
Record 17:	FILTRA			
	IPSCND	1		
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT	0.1715		
	FEXTRC	0.5		
Flag for Index Res. Run	IR	IR		
Flag for runoff calc.	RUNOFF	total		none, monthly or total(average of entire run)



## PA TURF – Mefluidide

stored as Mefluacid.out

Chemical: Mefluidide

PRZM environment: PAturfC.txt modified Satday, 12 October 2002 at 15:27:02

EXAMS environment: ir298.exv modified Thuday, 29 August 2002 at 14:34:12

Metfile: wl4737.dvf modified Wedday, 3 July 2002 at 08:06:12

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	0.1804	0.1779	0.1689	0.1484	0.1325	0.05291
1962	0.5892	0.582	0.5555	0.4897	0.4391	0.1867
1963	0.07988	0.0793	0.07689	0.07172	0.06772	0.03396
1964	0.03882	0.03838	0.03667	0.03288	0.02974	0.01393
1965	0.005514		0.005474		0.005308	0.004953
	0.002349					0.004682
1966	0.0005078		0.0005042		0.0004893	0.000457
	0.000228					0.0004318
1967	0.271	0.2655	0.244	0.2029	0.1787	0.06908
1968	2.024	1.999	1.891	1.699	1.529	0.6268
1969	0.3166	0.3143	0.3047	0.2842	0.2683	0.134
1970	11.2	11.08	10.54	9.316	8.371	3.41
1971	3.851	3.798	3.58	3.035	2.66	1.421
1972	1.096	1.078	1	0.8382	0.7317	0.4708
1973	2.202	2.175	2.091	1.863	1.705	0.7414
1974	2.103	2.076	1.964	1.726	1.556	0.7031
1975	6.726	6.65	6.34	5.587	4.996	2.084
1976	5.357	5.288	5.005	4.405	3.944	1.774
1977	0.8499	0.8391	0.7966	0.7042	0.6379	0.4007
1978	5.392	5.323	4.997	4.199	3.671	1.453
1979	1.038	1.025	0.9593	0.809	0.7397	0.529
1980	0.1825	0.1812	0.1757	0.164	0.1549	0.07571
1981	1.278	1.258	1.176	0.9818	0.8537	0.3356
1982	0.6055	0.5961	0.555	0.4683	0.4105	0.24
1983	0.4133	0.4083	0.3905	0.3491	0.3183	0.154
1984	3.231	3.183	2.99	2.488	2.229	1.055
1985	0.6499	0.6392	0.5993	0.5134	0.4538	0.3128
1986	0.7564	0.7434	0.6892	0.5754	0.5021	0.2495
1987	2.412	2.383	2.262	1.986	1.772	0.7396
1988	1.71	1.683	1.573	1.317	1.142	0.5193
1989	2.2	2.167	2.031	1.711	1.498	0.6592
1990	0.7952	0.7832	0.7224	0.5996	0.5222	0.3188

### Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129			11.2	11.08	10.54	9.316
0.0645161290322581			6.726	6.65	6.34	5.587
0.0967741935483871			5.392	5.323	5.005	4.405
0.129032258064516			5.357	5.288	4.997	4.199
0.161290322580645			3.851	3.798	3.58	3.035
0.193548387096774			3.231	3.183	2.99	2.488
0.225806451612903			2.412	2.383	2.262	1.986
0.258064516129032			2.202	2.175	2.091	1.863
0.290322580645161			2.2	2.167	2.031	1.726
0.32258064516129			2.103	2.076	1.964	1.711
0.354838709677419			2.024	1.999	1.891	1.699
0.387096774193548			1.71	1.683	1.573	1.317
0.419354838709677			1.278	1.258	1.176	0.9818
0.451612903225806			1.096	1.078	1	0.8382
0.483870967741936			1.038	1.025	0.9593	0.809
0.516129032258065			0.8499	0.8391	0.7966	0.7042
0.548387096774194			0.7952	0.7832	0.7224	0.5996
0.580645161290323			0.7564	0.7434	0.6892	0.5754
0.612903225806452			0.6499	0.6392	0.5993	0.5134
0.645161290322581			0.6055	0.5961	0.5555	0.4897
0.67741935483871			0.5892	0.582	0.555	0.4683
0.709677419354839			0.4133	0.4083	0.3905	0.3491
0.741935483870968			0.3166	0.3143	0.3047	0.2842
0.774193548387097			0.271	0.2655	0.244	0.2029
0.806451612903226			0.1825	0.1812	0.1757	0.164

0.838709677419355	0.1804	0.1779	0.1689	0.1484	0.1325	0.05291	
0.870967741935484	0.07988	0.0793	0.07689	0.07172	0.06772	0.03396	
0.903225806451613	0.03882	0.03838	0.03667	0.03288	0.02974	0.01393	
0.935483870967742	0.005514		0.005474		0.005308		0.004953
0.004682	0.002349						
0.967741935483871	0.0005078		0.0005042		0.0004893		0.000457
0.0004318	0.000228						

0.1      5.3885 5.3195 5.0042 4.3844 3.9167 1.7419  
Average of yearly averages:      0.6255489

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: Mefluacid

Metfile:            w14737.dvf

PRZM scenario: PAturfC.txt

EXAMS environment file:            ir298.exv

Chemical Name: Mefluidide

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	310.6	g/mol	
Henry's Law Const.	henry	2.27E-7	atm-m <sup>3</sup> /mol	
Vapor Pressure vapr	1E-4	torr		
Solubility	sol	180	mg/L	
Kd      Kd	0.073	mg/L		
Koc      Koc		mg/L		
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw	72	days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	36	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	2	integer	See PRZM manual	
Incorporation Depth:	DEPI		cm	
Application Rate:	TAPP	0.56	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT		fraction of application rate applied to pond	
Application Date	Date	1-4	dd/mm or dd/mm or dd-mm or dd-mmm	
Interval 1	interval	42	days	Set to 0 or delete line for single app.
Record 17:	FILTRA			
	IPSCND 1			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT 0.1715			
	FEXTRC 0.5			
Flag for Index Res. Run	IR	IR		
Flag for runoff calc.	RUNOFF	total	none, monthly or total(average of entire run)	

## PA TURF – Mefluidide-K

stored as MefluK.out

Chemical: Mefluidide

PRZM environment: PAturfC.txt modified Satday, 12 October 2002 at 15:27:02

EXAMS environment: ir298.exv modified Thuday, 29 August 2002 at 14:34:12

Metfile: wl4737.dvf modified Wedday, 3 July 2002 at 08:06:12

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	6.052	5.936	5.448	4.896	4.691	2.406
1962	6.916	6.78	6.233	5.592	5.384	3.174
1963	6.483	6.36	5.833	5.075	4.91	2.902
1964	6.405	6.285	5.774	4.994	4.85	2.824
1965	6.344	6.226	5.726	4.928	4.796	2.791
1966	6.406	6.277	5.721	5.006	4.803	2.745
1967	8.288	8.121	7.456	6.499	5.85	3.48
1968	9.435	9.265	8.728	8.278	7.925	4.301
1969	6.524	6.398	5.886	5.147	4.998	3.058
1970	25.87	25.59	24.35	22.29	20.71	9.55
1971	13.06	12.88	12.14	11	10.11	5.585
1972	8.153	8.008	7.358	6.56	6.205	3.703
1973	26.72	26.16	23.78	19.37	16.86	8.428
1974	10.63	10.48	9.848	9.434	9.205	5.898
1975	17.22	17.03	16.23	15.11	14.2	7.068
1976	14.22	14.04	13.29	12.43	11.79	6.245
1977	7.157	7.021	6.428	5.843	5.562	3.49
1978	15.99	15.77	14.8	13.36	12.38	5.857
1979	8.013	7.866	7.24	6.609	6.305	3.922
1980	6.418	6.297	5.752	5.003	4.805	2.762
1981	7.903	7.739	7.084	6.7	6.274	3.293
1982	7.359	7.232	6.659	5.851	5.622	3.284
1983	6.833	6.699	6.146	5.487	5.239	3.003
1984	17.84	17.46	16	13.15	12.09	6.413
1985	7.615	7.478	6.889	6.338	6.041	3.926
1986	7.362	7.219	6.663	5.985	5.731	3.276
1987	9.051	8.908	8.333	7.734	7.588	4.188
1988	8.775	8.606	7.847	7.491	6.945	3.726
1989	9.614	9.469	8.876	8.298	7.703	4.054
1990	7.526	7.378	6.809	6.095	5.864	3.428

### Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129			26.72	26.16	24.35	22.29
0.0645161290322581			25.87	25.59	23.78	19.37
0.0967741935483871			17.84	17.46	16.23	15.11
0.129032258064516			17.22	17.03	16	13.36
0.161290322580645			15.99	15.77	14.8	13.15
0.193548387096774			14.22	14.04	13.29	12.43
0.225806451612903			13.06	12.88	12.14	11
0.258064516129032			10.63	10.48	9.848	9.434
0.290322580645161			9.614	9.469	8.876	8.298
0.32258064516129			9.435	9.265	8.728	8.278
0.354838709677419			9.051	8.908	8.333	7.734
0.387096774193548			8.775	8.606	7.847	7.491
0.419354838709677			8.288	8.121	7.456	6.7
0.451612903225806			8.153	8.008	7.358	6.609
0.483870967741936			8.013	7.866	7.24	6.56
0.516129032258065			7.903	7.739	7.084	6.499
0.548387096774194			7.615	7.478	6.889	6.338
0.580645161290323			7.526	7.378	6.809	6.095
0.612903225806452			7.362	7.232	6.663	5.985
0.645161290322581			7.359	7.219	6.659	5.851
0.67741935483871			7.157	7.021	6.428	5.843
0.709677419354839			6.916	6.78	6.233	5.592
0.741935483870968			6.833	6.699	6.146	5.487
0.774193548387097			6.524	6.398	5.886	5.147
0.806451612903226			6.483	6.36	5.833	5.075
0.838709677419355			6.418	6.297	5.774	5.006
0.870967741935484			6.406	6.285	5.752	5.003

0.903225806451613	6.405	6.277	5.726	4.994	4.803	2.762
0.935483870967742	6.344	6.226	5.721	4.928	4.796	2.745
0.967741935483871	6.052	5.936	5.448	4.896	4.691	2.406

0.1      17.778 17.417 16.207 14.935 14.018 7.0025  
Average of yearly averages:      4.29266666666667

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

```

Output File: MefluK
Metfile:      wl4737.dvf
PRZM scenario: PAturfC.txt
EXAMS environment file:      ir298.exv
Chemical Name: Mefluidide
Description   Variable Name   Value   Units   Comments
Molecular weight        mwt        310.6   g/mol
Henry's Law Const.     henry      2.27E-7 atm-m^3/mol
Vapor Pressure vapr    1E-4       torr
Solubility            sol        180      mg/L
Kd            Kd        0.073    mg/L
Koc           Koc        mg/L
Photolysis half-life    kdp                    days    Half-life
Aerobic Aquatic Metabolism    kbacw        72        days    Halfife
Anaerobic Aquatic Metabolism   kbacs                    days    Halfife
Aerobic Soil Metabolism        asm        36        days    Halfife
Hydrolysis:        pH 7                    days    Half-life
Method: CAM        2        integer See PRZM manual
Incorporation Depth:    DEPI                    cm
Application Rate:      TAPP        1.12      kg/ha
Application Efficiency:        APPEFF    0.99      fraction
Spray Drift        DRFT        0.064     fraction of application rate applied to pond
Application Date        Date        1-4       dd/mm or dd/mm or dd-mm or dd-mmm
Interval 1            interval     42        days    Set to 0 or delete line for single app.
Interval 2            interval     42        days    Set to 0 or delete line for single app.
Record 17:            FILTRA
                      IPSCND 1
                      UPTKF
Record 18:            PLVKRT
                      PLDKRT 0.1715
                      FEXTRC 0.5
Flag for Index Res. Run        IR        IR
Flag for runoff calc.    RUNOFF total    none, monthly or total(average of entire run)

```

# PA TURF – Mefluidide-DEA

stored as MefluDEA.out

Chemical: Mefluidide

PRZM environment: PAturfC.txt modified Satday, 12 October 2002 at 15:27:02

EXAMS environment: ir298.exv modified Thuday, 29 August 2002 at 14:34:12

Metfile: wl4737.dvf modified Wedday, 3 July 2002 at 08:06:12

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	7.404	7.262	6.665	5.99	5.739	2.944
1962	8.46	8.294	7.625	6.841	6.585	3.882
1963	7.93	7.779	7.135	6.208	6.006	3.55
1964	7.834	7.688	7.063	6.109	5.932	3.455
1965	7.76	7.615	7.004	6.028	5.866	3.413
1966	7.836	7.678	6.998	6.123	5.875	3.357
1967	10.14	9.933	9.12	7.949	7.156	4.257
1968	11.54	11.33	10.68	10.13	9.694	5.261
1969	7.98	7.826	7.199	6.296	6.114	3.741
1970	31.64	31.3	29.79	27.27	25.33	11.68
1971	15.98	15.75	14.85	13.46	12.37	6.832
1972	9.973	9.796	9.001	8.024	7.59	4.529
1973	32.67	31.98	29.08	23.68	20.62	10.31
1974	13.01	12.82	12.05	11.54	11.26	7.214
1975	21.05	20.81	19.85	18.47	17.36	8.642
1976	17.4	17.17	16.26	15.21	14.42	7.638
1977	8.754	8.588	7.863	7.147	6.804	4.269
1978	19.55	19.29	18.1	16.34	15.15	7.164
1979	9.802	9.622	8.856	8.084	7.712	4.798
1980	7.85	7.703	7.036	6.12	5.877	3.378
1981	9.667	9.467	8.666	8.196	7.675	4.028
1982	9.001	8.846	8.145	7.157	6.877	4.017
1983	8.359	8.194	7.518	6.711	6.409	3.673
1984	21.82	21.36	19.57	16.08	14.79	7.845
1985	9.314	9.148	8.426	7.753	7.389	4.803
1986	9.005	8.831	8.15	7.321	7.011	4.007
1987	11.07	10.9	10.19	9.461	9.282	5.123
1988	10.73	10.53	9.598	9.162	8.495	4.558
1989	11.76	11.58	10.86	10.15	9.422	4.958
1990	9.206	9.025	8.329	7.456	7.173	4.193

## Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129			32.67	31.98	29.79	27.27 25.33 11.68
0.0645161290322581			31.64	31.3	29.08	23.68 20.62 10.31
0.0967741935483871			21.82	21.36	19.85	18.47 17.36 8.642
0.129032258064516			21.05	20.81	19.57	16.34 15.15 7.845
0.161290322580645			19.55	19.29	18.1	16.08 14.79 7.638
0.193548387096774			17.4	17.17	16.26	15.21 14.42 7.214
0.225806451612903			15.98	15.75	14.85	13.46 12.37 7.164
0.258064516129032			13.01	12.82	12.05	11.54 11.26 6.832
0.290322580645161			11.76	11.58	10.86	10.15 9.694 5.261
0.32258064516129			11.54	11.33	10.68	10.13 9.422 5.123
0.354838709677419			11.07	10.9	10.19	9.461 9.282 4.958
0.387096774193548			10.73	10.53	9.598	9.162 8.495 4.803
0.419354838709677			10.14	9.933	9.12	8.196 7.712 4.798
0.451612903225806			9.973	9.796	9.001	8.084 7.675 4.558
0.483870967741936			9.802	9.622	8.856	8.024 7.59 4.529
0.516129032258065			9.667	9.467	8.666	7.949 7.389 4.269
0.548387096774194			9.314	9.148	8.426	7.753 7.173 4.257
0.580645161290323			9.206	9.025	8.329	7.456 7.156 4.193
0.612903225806452			9.005	8.846	8.15	7.321 7.011 4.028
0.645161290322581			9.001	8.831	8.145	7.157 6.877 4.017
0.67741935483871			8.754	8.588	7.863	7.147 6.804 4.007
0.709677419354839			8.46	8.294	7.625	6.841 6.585 3.882
0.741935483870968			8.359	8.194	7.518	6.711 6.409 3.741
0.774193548387097			7.98	7.826	7.199	6.296 6.114 3.673
0.806451612903226			7.93	7.779	7.135	6.208 6.006 3.55
0.838709677419355			7.85	7.703	7.063	6.123 5.932 3.455
0.870967741935484			7.836	7.688	7.036	6.12 5.877 3.413

0.903225806451613	7.834	7.678	7.004	6.109	5.875	3.378
0.935483870967742	7.76	7.615	6.998	6.028	5.866	3.357
0.967741935483871	7.404	7.262	6.665	5.99	5.739	2.944

0.1      21.743 21.305 19.822 18.257 17.139 8.5623  
Average of yearly averages:      5.25063333333334

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: MefluDEA

Metfile:            wl4737.dvf

PRZM scenario: PAturfC.txt

EXAMS environment file:            ir298.exv

Chemical Name: Mefluidide

Description	Variable Name	Value	Units	Comments
-------------	---------------	-------	-------	----------

Molecular weight	mwt	310.6	g/mol	
------------------	-----	-------	-------	--

Henry's Law Const.	henry	2.27E-7	atm-m <sup>3</sup> /mol	
--------------------	-------	---------	-------------------------	--

Vapor Pressure vapr	1E-4	torr		
---------------------	------	------	--	--

Solubility	sol	180	mg/L	
------------	-----	-----	------	--

Kd	Kd	0.073	mg/L	
----	----	-------	------	--

Koc	Koc		mg/L	
-----	-----	--	------	--

Photolysis half-life	kdp		days	Half-life
----------------------	-----	--	------	-----------

Aerobic Aquatic Metabolism	kbacw	72	days	Halfife
----------------------------	-------	----	------	---------

Anaerobic Aquatic Metabolism	kbacs		days	Halfife
------------------------------	-------	--	------	---------

Aerobic Soil Metabolism	asm	36	days	Halfife
-------------------------	-----	----	------	---------

Hydrolysis:	pH 7	days	Half-life	
-------------	------	------	-----------	--

Method: CAM	2	integer	See PRZM manual	
-------------	---	---------	-----------------	--

Incorporation Depth:	DEPI		cm	
----------------------	------	--	----	--

Application Rate:	TAPP	1.37	kg/ha	
-------------------	------	------	-------	--

Application Efficiency:	APPEFF	0.99	fraction	
-------------------------	--------	------	----------	--

Spray Drift	DRFT	0.064	fraction of application rate applied to pond	
-------------	------	-------	--	--

Application Date	Date	1-4	dd/mm or dd/mm/yy or dd-mm or dd-mm/yy	
------------------	------	-----	--	--

Interval 1	interval	42	days	Set to 0 or delete line for single app.
------------	----------	----	------	---

Interval 2	interval	42	days	Set to 0 or delete line for single app.
------------	----------	----	------	---

Record 17:      FILTRA

          IPSCND 1

          UPTKF

Record 18:      PLVKRT

          PLDKRT 0.1715

          FEXTRC 0.5

Flag for Index Res. Run	IR	IR		
-------------------------	----	----	--	--

Flag for runoff calc.	RUNOFF	total	none, monthly or total(average of entire run)	
-----------------------	--------	-------	---	--